Republic of Rwanda
Ministry of Health

Rwanda Biomedical Centre
Healthy People, Wealthy Nation

Tuberculosis and other respiratory communicable Diseases Program

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FOREWORD

It is with pride that we present Rwanda's Tuberculosis (TB) and Leprosy Annual Report for 2024–2025, highlighting the country's sustained commitment to ending TB in line with the Rwanda Health Sector Strategic Plan V(HSSP V) and National Strategic Plan (NSP) 2019–2027 and the global End TB Strategy. It highlights the remarkable progress Rwanda has made in TB detection, diagnostics, treatment, prevention, community engagement, and leprosy control.

Rwanda made significant progress in TB and other respiratory communicable diseases, screening 152,194 presumptive TB cases with 52.2% contribution from Community Health Workers (CHWs). A total of 8,196 TB cases were notified, 74.7% among high-risk populations, with targeted active case finding in prisons, urban hotspots, and mining sites. Advanced diagnostics, including GeneXpert machines and chest X-rays, strengthened screening, while near-universal TB-HIV testing ensured timely care for co-infected individuals. TB preventive therapy (TPT) reached 96.2% of children under five and 97.8% of people living with HIV on ART, and treatment outcomes were strong, achieving a 90% success rate for drug-susceptible TB. We achieved near-universal drug susceptibility testing and strong treatment outcomes, with high completion rates for TB preventive therapy among contact and people living with HIV. Community-based care, nutritional support, mentorship programs, and digital monitoring further reinforced these successes.

Our health promotion and stakeholder engagement initiatives empowered communities, reduced stigma, and strengthened partnerships with peer educators, former patients, and civil society organizations. Effective supply chain management and active drug safety monitoring ensured uninterrupted access to quality TB commodities. Leprosy control efforts, including active case finding and capacity building, advanced Rwanda's goal of elimination by 2030.

While challenges remain, including under-detection and treatment gaps among high-risk groups, Rwanda's strong leadership, multisectoral collaboration, and community-driven approach continue to drive progress. Together, we move closer to a future where TB is no longer a threat, reaffirming our commitment to safeguarding the health of every Rwandan.

Dr Sabin NSANZIMANA

Minister of Health

EXECUTIVE SUMMARY

1. TB Screening and Diagnostics

Rwanda's TB screening and diagnostic system demonstrated significant advancement through a combination of passive and active approaches, leveraging Community Health Workers (CHWs), advanced chest X-rays, and molecular testing. In 2024–2025, 152,194 presumptive TB cases were screened, with CHWs contributing 52.2% (79,465) and health facilities 47.8% (72,729). HIV testing among presumptive cases of unknown status reached 98.5%, revealing an 8.3% positivity rate, reflecting strong TB-HIV integration.

Active case finding (ACF) targeted high-risk populations—including hotspots, slums, prisons, and mining sites—reaching 83,212 individuals, identifying 5,225 presumptive cases, and confirming 465 TB diagnoses. Correctional facilities yielded the highest detection rate with 170 confirmed cases. Diagnostic capacity expanded through 88 GeneXpert machines performing 105,563 tests at a 30.2% utilization rate for TB testing, alongside introduction of Ag TB-LAM for PLHIV and Xpert XDR for second-line testing. Universal drug susceptibility testing (DST) achieved 95.6% coverage among bacteriologically confirmed cases, identifying 0.8% MDR-TB in first-line tests, with no Pre-XDR/XDR cases detected in second-line testing.

Laboratory quality audits revealed areas for improvement: 74.6% of smear microscopy sites were reviewed, highlighting major errors in 13 sites, while 83.7% of GeneXpert sites performed satisfactorily. Challenges included low DataToCare adoption (27.6%), sample contamination (2.9–14%), and connectivity issues, emphasizing the need for infrastructure investment, training, and digital integration.

2. TB Notifications

During the fiscal year, Rwanda notified 8,196 TB cases, including 48 rifampicin-resistant TB (RR-TB) cases, representing a 4.2% decrease from the previous year. CHWs contributed 27.2% (2,230 cases), exceeding the 25% target, though this was a 16.7% decline compared to 2023–2024. Notifications peaked in 2022–2023 at 9,422 cases, largely driven by Rwamagana District, and stabilized around 8,196 cases in 2024–2025.

Males represented 71.2% of cases (male-to-female ratio: 2.5), while individuals aged 25–44 accounted for 45.2% of notifications. Childhood TB detection improved through mentorship programs. Kigali City (28.6%) and Eastern Province (23.9%) bore the highest TB burden, with Nyarugenge District recording 251 notifications per 100,000 population. Bacteriologically confirmed cases comprised 71%, pulmonary TB 88%, and first-line drug susceptibility reached 99%. Extrapulmonary TB represented 12%, primarily pleural, lymphadenitis, and skeletal TB. TB-HIV co-infection declined to 13%, a 45% reduction over the last decade. High-risk groups accounted for 74.7% of

cases, predominantly malnourished individuals (49%) and older adults (16%). DR-TB notifications fell by 47% to 48 cases due to revised diagnostic algorithms. Southern Province reported the highest DR-TB burden (29%), with 29.2% co-infected with HIV. Remaining challenges include under-detection in certain regions and incomplete surveillance for some high-risk groups.

3. TB Preventive Therapy (TPT) and Infection Control

Rwanda made strong strides in TB prevention, achieving high compliance with infection control (IC) measures, with 89.4% of 580 health facilities meeting all six minimum TB IC standards. Screening of health facility staff reached 87.3% (22,358/25,616), detecting 12 TB cases, while 92.4% of CHWs were screened, identifying 18 cases. Household contact tracing covered 98% (22,652/22,995) of contacts, diagnosing 1.5% (337) with TB.

TPT initiation among children under five reached 96.2%, while individuals over five had 91.9% initiation, predominantly on the 3HP regimen (96.5%). For PLHIV on ART, 97.8% initiated TPT, though newly enrolled ART patients achieved only 62.2% coverage. Challenges included declining staff screening rates, suboptimal IC in some sub-districts, and gaps in TPT coverage for new ART patients, highlighting the need for enhanced mentorship and improved data reporting.

4. TB Treatment Outcomes

Rwanda achieved a 90% treatment success rate for drug-susceptible TB, with children under five at 96% and CHW-supported patients at 94%. HIV-positive and previously treated patients had lower success rates (81% and 77%) with 12% mortality. Pulmonary TB had a 91% success rate versus 87% for extrapulmonary TB. RR/MDR-TB outcomes varied: shorter regimens reached 87.2% success, while longer regimens achieved 50%, with high loss to follow-up and 19% mortality among HIV-positive patients. Nutritional support was critical, with malnourished patients achieving 98% success if BMI improved. TB death audits completed 86.5%, attributing 70.6% of deaths to TB, 79.4% within two months, and 29% linked to HIV co-infection. TPT completion remained high across all groups

5. Health Promotion and Stakeholder Engagement

Rwanda strengthened TB awareness through extensive community engagement, training 2,620 peer educators in 13 prisons and six refugee camps to improve knowledge and reduce stigma. Behavior change campaigns utilized radio, television, print, online platforms, and social media. World TB Day 2025 united stakeholders, recognized CHWs, and mobilized communities. RRP+ deployed 4,724 peer educators across 547 facilities, reaching 166,522 PLHIV, conducting 44,183 TB sessions, and identifying 95 cases. Collaboration with 450 former patients formed 10 community

committees, supported by 12 CSOs. Challenges included limited materials and outdated reporting tools.

6. TB Commodity Management

The Coordinated Procurement and Distribution System (CPDS) maintained 95% TB stock availability despite RMS distribution disruptions. Of 244 planned shipments, 47.1% were received, 23.4% awaited delivery, and 27.9% were under planning, with laboratory and pediatric medicine delays requiring emergency orders. Quality control confirmed all tested products met standards. The Active Drug-Safety Monitoring and Management (aDSM) system recorded adverse events in 1.36% of patients, mostly moderate, while challenges included distribution delays, laboratory gaps, and the need for integrated reporting to prevent duplication.

7. Monitoring, Evaluation, and Research (M&E/R)

Real-time surveillance through the e-TB system integrated within DHIS2 supported data-driven decision-making. The March 2025 TB Service Quality Assessment and Data Quality Audit (RSQA/DQA) evaluated 98 facilities, revealing strong performance in diagnostic algorithms (85%) and stock monitoring (82%) but weak MDR-TB monitoring (14.6%) and active case finding (33%).

Research outputs improved evidence-based practices, while Digital Adherence Technology (DAT) in 54 facilities supported treatment adherence. KVP TB Match Analysis highlighted gaps in reaching high-risk groups, guiding targeted interventions. Mentorship programs improved childhood TB detection and death audits, though 68% of M&E indicators met targets, signaling room for improvement in diagnostics and leprosy control.

8. Leprosy Control

Leprosy efforts integrated surveillance, active case finding, and capacity building. Rwanda reported 39 cases (28 new, 11 retreatment), detecting 89% via active case-finding campaigns. Children accounted for 18% of cases, women 46.4%, with 14.3% presenting grade 2 disabilities. Treatment success was 93% for PB cases but only 63% for MB cases, with 38% lost to follow-up. Contact tracing screened 89% of contacts, and 68% received post-exposure prophylaxis (PEP).

Training reached 432 CHWs and over 100 providers. Integration with TB and NTD programs, including World NTD Day, increased community awareness. Challenges included limited PEP coverage, financial constraints, and low awareness, highlighting

the need for enhanced community engagement, resource allocation, and psychosocial support to achieve leprosy elimination by 2030.

9. TB Financing

The TB National Strategic Plan (NSP) had a total budget of USD 6,362,998, with 91% executed (USD 5,797,468). The Global Fund contributed USD 4,077,680, spending 91% primarily on goods and services, while the Government of Rwanda allocated USD 2,285,318, spending 92%, mainly on employee compensation and district hospitals. Tools like HRTT and SMART IFMIS enhanced financial reporting. Despite high execution rates, a USD 565,530 variance highlighted areas for improved planning, especially at RBC and district levels, to ensure sustained TB control.

Chapter 1: TB SCREENING AND DIAGNOSTIC

1.1TB Screening and diagnostic

In Rwanda, TB screening combines passive and active approaches. Passive screening is applied to people seeking care at health facilities who are not in high-risk groups, while active screening targets populations more vulnerable to TB. Community Health Workers (CHWs) support the process by detecting individuals with TB symptoms and directing them to health centers for further checks. In addition, chest X-rays are routinely used in prisons, transit sites, youth rehabilitation centers, and other high-risk settings during active TB case finding sessions.

