ECEWS

...Improving Education and Health in Nigeria

TECHNICAL BRIEF

Strengthening **TB/HIV** Collaborative Implementation Through Problem-Driven Action

INTRODUCTION

The Problem we Identified

Nigeria is characterized by a significant global and regional burden of Tuberculosis (TB) and HIV, ranking 6th globally among the 30 high TB-burden countries and 1st in Africa for TB①. Nigeria is also listed among the 14 countries globally identified by the World Health Organization as having the highest combined burden of TB, TB/HIV co-infection, and multidrug-resistant TB (MDR-TB)②. Despite this, TB treatment coverage remains low at 27%, with men accounting for the majority of notified cases③. Nigeria also has the second-highest HIV burden in the world, with an estimated 1.9 – 2.0 million people living with HIV ④. The HIV epidemic is marked by substantial heterogeneity, disproportionately impacting specific geographic regions and vulnerable populations, including women, adolescents, and young persons (5, 6). HIV remains the primary driver of TB incidence, and TB is the leading cause of mortality among people living with HIV (PLHIV)(2, 4). This underscores the urgent need for integrated preventive, diagnostic, and treatment services.

Despite national policies supporting TB/HIV integration, persistent implementation gaps have been identified across different states. These gaps often limit the effectiveness of TB/HIV collaborative activities and threaten progress towards ending the TB and HIV epidemic in Nigeria(2, 4, 7). Key challenges identified include:

- Fragmented coordination between TB and HIV programs at the state and facility levels
- Missed opportunities for routine TB screening among PLHIV and HIV testing among TB patients
- Weak infection prevention and control practices in health facilities
- Suboptimal uptake and completion of TB Preventive Therapy (TPT)
- Delays in initiating Antiretroviral Therapy (ART) for TB/HIV co-infected patients
- Persistent data quality gaps that limit evidence-based decision-making

Recognizing that policy alone does not guarantee quality implementation, ECEWS deliberately shifted from routine service delivery to a problem-solving, systems-strengthening approach to make TB/HIV programming truly effective.

OUR APPROACH

Across seven states in Nigeria where ECEWS supports TB/HIV programs (Akwa Ibom, Cross River, Lagos, Delta, Ekiti, Osun, and Ebonyi), we implemented targeted, data-driven interventions, aligned with national guidelines and global best practices, to address systemic bottlenecks and remove barriers to improve health outcomes for patients.

TB/HIV Implementation Framework

Problem	Root Cause	ECEWS Intervention	Outcome
Fragmented TB/HIV coordination	Parallel program structures and weak referral systems	Strengthened TB/HIV coordination through joint planning, TWG engagement, integrated supervision, and standardized referral tools	Improved program coordination, reduced referral delays, and better integrated service delivery
Missed TB screening among PLHIV	Inconsistent screening and limited provider capacity	Trained providers on WHO four-symptom screening; institutionalized routine TB screening; deployed digital X-ray and expanded molecular diagnostics	Increased TB screening coverage and improved case detection
Low TPT uptake and completion	Poor integration of TPT into HIV care and weak monitoring	Integrated TPT into routine HIV services; trained providers; strengthened commodity forecasting and dashboards	Increased TPT initiation and completion among PLHIV
Weak TB infection control	Inconsistent implementation of TB-IC guidelines	Conducted TB-IC assessments, implemented facility TB-IC plans, and trained staff on the FAST strategy	Improved infection control and reduced facility transmission risk
Missed HIV testing among TB patients	Inconsistent testing and limited HTS coverage in DOTS sites	Mentored DOTS providers; institutionalized routine HIV testing; expanded HTS through hub-and-spoke model	Increased HIV testing and earlier TB/HIV diagnosis
Delayed ART initiation for TB/HIV patients	Weak TB–HIV referral and care linkage	Strengthened referral systems and promoted rapid ART initiation	Faster ART initiation and improved TB/HIV care continuity
Poor data use for decision-making	Incomplete documentation and limited data review	Strengthened dashboards, data reviews, and CQI processes	Improved data quality and program performance monitoring

1 Fragmented coordination between TB and HIV programs at the state and facility levels

What We Found

Service delivery for TB and HIV services often operates in parallel, leading to weak referral linkages, unnecessary duplications, resource inefficiencies, and a lack of accountability.