In 2024-2025 FY, the total number of presumptive 152,194 were screened among them 47,8(72,729) and 52,2%(79,465) were identified respectively by health facilities(Hs) which combine both center for diagnostic and treatment (CDT) and center for treatment(CT) and Community Health Workers(CHWs).

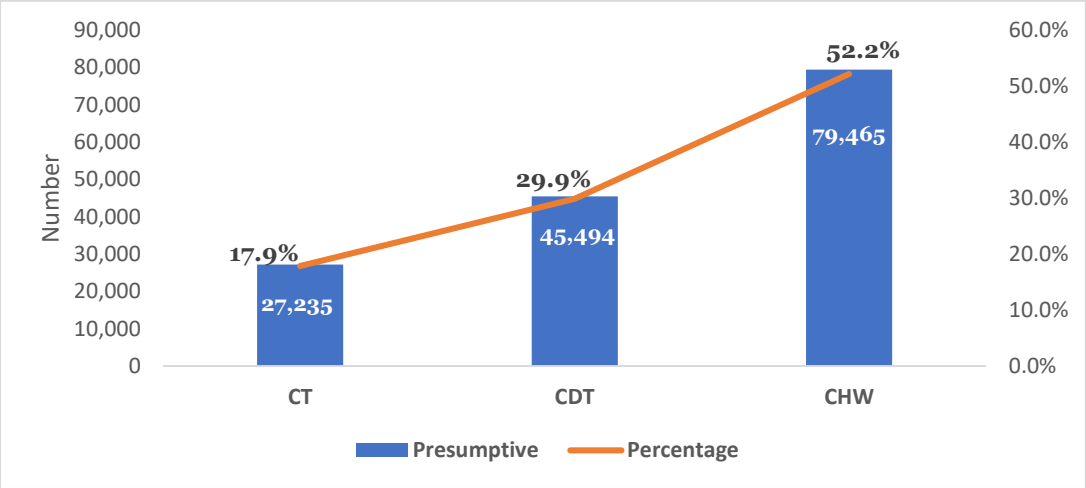

Figure 1TB screening in Rwanda by level

Among all presumptive TB, 7.8% knew their HIV-positive status and 98.5% of unknown HIV status had been tested during the TB diagnosis. The HIV positivity rate among all TB presumptive cases was 8.3%.

Table 1: HIV testing among presumptive

Total # of presumptive TB	Known as HIV+	Unknown HIV status			Total tested	Total # of HIV+ presumptive TB
		# to be tested	# and % of Tested	# and % of HIV+		
152,194	11,909	140,285	138,230	657	150,139	12,566
	7.8%		98.5%	0.5%	98.6%	8.3%

1.2 Active case finding screening

During the 2024–2025 fiscal year, enhanced case finding (ECF) activities were carried out in areas with high TB notification, using data to identify cells and villages with a high burden of TB cases, including slum areas. Hotspots and slums were identified across 19 health facilities from different provinces and City of Kigali (3 in the Eastern Province, 8 in Kigali City, 2 in the Northern Province, 1 in the Southern Province, and 5 in the Western Province).

Active case finding (ACF) was also implemented using mobile digital chest X-ray (CXR) in five correctional facilities: Huye and Nyarugenge (4th round), Rusizi and Bugesera (3rd round), and Nyagatare (2nd round). In addition, ACF was conducted among miners working underground at Rwinkwavu mine site. Furthermore, ACF using Mini-X-ray machines equipped with computer-aided detection (CAD) technology was carried out at Muhanga, Rwamagana, and Rubavu correctional facilities, with examinations performed by hospital radiology technicians.

As a result of ACF in hot spot/slums, corrections services and mining sites, a total of 83,212 people were reached and 63,6% (52896) were screened symptomatically and 40.8%(33919) were screened by chest x-ray with computer aided diagnostic. Of the people screened, 5,225 (6.3%) were TB presumptive and 59.9% were identified by symptoms only,37.3% by chest x-ray only and 2.8% by both symptoms and CXR. Among them 465 (8.8%) TB cases were diagnosed and 61.1% had symptoms only, 34.2 had abnormal CXR suggestive TB and 4.7% had both symptoms and abnormal CXR. The following shows detection by high risk groups:

- In the hotspot/slums: 23,961 people screened, 3,105 (13%) were TB presumptive and 287 (9.2%) were TB cases.
- In correction services: 58,008 inmates were enumerated, 57% (33,053) were screened systematically by CXR and 170 (98.2%) were TB cases.
- In mining sites: 1,243 mining people were enumerated, 69.7% (866) were screened, 8 TB cases were diagnosed.

Table 2: Positivity rate in CFs and Mines during active case finding

ACF		Hotspot & Slum	Correctional services	Mining Sites	Total
Population		23961	58008	1243	83212
Screening	Symptom	23835 (99.5%)	28195 (48.6%)	866 (69.7%)	52896 (63.6%)
	CXR	173 (0.7%)	33053 (57%)	866 (69.7%)	34092 (41%)
TB Presumptive	Symptom	3075 (12.9%)	43 (2.1%)	30 (34.9%)	3148 (59.9%)
	CXR	16 (0.1%)	1895 (91.8%)	47 (54.7%)	1958 (37.3%)
	Symptoms and CXR	14 (0.1%)	126 (6.1%)	9 (10.5%)	149 (2.8%)
	Total	3105 (13%)	2064 (3.6%)	86 (6.9%)	5255 (6.3%)
TB Cases	Symptom	283 (98.6%)	1 (0.6%)	0 (0%)	284 (61.1%)
	CXR	2 (0.7%)	150 (88.2%)	7 (87.5%)	159 (34.2%)
	Symptoms and CXR	2 (0.7%)	19 (11.2%)	1 (12.5%)	22 (4.7%)
	Total	287 (9.2%)	170 (8.2%)	8 (9.3%)	465 (8.8%)

1.3 Increase access to rapid and molecular tests

The access to rapid TB detection, TB diagnosis using rapid and molecular tests was strengthened. Thanks to the introduction of 10 color Xpert machines at 10 hospitals, 10 more health facilities were equipped with Xpert machines and the total number of functioning Xpert machines on the network of TB diagnosis is 88 across the country . The newly equipped sites are Ndera Neuro-Psychiatric Hospital, Gikondo HC, IWAWA Rehabilitation Centre, Kivumu HC, Mahama Medicalized Centre, Nyarubuye HC, Kinoni HC, Karengera HC, Nyange A HC and Rubengera HC

The National Reference Laboratory adopted the integration of early infant HIV diagnostic and hepatitis C viral load testing using the GeneXpert platform to improve the rational use of the GeneXpert machines.

As per the WHO recommendation to use molecular tests as the initial diagnostic tool (mWRDs), Rwanda has progressively adopted this approach through the use of Xpert as initial test for all TB presumptive in city of Kigali and presumptive from HRGs in the remaining area with the future plans to extend mWRDs to all TB presumptive. In addition to this, there was an introduction of the Ag TB-LAM test for TB diagnosis among eligible PLHIV across the country.

In total, 105,563 GeneXpert tests were performed as initial diagnostics and drug susceptibility testing (DST) for smear-positive cases, representing an average utilization rate of 30.2% (105,563 /348,480) for TB testing. In addition to this, Xpert machine are also contributing to Early Infant Diagnostic and hepatitis tests in all Xpert sites.

To improve connectivity, Rwanda is using DataToCare software, a fully customized desktop and web application contextualized to meet the needs of the TB & ORD division. During the 2024-2025 fiscal year, DataToCare software website version was upgraded from version 3.6.0a to 3.7.3a2 for some sites and to the DataToCare desktop

version was updated from 4.7.2a to 4.7.3a2. The use of DataToCare is not optimal, with only 27.6% (29,227/105,563) of all GeneXpert tested samples. This low performance is mainly due potential reluctance from users to transition to the updated system and also the old version DataTocare related network connectivity issues.

1.4 Reach the universal access to DST

In Rwanda, three techniques are used to assess the access to the universal drug susceptibility testing (DST): LPA (Line Probe Assay), phenotypic testing (pDST), and GeneXpert molecular testing. LPA and phenotypic testing for first-line drugs are conducted at the National Reference Laboratories and at two university teaching hospitals, CHUB and CHUK. As mentioned earlier, we have already started using Xpert XDR cartridges for second-line drug testing at 10 hospitals. A thorough assessment on possibility of re-introduction of primary culture was conducted at CHUB to improve pDST performance and we are looking forward to implementing this technique.

1.4.1. Culture techniques

To interpret culture results, we analyzed all samples received and processed between April 2024 and March 2025. A total of 5,419 samples were processed for primary culture, of which 3,367 (62%) were from new cases, 1,528 (28%) from patients with unknown TB history, 473 (9%) from drug-resistant TB (DR-TB) follow-up patients, and 50 (1%) from previously treated patients.

Overall, 10.7% (584) of samples were culture-positive, 86.4% (4,678) were negative, and 2.9% (157) were contaminated. By treatment history, culture positivity was highest among patients with unknown TB history (11%), followed by DR-TB follow-up (11%) and new cases (9%). Conversely, negative results were most frequent among previously treated patients (94%), followed by new cases (89%) and patients with unknown history (86%).

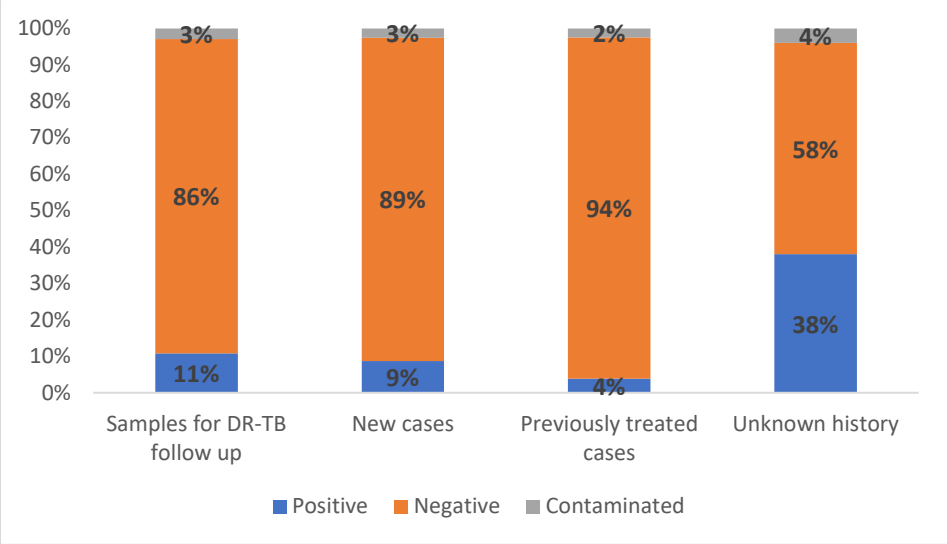

Figure 2: Result of primary TB culture

1.4.2. Drug susceptibility for first line drug

From April 2024 to March 2025, 532 TB samples underwent first-line drug susceptibility testing. Of these, 121 (23%) were new cases, 19 (4%) previously treated, and 392 (74%) with unknown treatment history. Overall, 432 samples (81%) were fully susceptible to rifampicin and isoniazid, while 26 (5%) showed isoniazid mono-resistance, 10 (2%) rifampicin mono-resistance, and 49 (9%) multidrug-resistant TB (MDR-TB). Most MDR-TB cases (40/49) were detected among new patients, suggesting ongoing transmission in the community. Additionally, 15 samples (3%) were not detected or contaminated. These findings underscore the need for strengthened surveillance and targeted intervention

Table 3: First line DST results, fiscal year 2024-2025

samples processed from April 2024- March 2025		samples registered	Drug Susceptibility Testing (DST)	
			LPA 1st line	DST 1st line
History of previous TB treatment	New cases	121	9	112
	Previously treated cases	19	19	0
	Unknown history	392	392	0
1st Line DST Results		**New cases**	**Previously treated cases**	**Unkown history**
	Susceptible to both R and H	63	10	359
	Resistance to H but not R	14	5	7
	Resistance to R but not H	4	0	6
	Resistance to both H and R (MDR-TB)	40	4	5
	Not detected/ Contaminated	0	0	15

1.4.3. Drug susceptibility for second line drug at NRL

From April 2024 to March 2025, second-line DST was performed on 96 samples from 48 patients enrolled on second-line TB treatment. Among these, 78 samples from new TB cases showed growth and were successfully processed for testing. Of these, 67 samples (86%) were fully susceptible to all second-line drugs, including fluoroquinolones, second-line injectables, bedaquiline, clofazimine, delamanid, and linezolid. No resistance was detected, confirming the absence of Pre-XDR and XDR-TB among the tested cases. However, 11 samples (14%) were either not detected or contaminated, underscoring the need to strengthen laboratory quality control. Overall, the results indicate encouraging susceptibility trends to second-line drugs in new TB cases.

Table 4: Processed samples for second line DST: fiscal year 2024-2025

samples processed from April 2024- March 2025		Number registered	Drug Susceptibility Testing	
			LPA 2nd line	DST 2nd line
History of previous TB treatment	New cases	78	0	78
	Previously treated cases	0	0	0
	Unknown history	0	0	0
2nd Line DST		New cases	Previously treated cases	Unkown history
	Number of samples susceptible to all 2nd line drugs(FQ, 2LI, Bdq, Cfz, Dlm, Lzd)	67	0	0
	Number of samples with any resistance to FQ (PreXDR-TB)	0	0	0
	Number of samples with any resistance to 2LI (PreXDR-TB)	0	0	0
	Number of samples with resistance to Bdq (PreXDR-TB)	0	0	0
	Number of samples with resistance to Cfz (PreXDR-TB)	0	0	0
	Number of samples with resistance to Dlm (PreXDR-TB)	0	0	0
	Number of samples with resistance to Lzd (PreXDR-TB)	0	0	0
	Not detected/ Contaminated	11	0	0

1.4.4. Access to universal drug susceptibility testing

WHO recommends universal drug susceptibility testing (DST) for all TB patients. To achieve this target, in addition to TB cases diagnosed with GeneXpert as the initial diagnostic test, Xpert testing should be performed on all smear-positive TB cases for rifampicin susceptibility testing. According to the new WHO TB surveillance guidelines, universal DST should be considered only for bacteriologically confirmed TB cases. The figure below shows significant improvement toward achieving universal DST, with a rate of 95.6% among bacteriologically confirmed TB cases. This coverage which is not 100% may be due to sample transportation issues, issues related to sample collection from the patient who has already started anti-TB treatment.

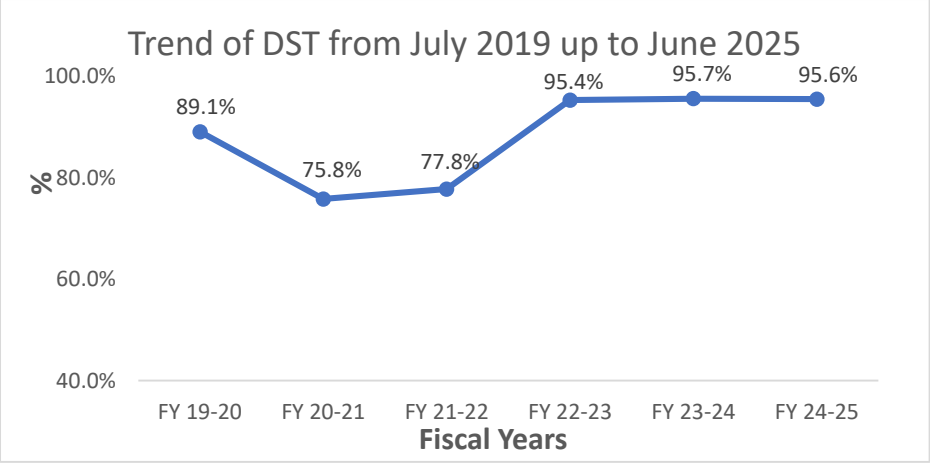

Figure 3: Trend of Drug susceptibility testing among TB Bacteriologically confirmed over six FYs

1.5. Strengthening the quality of laboratory services

1.5.1. Smear microscopy quality control

From July 2024 to June 2025, 153 of 205 CDTs (74.6%) were controlled at least three times, with 10,165 slides reviewed (581 positive, 214 with 1–9 AFB, and 8,959 negative). High false positives (HFP) were detected in 9 samples, 22 high false negatives (HFN), 7 low false positives (LFP), 12 low false negatives (LFN), and 103 quantification errors (QE). Major errors were identified in 13 CDTs. HFP was observed at Gihundwe DH (1) and Rwinkwavu DH (8), while HFN occurred in several facilities including CHUB, Gakoma DH, Gikonko HC, Kabaya DH, Kabgayi L2TH, Kabutare DH, Kibilizi DH, Kibungo L2TH, RMH, Cyahinda HC, Nyamata L2TH, and Rwinkwavu DH, which alone accounted for 9 errors. The predominance of high false negatives, particularly at Rwinkwavu DH, signals a significant risk of missed TB diagnoses. These findings emphasize the importance of strengthening quality assurance and targeted corrective measures in underperforming CDTs

Table 5: Summary of slides retesting for smear microscopy

		Nb of slides controlled				Nb of Errors					Nb of CDT with
	CDT controlled atleast 3x	Total	Pos	1-9AFB	Neg	HFP	HFN	LFP	LFN	QE	
	153/205 (74.6%)	10,165	581	214	8,959	9	22	7	12	103	13
CDT with Major	HFP: Gihundwe DH (1), and Rwinkwavu DH (8) HFN: CHUB (1), Gakoma DH (1), Gikonko HC (1), Kabaya DH (1), Kbgayi L2TH (1), Kabutare DH (1), Kibilizi Dh (1), Kibungo L2TH (1), RMH (1), Cyahinda HC (2), Nyamata L2TH (2) and Rwinkwavu DH (9)										
HFP:high false positive,HFN: high false negative, LFP:low false positive, LFN: low false negative,QE: quantification error											

1.5.2. GeneXpert External Quality Control

During the fiscal year 2024–2025, out of 74 GeneXpert sites, 66 (89.1%) received proficiency testing panels as part of external quality assessment (EQA) during the first

semester, provided by CDC-Atlanta. Among the 66 laboratories enrolled in GeneXpert proficiency testing, 62 (94%) achieved satisfactory scores of 80% and above, while 4 (6%) did not meet the standard (Cor-unum HC, Kacyiru HC, Ndera Hospital, and Rutare HC). Considering all 74 GeneXpert sites, the overall satisfactory performance for the 2024–2025 fiscal year was 83.7% (62/74).

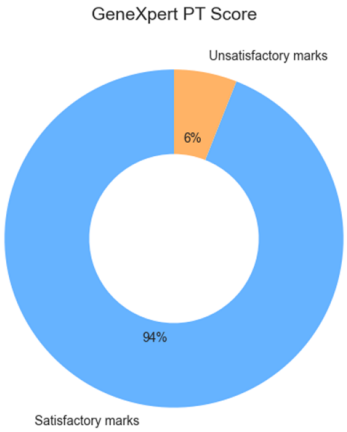

Figure 4: Summary of slides retesting for smear microscopy

Chapter 2: TUBERCULOSIS NOTIFICATION

2.1. Notification and CHWs contribution

In FY 2024–2025, Rwanda notified 8,196 TB cases, including 48 RR-TB cases. CHWs contributed 2,230 cases (27.2%), exceeding the national target of 25%. Compared to FY 2023–2024, overall TB notifications decreased by 4.2%, while TB cases referred by CHWs declined by 16.7%.

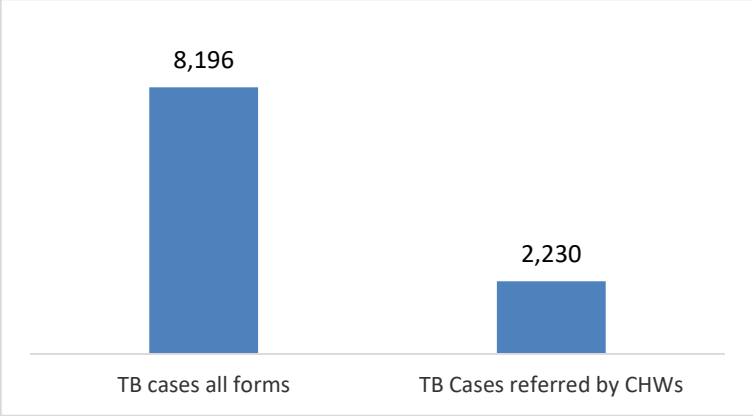

Figure 5: Contribution of CHWs on the national TB notification during 2024-2025 FY

The trend in TB notifications has remained relatively stable between 2015-2016 and 2021-2022 fiscal years. It abruptly rose to 9,422 in the 2022-2023 fiscal year before decreasing again to 8,543 cases and to 8,196 cases in the 2023-2024 and 2024-2025 fiscal years, respectively. The pic in 2023-2023 FY was mainly identified in Rwamagana District.