What We Did

- Strengthened coordination platforms by facilitating joint workplan reviews and collaborative planning processes to minimize duplication and maximize available resources.
- Supported quarterly TB/HIV Technical Working Group meetings and guideline reviews to systematically address programmatic gaps and scale up best practices.
- Conducted joint supportive supervision with state TB and HIV program teams to identify and resolve local service delivery bottlenecks
- Standardized referral pathways and reporting tools to ensure seamless integration between TB and HIV service points.

Figure 1: TB/HIV Technical Working Groug Meetings.

What Changed

These interventions established clearer role definition and fostered stronger collaboration between TB and HIV program teams. The alignment of services reduced referral delays and minimized missed opportunities for integrated care, while the use of standardized data tools and monitoring systems improved overall facility-level performance.

2 Missed opportunities for routine TB screening among PLHIV

What We Found

TB screening practices for PLHIV were inconsistent across supported facilities. In many instances, screening was conducted by lower cadre health workers who required additional training to correctly apply and interpret standardized clinical algorithms.

What We Did

- healthcare workers on the effective use of the WHO four-symptom screening tool (W4SS)
- Institutionalized routine TB screening for all PLHIV at entry into care and during every follow-up visit by embedding it into routine HIV care.
- Deployed twelve (12) AI-enabled portable digital X-ray (PDX) machines to improve TB screening quality, and optimized access to molecular WHO-recommended rapid diagnostics (mWRD)
- Strengthened bi-directional referral between ART clinics and TB units to ensure timely investigation

Figure 2: Client preparation for X-ray exposure

What Changed

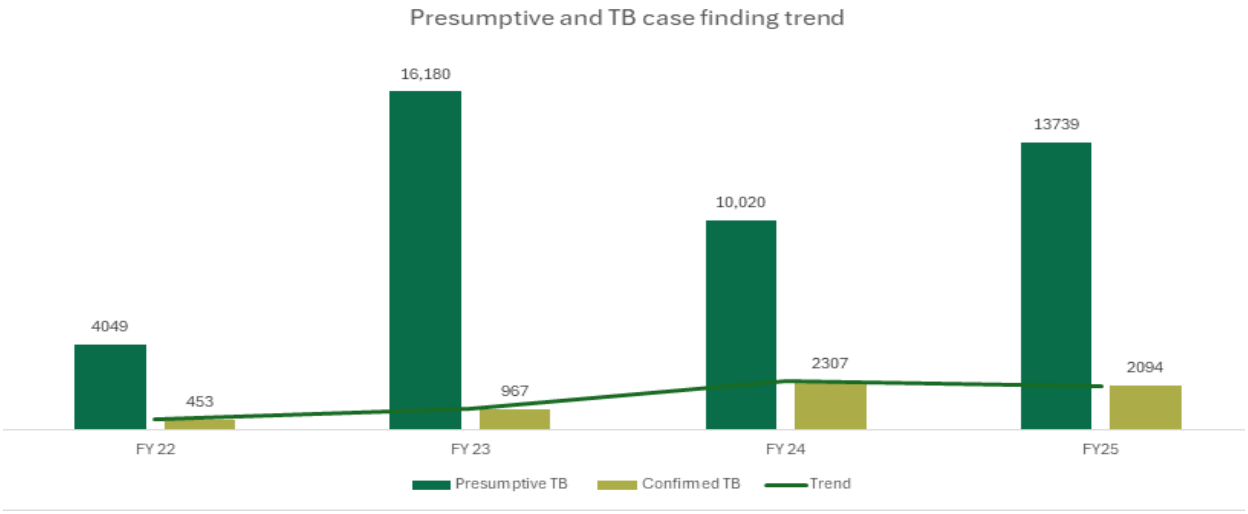

Figure 3: Improved Presumptive and confirmed TB case finding associated with W4SS training and enhanced TB screening interventions

The training of healthcare workers on W4SS and the integration of advanced screening tools significantly enhanced TB case finding. Notably, the training improved the quality of TB symptom screening, as reflected in an increase in presumptive TB yield among PLHIV on treatment from 1% to 3%, indicating better identification of clients with TB symptoms. Between July 2025 and January 2026, 21,842 clients were screened using PDX, and 3,122 (14%) presumptive TB cases were identified. Subsequent evaluation using mWRD confirmed 154 TB cases, many of which would likely have been missed if reliance had remained solely on the W4SS screening tool. Additionally, the turnaround time (TAT) for TB diagnosis was reduced from 45 days to less than 14 days, with some facilities achieving results within 48 hours, enabling faster clinical decision-making.