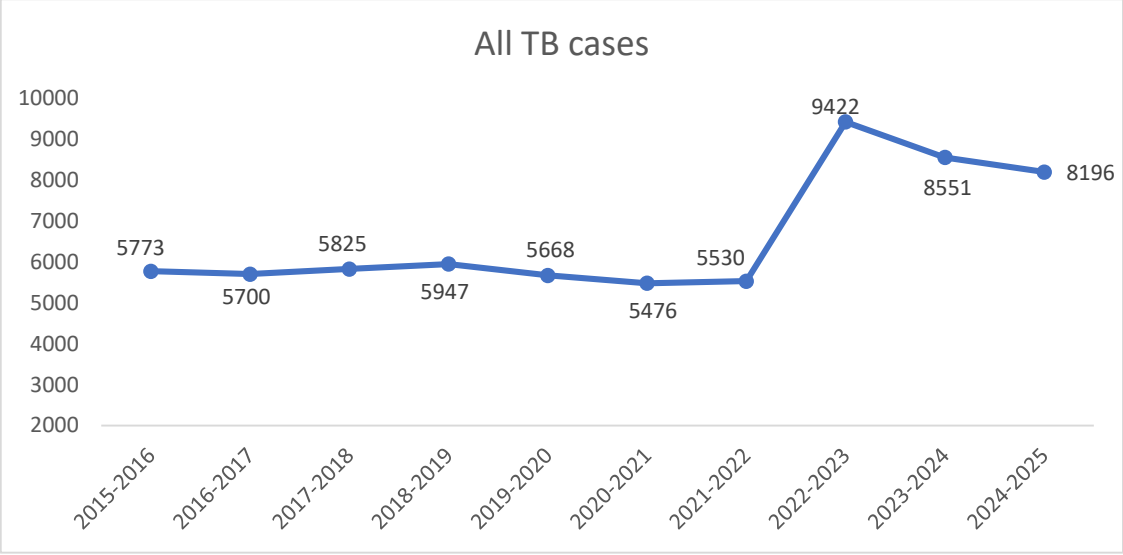

Figure 6:TB notification trend in the last ten years in Rwanda

2.2. TB notification by sex and age groups

In FY 2024–2025, 71.2% of notified TB cases were male, with a male-to-female ratio of 2.5, compared to 2.8 in 2023–2024 and 3.6 in 2022–2023. The active population (ages 25–44) accounted for 45.2% of all TB cases. TB cases among children aged 0–4 years increased, largely due to the impact of childhood TB mentorship sessions conducted by the TB&ORD Division and pediatricians.

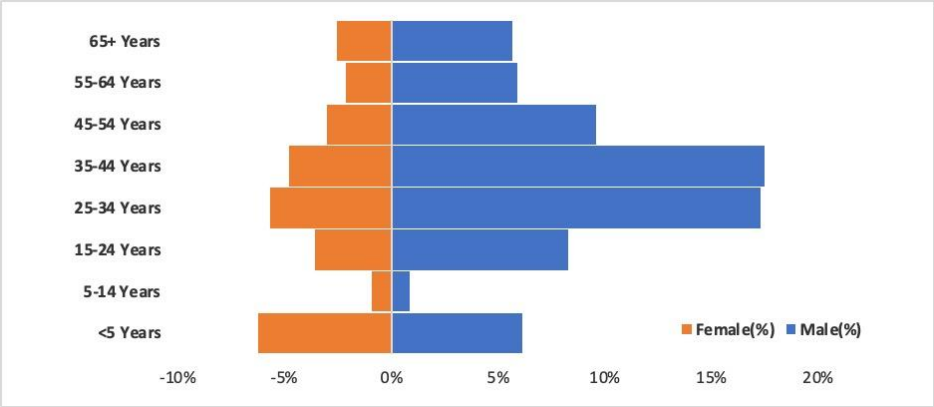

Figure 7:Age-pyramid of notified TB cases during 2024-2025 fiscal year

2.3. Geographical distribution of TB notification

The graph illustrates the distribution of TB cases across Rwanda's provinces and City of Kigali. The highest proportion of cases was reported in City of Kigali (28.6%), followed by the Eastern Province (23.9%) and the Southern Province (20.3%). The Western Province accounted for 18.2%, while the Northern Province had the lowest share with 9.0% of cases. Overall, City of Kigali and the Eastern Province together contribute to more than half of the national TB burden, while the Northern Province shows the lowest burden, which may reflect either a genuinely lower incidence or under-detection.

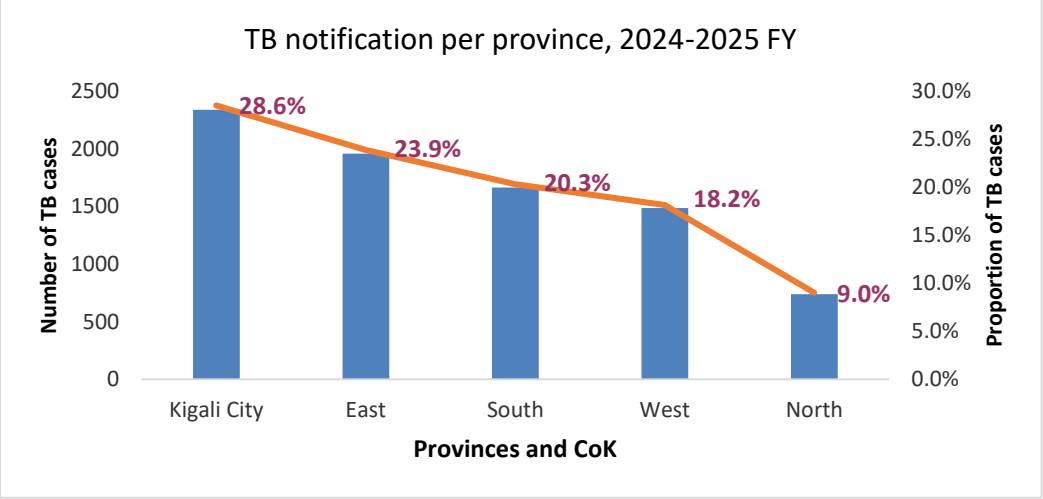

Figure 8: Notification (number and proportion) of TB cases by province in 2024-2025 FY

The map presents the distribution of TB cases across Rwanda's 30 districts, with a total of 8,196 cases. Darker shading indicates districts with higher proportions of TB cases, while lighter shading represents lower proportions. The highest burden is concentrated in Kigali City districts (Gasabo, Kicukiro, and Nyarugenge) and parts of the Eastern Province, particularly Nyagatare, Rwamagana, and Kayonza. Other districts with relatively high case numbers include Rubavu in the West and Huye in the South. In contrast, several districts in the Northern and Southern Provinces show a lighter shading, suggesting a lower TB burden.

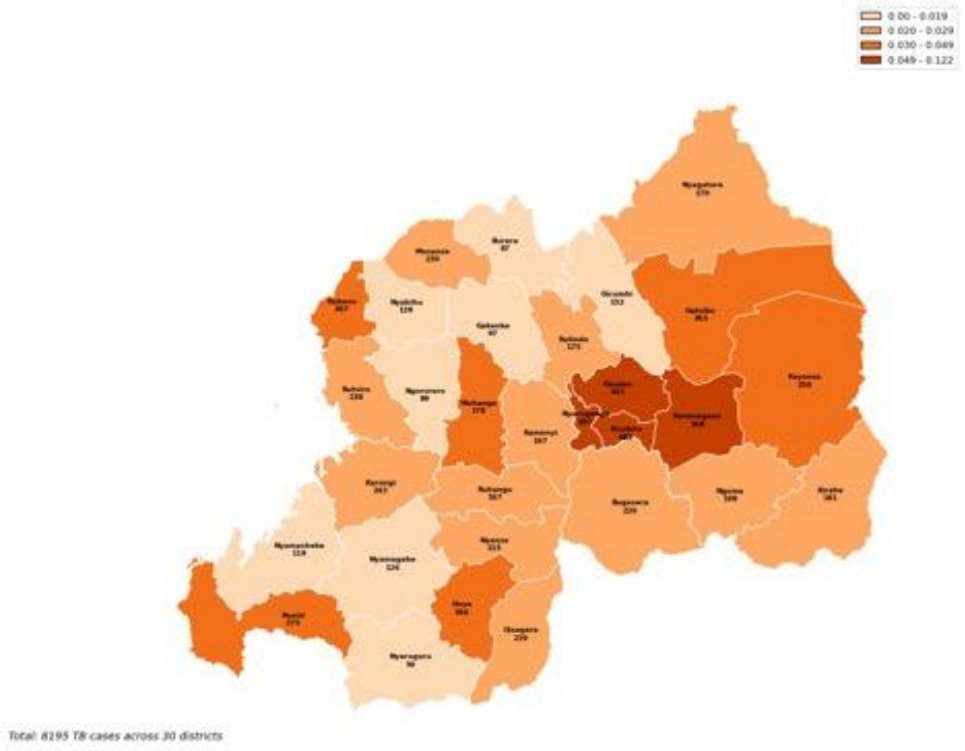

Figure 9: Map of TB notification per district

The graph shows TB notification rates per district in Rwanda, with a national average of 58.3 cases per 100,000 population ranging from 15.4 to 251.0 TB cases by 100,000 population. Nyarugenge recorded the highest notification rate at 251.0, followed by Kicukiro (127.5), Rwamagana (107.6), and Huye (99.8). Other districts such as Muhanga, Rubavu, Gasabo, Karongi, Rutsiro, and Gatsibo also reported rates above or close to the national average.

Notably, Rutsiro, Gatsibo, and Karongi are now among the top 10 districts, which was not the case previously. The increase in Rutsiro and Gatsibo is largely attributed to active case finding (ACF) conducted in rehabilitation centers, while Karongi's improvement is likely linked to the availability of specialists, as the hospital was upgraded to a Level 2 teaching hospital, where they played a key role in mentorship and TB case detection.

This pattern highlights the importance of targeted interventions, such as ACF and strengthened clinical mentorship, in improving TB notification rates across districts

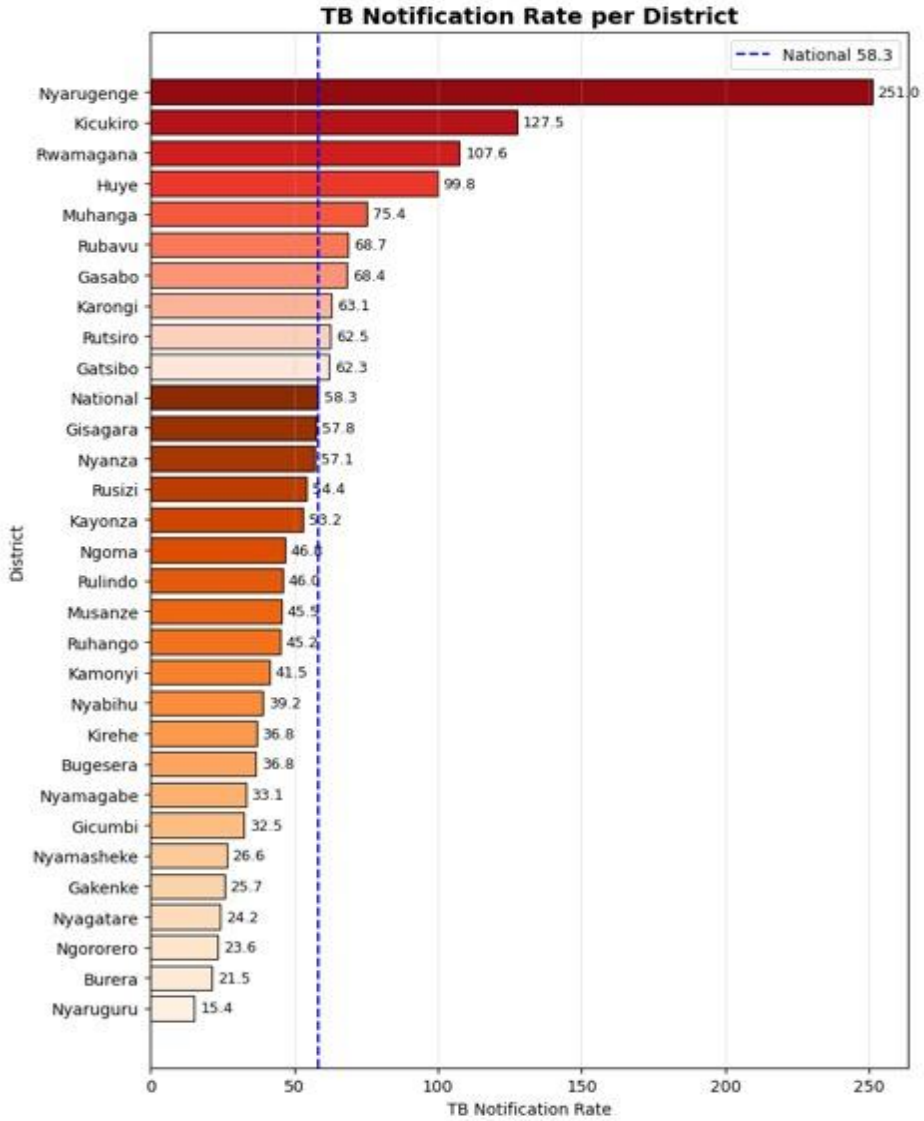

Figure 10: Notification rate by districts during the 2024-2025 fiscal year

2.4. Notification of TB cases according to WHO classification

The graph below shows that most cases (71%) were bacteriologically confirmed, while 29% were clinically diagnosed. This reflects strong laboratory diagnostic capacity, although reliance on clinical diagnosis in nearly one-third of cases indicates increase of skill staff mainly specialist at decentralized level. Regarding the site of disease, pulmonary TB accounted for the vast majority of notifications (88%), with extrapulmonary TB representing only 12%. In terms of treatment history, almost all reported cases (98%) were new or relapse, and only 2% fell under previously treated categories showing early TB detection and good management. Thirteen percent (13%) of TB patients were HIV-positive, while 87% were HIV-negative.
Drug susceptibility testing showed that 99% of patients were susceptible to first-line drugs, and only 1% were resistant.

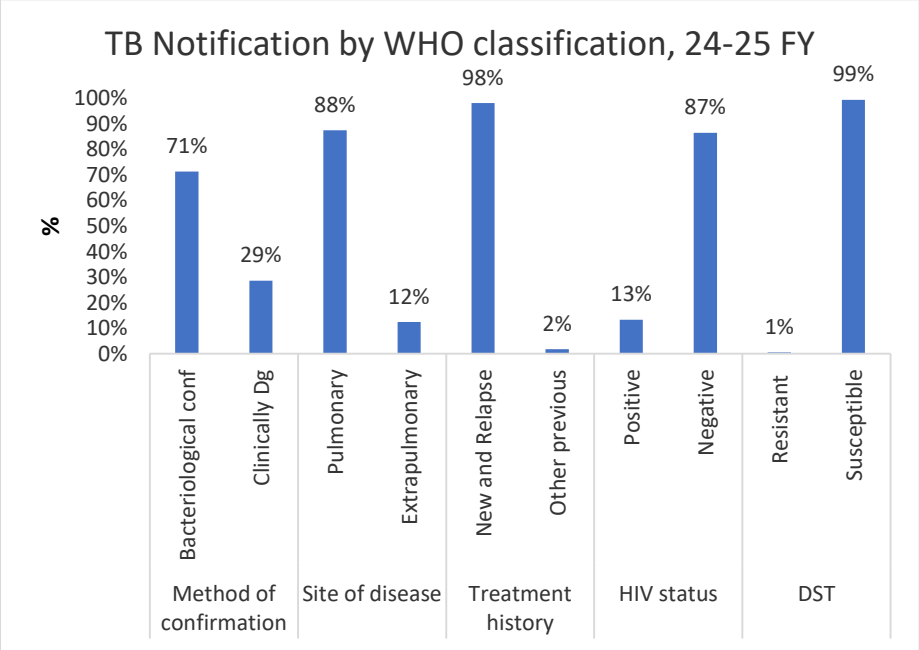

Figure 11: TB cases by WHO classifications

For the first time, TB&ORD introduced the data collection of extrapulmonary TB locations. The graph below shows a total of 1,022 extrapulmonary TB patients reported across the country. Pleural, lymphadenitis and skeletal TB were the most common presentations, accounting for 60% of all cases. Peritoneal TB and miliary TB were also frequent, contributing 10% each. Pericardial TB accounted for 6%, while meningeal TB represented 4% of cases. Other less common forms included ocular TB (3%), genitourinary TB (3%), cutaneous TB (2%), and gastrointestinal TB (1%). Very rare forms such as breast TB and adrenal gland TB were also identified, although they represented less than 1% of all cases. The identification of rare forms such as breast and adrenal TB highlights the wide spectrum of extrapulmonary manifestations and the need for comprehensive diagnostic approaches. These results underscore the importance of strengthening diagnostic capacity, particularly imaging,

histopathology, and molecular testing, to ensure timely and accurate detection of extrapulmonary TB.

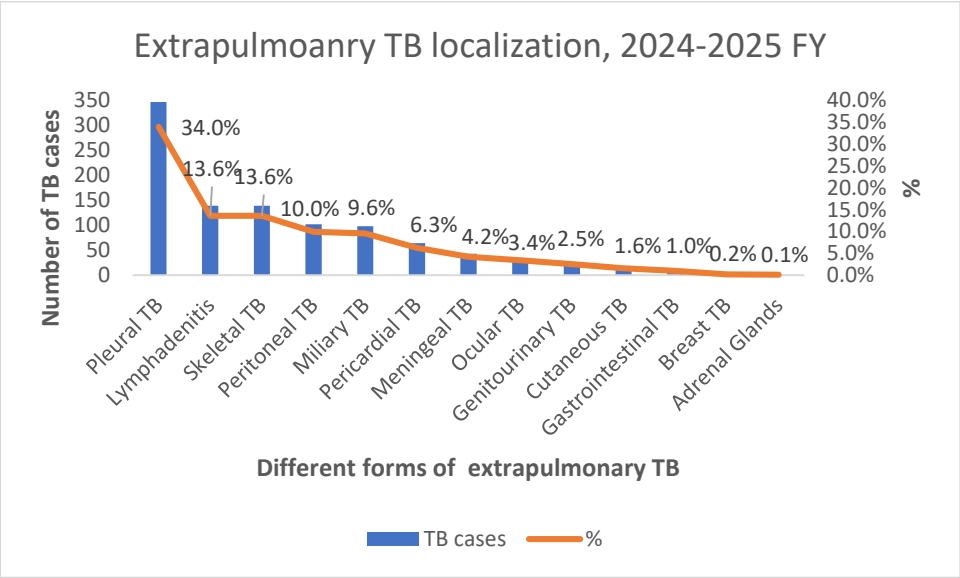

Figure 12:Extrapulmonary TB localization

Regarding the trend of TB/HIV co-infection, the figure 13 indicates significant progress in reducing TB/HIV co-infection over the last decade, with the rate almost halved from 25% to 13% which represent a decrease of 45%. This improvement may be due to the scale-up of HIV prevention and treatment programs, integration of TB/HIV services, and better case detection and management. However, the slight rebound observed in 2023–2024 suggests the need for continued vigilance to sustain and further strengthen the gains achieved.

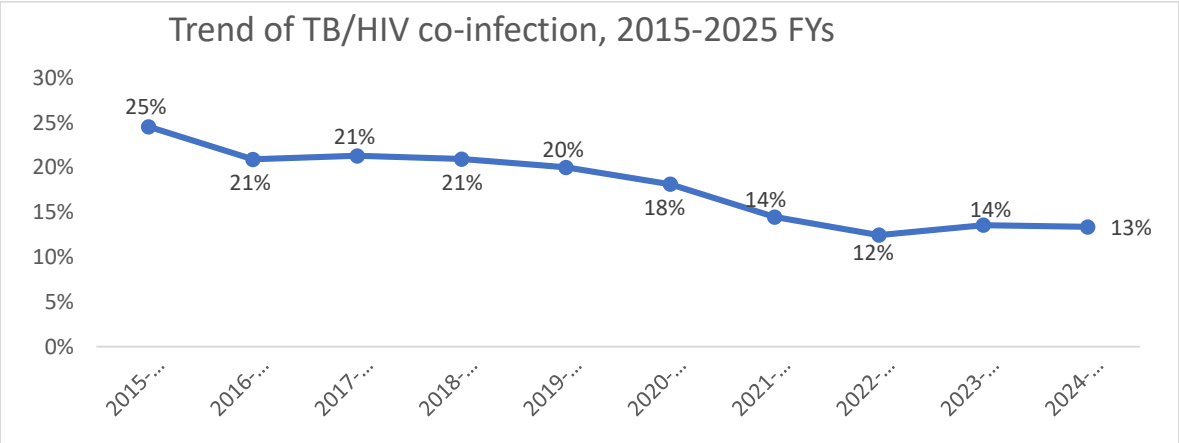

Figure 13:Trend of TB-HIV co-infection from July 2019-June 2025

2.5. TB notified among high-risk groups

The National Tuberculosis Program (NTP) has identified populations at highest risk of developing TB, including children under 15 years, adults aged 55 years and above, refugees, contacts of TB patients, people living with HIV, inmates, malnourished individuals, people with diabetes, miners, people who inject drugs, and those in transit centers. Active screening is being conducted among these groups to improve early detection. The national surveillance system captures most data on TB notifications among high-risk groups. However, information on people who inject drugs is not yet systematically integrated into the current surveillance system.