3 Suboptimal uptake and completion of TB Preventive Therapy (TPT) and weak infection control practices

What We Found

Critical gaps in TB prevention include poor integration of TPT into routine HIV clinic workflows, resulting in missed opportunities for uptake, suboptimal use of data for decision-making, supply chain interruptions, and weakened TB infection control measures, including limited application of the FAST strategy (Find cases Actively, Separate safely, and Treat effectively).

What We Did

- Integrated TPT delivery into routine HIV clinic workflows to ensure systematic eligibility assessment, TPT initiation, and follow-up for all PLHIV.
- Provided targeted mentorship to healthcare workers on TPT initiation, completion monitoring, and data use, including integration of TPT into facility performance dashboards
- Strengthened commodity forecasting and redistribution through state Logistic management Coordination Units (LMCU) to minimize supply chain disruptions at service delivery points.
- Trained healthcare workers on the FAST strategy and embedded FAST principles into routine patient flow and triage processes

What Changed

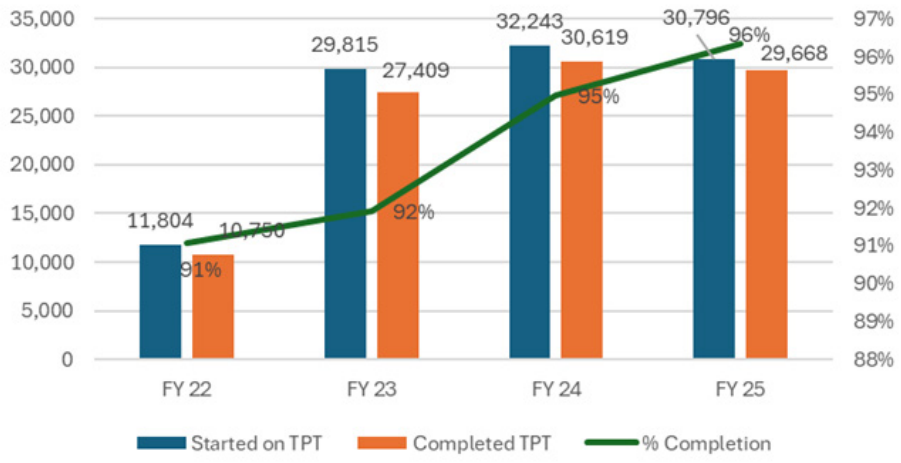

Figure 4: Trends in TPT initiation, completion, and completion rate following integration of TPT into routine HIV care, FY22- FY25

TPT became a routine component of HIV service delivery, with increased TPT coverage among PLHIV in care from 82% to 99%. TPT completion rate also increased from 91% to 96% across supported states. Facility dashboards improved data visibility for routine monitoring of TPT performance and enabled proactive corrective action. Increased availability of commodities improved service continuity, while improved infection control practices, with more facilities implementing functional TB-IC plans, and the consistent application of the FAST strategy reduced the risk of TB transmission within supported facilities.

4 Missed Opportunities for HIV testing among TB patients

What We Found

HIV testing was not consistently offered to all presumptive and diagnosed TB patients, leading to missed opportunities for early HIV diagnosis and delayed treatment initiation.

What We Did

- Provided targeted mentorship to DOTS providers on quality HIV testing and counselling, with emphasis on adherence to national testing algorithms and respectful, confidential service delivery.
- Institutionalized mandatory HIV testing for all presumptive and diagnosed TB patients so that every TB service contact became an opportunity for HIV diagnosis.
- Ensured the uninterrupted availability of HIV rapid test kits at DOTS facilities through coordination with state supply chain systems.
- Expanded testing access to standalone DOT centers using a hub-and-spoke approach.