When considering the different people at high risk to develop TB mutually exclusive, during this reported fiscal year, the data of TB cases among high-risk groups shows that malnourished individuals were the most affected, representing 49% of all cases. Older adults above 55 years accounted for 16%, while children under 15 years contributed 14%. People living with HIV represented 13% of cases, and contacts of TB patients 9%. In addition, 8% of cases were reported among prisoners, and 3% among people in transit centers. Smaller proportions were observed among mining communities (2%), refugees (1%), and people with diabetes (1%). Healthcare providers accounted for very few cases (0%).

Table 6:Diagnostic of TB among HRG mutually exclusive, July 2024-June 2025

HRG categories mutualy exclusive	Number	%
Malnourished	3,988	49%
>55 years	1,330	16%
Under 15	1,159	14%
HIV+	1,096	13%
Contact+	772	9%
Prison	688	8%
Transit center	281	3%
Mining	155	2%
Refugees	105	1%
Diabetis	49	1%
HCP	31	0%

But when considering it mutually inclusive, TB cases notified from various high-risk groups (HRGs) accounted for 74.7% (6,123/8,196) of all TB forms which has the similar proportion observed among new and relapse TB cases (6,025/8,049), reflecting that HRGs make up the vast majority of notified cases during this period.

The TB program successfully achieved the 2024–2025 fiscal year target of 54% set in the Extended TB NSP 2019–2027.

When considering the achievement by subdistricts, 74% (34/46) reached the national average and all subdistricts reached the national target (see below graph).

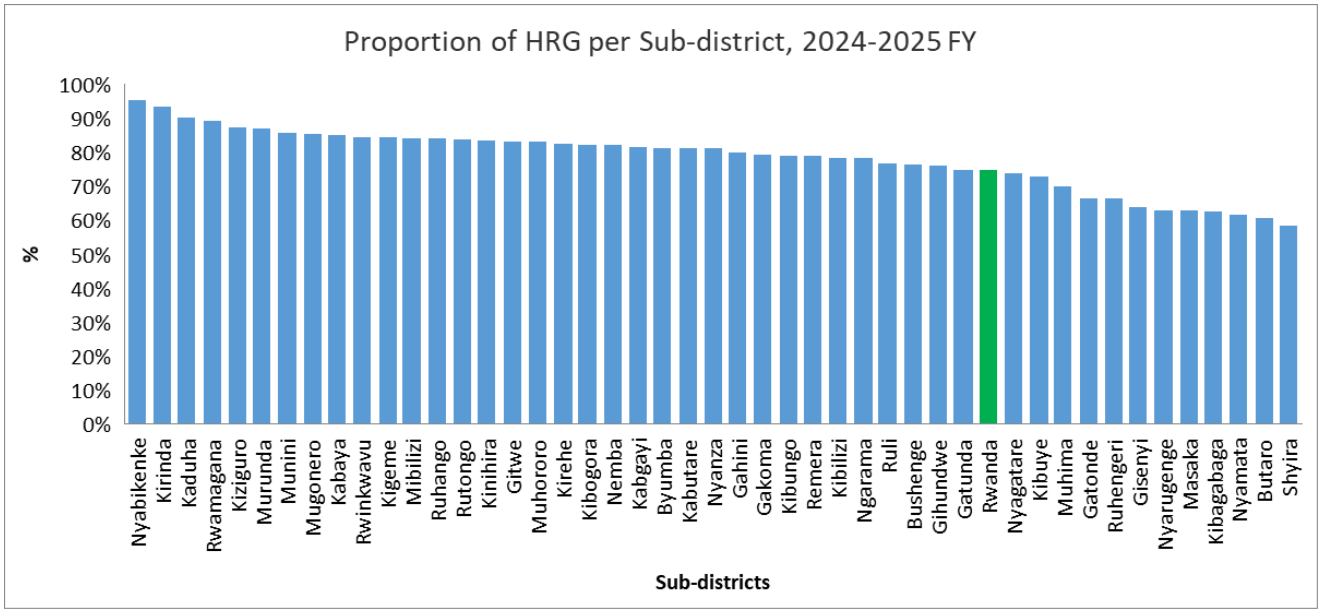

Figure 14: Proportion of TB cases among HRGs by district

2.6. TB notified among children

The proportion of TB cases among children under 15 years was 14% of all notified TB cases. Overall, 63% (19 out of 30) districts achieved the national average, and nearly all districts except Bugesera and Rwamagana reached the national target of 7% TB detection among children.

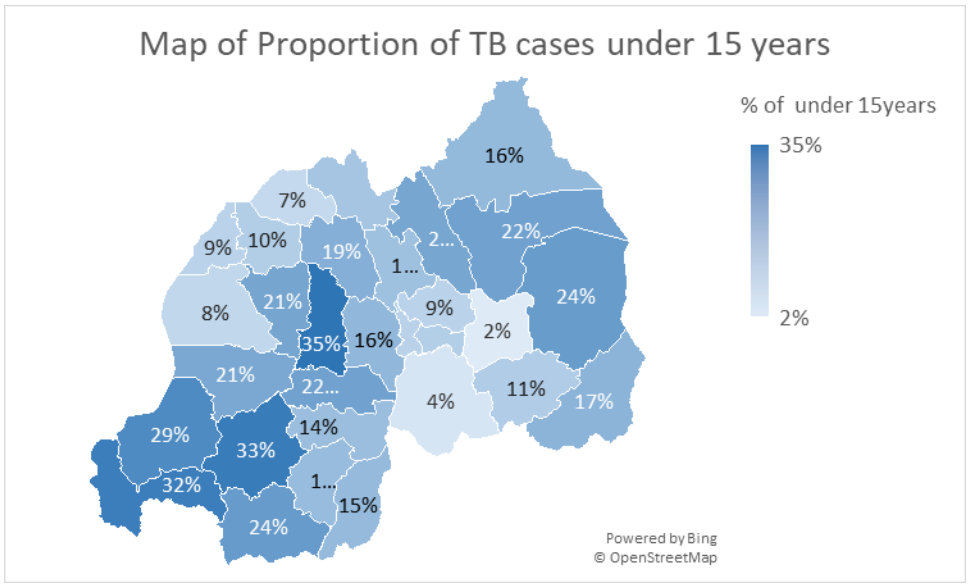

Figure 15: Map of TB cases under 15 years per district

The improvement in childhood TB notification is attributed to the mentorship sessions conducted across all districts. During these activities, a total of 495 childhood TB cases were notified, representing 38.5% of all childhood TB cases. The mentorship was led

by pediatricians to strengthen the capacity of nurses in detecting TB using the national diagnostic algorithm.

2.7. Drug resistant TB notification

In 2024-2025 FY, 48 DR-TB was notified with a decrease of 47% compared to 2023-2024 FY. This decrease could be attributed to the implementation of a new DR-TB algorithm requiring Xpert repeat if rifampicin resistance is detected on a very low bacilli sample. The graph below shows the DR-TB notification trend. There was a gradual rise reaching a peak in 2018–2019, followed by a sharp decline in 2020–2021, likely due to COVID-19 disruptions in case detection. In the following fiscal year, the algorithm was revised to include retesting of all Xpert results with low or very low bacillary load using Xpert cartridges. By 2022–2024, notifications strongly rebounded, supported by the introduction of the Ultra cartridge and systematic CXR screening at Rwamagana prison, where ongoing TB transmission was identified. During this period, we also continued to assess the accuracy of results for samples with low bacillary load. Based on the assessment conducted in May 2024, a new algorithm was released for RR detection using the Ultra cartridge, requiring repeat testing for all samples with very low bacillary load. This change was expected to reduce false-positive RR-TB cases by 40–60%, which was reflected in the number of cases notified in 2024–2025.

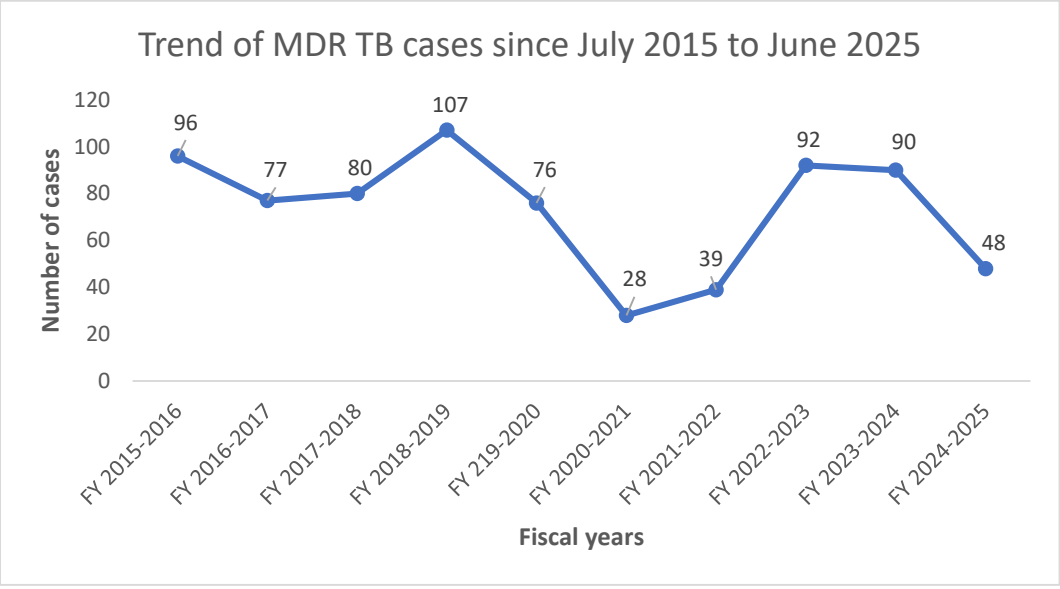

Figure 16:Trend of DR-TB notification during the last 10 years

2.7.1 DR-TB notification by province

In 2024-2025 FY, we have received a total of 48 DR-TB cases. The findings showed that Southern Province accounted for a high percentage of 29% (14/48) compared to the rest of other provinces, followed by both Eastern and Western provinces with 23% (11/48) each.

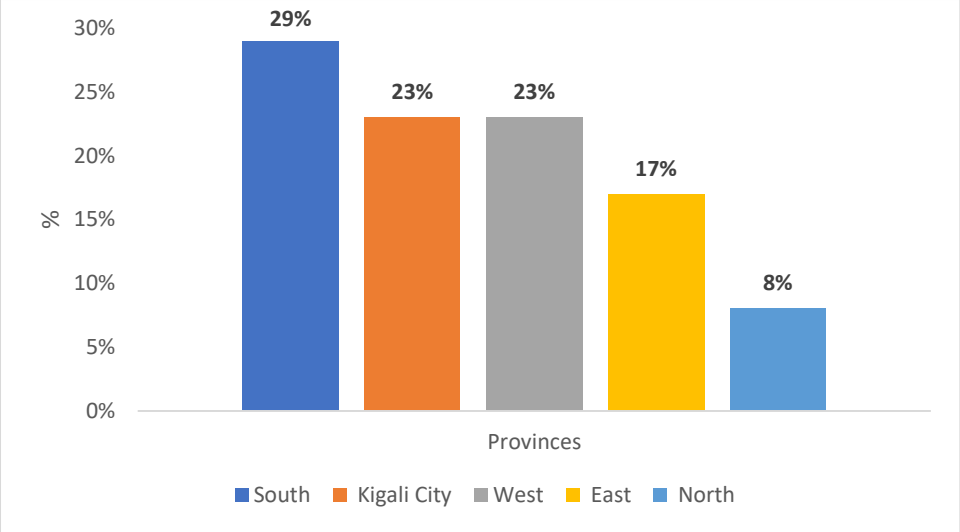

Figure 17:DR-TB notification by province from July 2024 to June 2025

2.7.2. DR-TB notification by gender and HIV status

Regarding HIV status among MDR-TB cases, 29.2% (14/48) were TB-HIV coinfected, a higher rate compared to the situation co-infection rate of 11.1% and 14.6% during the 2022-2023 and 2023-2024 FYs respectively. The male to female sex ratio was 2.7 which is 3 times lower than the sex ratio (7.2) from notified DR-TB cases during 2022-2023 FY but comparative with 2.3 from 2023-2024 FY.

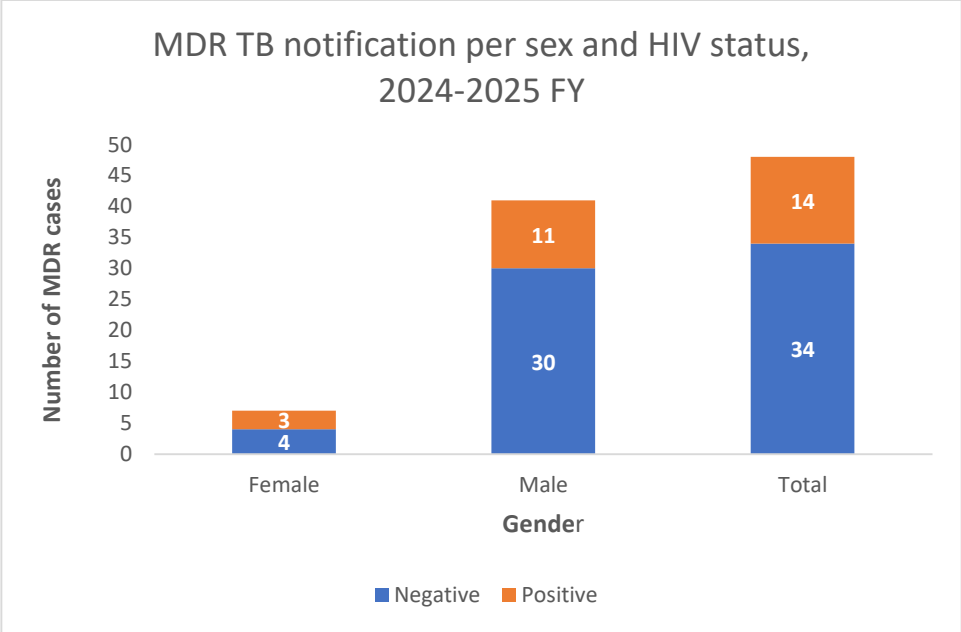

Figure 18: Drug resistance TB notification by gender and HIV status in 2024/2025 FY

Indicator	2024-2025		
	Target	Achievements	Level of achievement
TB notification rate, New and Relapse	46/100k	59/100K	128%
TB treatment coverage (new and relapse cases notified)	95%	93%	98%
Proportion of TB cases notified among high-risk groups	54%	75%	139%
Proportion of children 0-14 years notified among TB cases new and relapse	7%	14%	200%

Chap 3: TUBERCULOSIS PREVENTION

Tuberculosis preventive therapy (TPT) plays a critical role in reducing the TB burden by preventing latent infection from progressing to active disease, particularly among high-risk groups such as people living with HIV, children, and household contacts of TB patients. TPT helps break the chain of transmission, lowers TB incidence and mortality, and reduces the risk of drug-resistant TB. By protecting vulnerable populations, it contributes to global TB elimination goals, strengthens community health, and mitigates the long-term social and economic impacts of TB.

3.1. Tuberculosis infection prevention and control

The Rwanda TB&ORD surveillance system established six minimum measures package to monitor the compliance of applying TB infection control measures at the health facility level. Health centers are evaluated by hospitals, and hospitals are appraised by the central level. The minimum TB infection control (IC) package includes six basic measures: (i) the existence of an IC plan, (ii) appointment of a TB focal person, (iii) training for health workers on TB, (iv) a cough triage system, (v) Information, Education, and Communication (IEC) on cough hygiene, and (vi) ensuring doors and windows are open in high-risk areas.

During this reported FY, 89.4% (519 out of 580) of health facilities implemented all six basic TB infection control measures in the Q4 of the 2024-2025 fiscal year (April-June 2025). The performance of TB infection control has remained almost constant over the past four fiscal years, as illustrated in the figure below showing the trend of its implementation across health facilities in Rwanda.

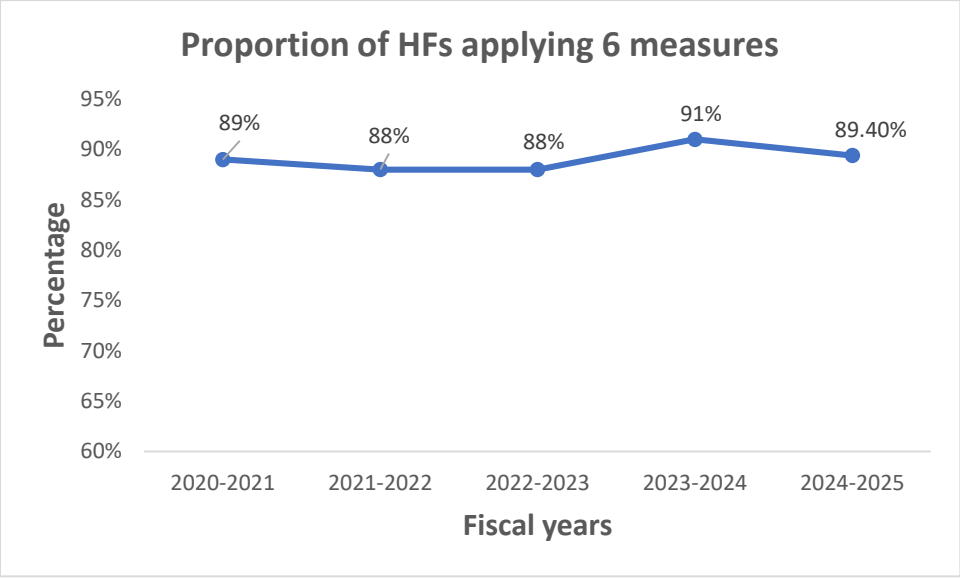

Figure 19:Trend of TB IC measures application in HFs, 2024-2025 FY

Some challenges were noted that hindered the effective implementation of the six minimum package measures. Thirteen health facilities did not report data into HMIS,

and six sub-districts recorded performance below 80% (Murunda: 79%, Kibagabaga: 77%, Munini: 76%, Bushenge: 75%, Kigeme: 75%, and Remera Rukoma: 73%). Strengthening mentorship and ensuring close follow-up are needed to improve performance.

We monitor the transmission of TB among health care provider where all are requested to be screened once a year.. During the 2024-2025 fiscal year, 87.3% (22,358/25,616) of health facility staff were screened, with 1.3% (299/22,358) identified as presumptive TB and 12 confirmed TB cases. For CHWs, 92.4% (52,073/56,333) were screened, with 1.1% (618/52,073) identified as presumptive TB and 18 confirmed TB cases. TB screening rates for staff decreased from 95% to 87.3% between the 2023-2024 and 2024-2025 fiscal years, while the rate for CHWs was almost similar compared to FY 2023-2024 (93%).

3.2. Tuberculosis preventive treatment among TB contacts

3.2.1. Cascade of TB contacts investigation

TB household contacts are individuals who have been in close contact with infectious TB patients. Given their high risk for TB infection, these contacts must be systematically investigated through TB screening and diagnosis. A systematic contact investigation was conducted and focused on all household members using a symptoms-based approach. TB screening for these contacts is based on symptoms such as cough, fever, night sweats, and weight loss/poor weight gain. Following this, clinical and lab investigations are carried out to rule out active TB among identified presumptive cases.

During the FY 2024-2025, 22,995 contacts of bacteriologically confirmed TB cases were identified. Out of these, 22,652 contacts were screened, representing 98% of the total. Among those screened, 1.5% (337 individuals) were diagnosed and confirmed with TB disease.

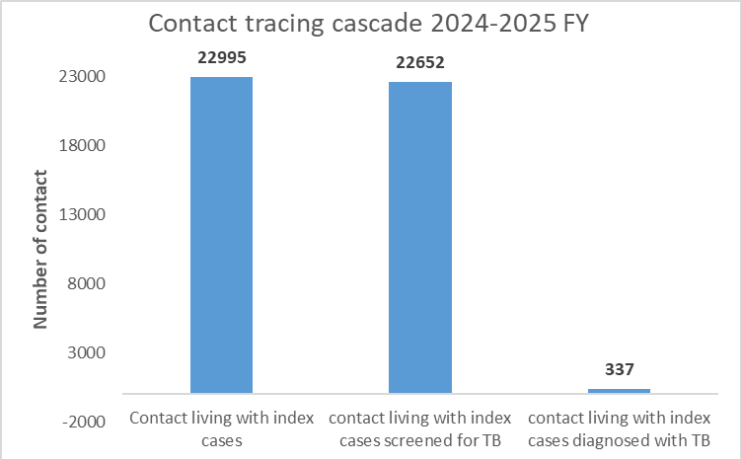

Figure 20:TB contact investigation cascade for FY 2024-2025

3.2.2. TB prevention therapy among TB contacts under 5 years

We conducted symptom screening in this group to rule out active TB. Individuals without TB-related symptoms were initiated on TPT, while those with symptoms underwent further investigations, and only those confirmed not to have TB were started on TPT.