What Changed

Routine HIV testing coverage among presumptive and diagnosed TB patients improved from 4,087 in FY22 to 15,495 in FY25, representing a 279% increase in testing volume. This significant rise ensured early HIV status awareness and diagnosis. The hub-and-spoke model successfully reduced geographic barriers to care, and linkage to HIV care for co-infected patients became timelier and more consistent. These improvements have collectively enhanced continuity of care, reduced delays in treatment, and contributed to better clinical outcomes for TB/HIV co-infected patients.

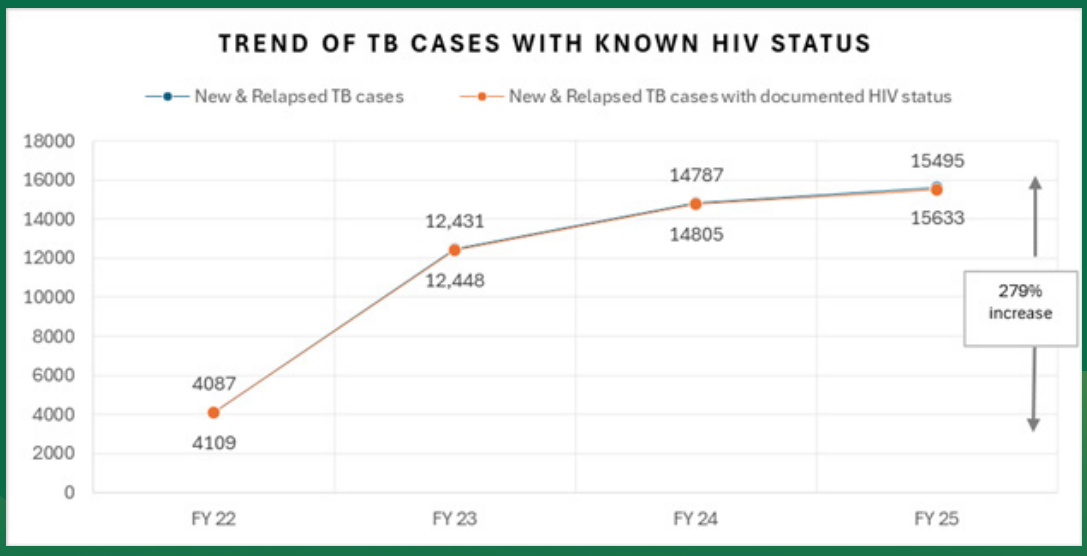

Figure 5: Improved HIV testing access to standalone DOTS Facilities using the Hub and Spoke approach

Iterative CQI for TB/HIV Service Delivery
ECEWS implemented an iterative Continuous Quality Improvement (CQI) approach leveraging routine program data, supportive supervision findings, and stakeholder feedback to identify performance gaps and deploy context-specific solutions to improve outcomes while maintaining uniform quality standards.

In high-burden states, ECEWS intensified CQI cycles through more frequent data reviews and focused mentorship to rapidly address performance gaps and optimize service delivery. In lower-burden states, CQI efforts emphasized the sustainability of gains and adhering to best practices. Lessons learned from these cycles in one state were systematically documented and adapted across states, enabling scale-up of effective interventions without loss of quality.

ECEWS has also shared these strategies and the lessons from its implementation at international conferences and technical forums to help shape global best practices for TB/HIV programming in high-burden, resource-limited settings.

Conclusion
In a country with one of the world's highest HIV-associated TB burdens, ECEWS has demonstrated that large-scale TB/HIV integration is operationally achievable. Through systematic gap identification and data-driven, iterative CQI interventions, ECEWS achieved a high-quality, integrated, and sustainable TB/HIV response that reduces missed opportunities, improves patient care, and sets a benchmark for effective TB/HIV collaboration in Nigeria.

Looking Ahead
ECEWS is currently positioned to:

- Support replication of this model in other high-burden countries
- Share implementation blueprints and lessons learned with global partners
- Contribute to international HIV/TB integration frameworks
- Guide donor-supported program expansion and scale-up initiatives

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