During FY 2024–2025, a total of 1,260 contacts under five years of age were identified. Among them, 97.7% were screened, and 5.5% were diagnosed with TB disease. Of all under-five contacts, 1,191 were eligible for TPT, and 1,146 (96.2%) were initiated on treatment. This represents a slight decline compared to the 97% coverage rate achieved in the previous fiscal year.

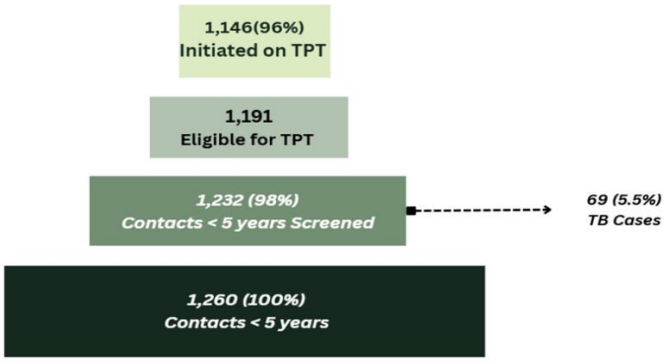

Figure 21: Contact tracing cascade among children under 5 years

The treatment coverage for TPT among children under 5 years was 96% (1,146/1,191 eligible). Of these, 51% (584) received 3HP, 46% (528) received 3HR, 2% (26) received 6H, and 1% (8) were treated with levofloxacin as MDR-TB contacts

Table 7: Treatment coverage among under 5 years initiated on TPT

Items	Contact	%
Eligible for TPT	1191	
Initiated TPT	1146	96.2%
starting 3HP	584	51.0%
starting 3HR	528	46.1%
starting 6H	26	2.3%
starting 6Lfx	8	0.7%

3.2.3. TB preventive therapy among TB contacts above 5 years

According to the TPT Guidelines, contacts over 5 years old must be screened, and those who test negative based on symptoms should undergo a Tuberculin Skin Test (TST) to diagnose latent tuberculosis infection (LTBI). Inmates who are contacts of bacteriologically confirmed TB cases are not eligible for TPT and removed in the denominator.

During FY 2024-2025, 10,039 TB household contacts (excluding inmates) were reported. Of these, 163 were confirmed as TB cases. Excluding these confirmed cases, 9,876 contacts were eligible for the Tuberculin Skin Test (TST). Of these, 9,134 (92%) underwent TST, with 1,398 tested positive (a 15.3% positivity rate). Among those with positive TST results, 1,389 were started on tuberculosis preventive therapy (TPT). With an expected 1,512 contacts eligible for TPT based on the positivity rate, the coverage achieved was 91.9% (1,389 /1,512).

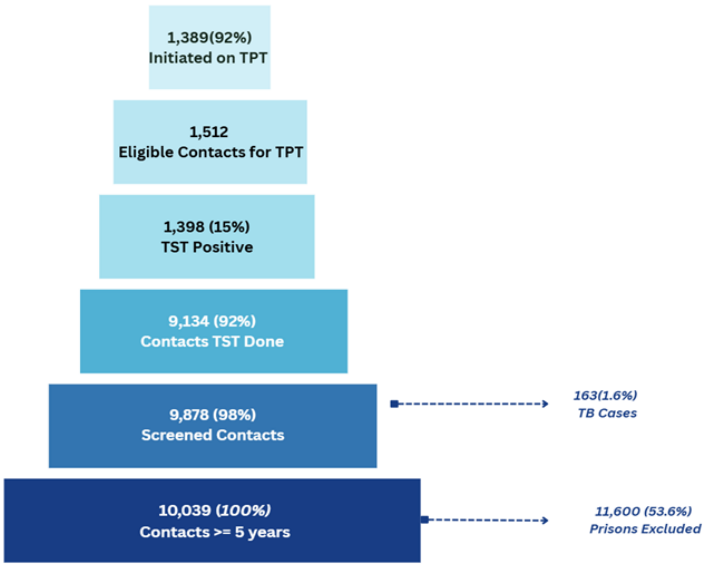

Figure 22: Contacts tracing, TST and TPT initiation among TB contacts above 5 years.

Among contacts aged ≥5 years, 1,512 were eligible for TB preventive treatment (TPT). Overall, 1,389 (91.9%) were initiated on TPT, including 388/412 (94.2%) of children aged 5–14 years and 1,001/1,100 (91.0%) of individuals aged ≥15 years.

Of those who started TPT, the majority received three months of Rifapentine and Isoniazid(3HP) regimen (96.5%), with 96.4% in the 5–14 years group and 96.5% in the ≥15 years group. A smaller proportion received three months of rifampicin and isoniazid(3HR) regimen (3.2%), including 3.1% among children and 3.3% among older individuals. Only 2(0.1%) individuals, both aged ≥15 years, received the six months of levofloxacine(6Lfx) regimen.

Table 8: TPT coverage per regimen among 5 years and above

Items	5-14 years		≥15 years		≥5 years	
Eligible for TPT	412		1100		1512	
Initiated TPT	388	94.2%	1001	91.0%	1389	91.9%
starting 3HP	374	96.4%	966	96.5%	1340	96.5%
starting 3HR	12	3.1%	33	3.3%	45	3.2%
starting 6Lfx	0	0.0%	2	0.2%	2	0.1%

3.2.4. TB preventive therapy among PLHIV

Since 2019, Tuberculosis Preventive Therapy (TPT) has been integrated into HIV service delivery for people living with HIV (PLHIV). By the end of June 2025, a total of 229,275 PLHIV were receiving antiretroviral therapy (ART), according to data from the HIV Division.

All districts have been equipped with the necessary skills and resources to implement TPT through a one-stop shop model. As of June 2025, 98.3% (225,372/229,275) of PLHIV on ART had been initiated on TPT while the target in NSP is 92%.

During this fiscal year, effort has been put on newly HIV+ enrolled on ART and data collection tool was also adapted. Based on HMIS data, TPT coverage among newly initiated patients on ART was 62.2% (6,861/11,162). However, when considering the cohort of newly enrolled patients on ART who eventually received TPT, coverage increased to 80.1% (8,942/11,162). This difference is explained by the HIV system, where 1,999 patients received TPT in the month following ART initiation but were recorded as “old cases.” When assessed by cohort from July 2024 to June 2025, these patients were correctly included as having received TPT

The graph below shows district-level variation in Tuberculosis Preventive Therapy (TPT) coverage among newly diagnosed HIV-positive patients who initiated ART in FY 2024–2025. Coverage ranged from about 35% in the lowest-performing district (Rusizi) to nearly 100% in the highest-performing districts (Nyagatare, Nyamasheke, Rubavu, and Musanze). While several districts achieved over 90% coverage, others such as Rusizi, Karongi, and Nyamagabe reported less than 50%. The coverage of TPT among newly enrolled on ART is 80.1% (8,942/11,162) which need a close follow up.

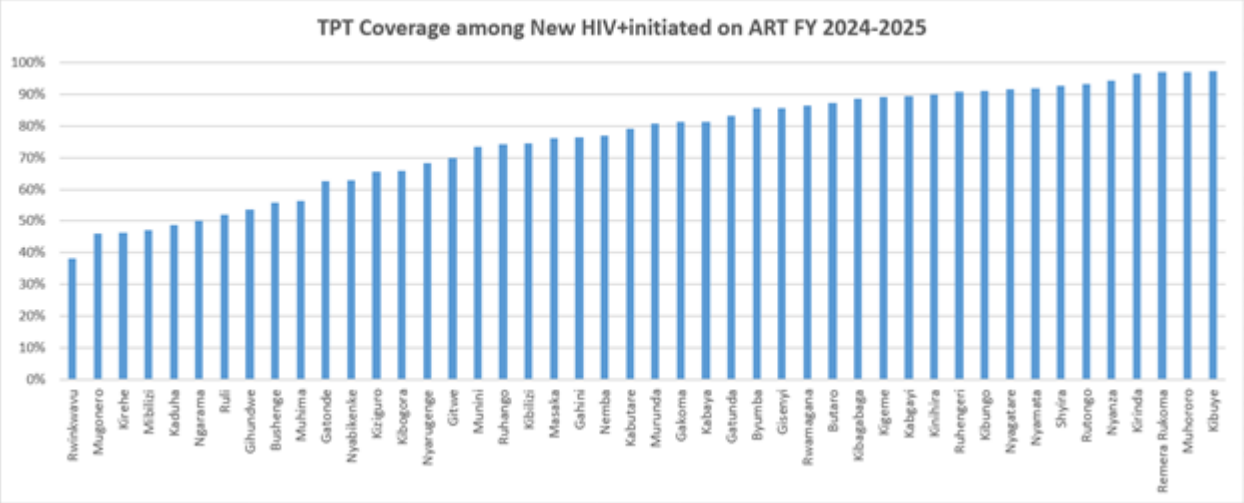

Figure 23: TPT coverage among HIV + newly initiated on ART,24/25 FY

Indicator	2024-2025		Level of achievement
	Target	Achievements	
Contact investigation coverage (End TB Top Ten N°6)	95%	99%	104%
Percentage of Health providers screened for TB at least once during the year. (health facility workers)	≥83%	87%	105%
LTBI treatment coverage among contacts < 5 years (End TB Top ten indicator N°5)	90%	96%	107%
LTBI treatment coverage among contacts > 5 years	80%	92%	115%

Chapter 4: TUBERCULOSIS TREATMENT OUTCOME

This chapter presents tuberculosis treatment outcomes for the cohort of TB cases notified and treated between July 2023 and June 2024. It includes both drug-susceptible TB cases and drug-resistant TB cases treated with the shorter regimen. In addition, treatment outcomes for drug-resistant TB cases managed with the longer regimen between July 2022 and June 2023 are also included. Furthermore, TPT outcome for TB contact and PLHIV are as well highlighted. The chapter further highlights key findings from the analysis of TB death audit reports submitted by health facilities through the e-TB system during the same period.

4.1Treatment outcome for drug susceptible TB

4.1.1 Overall treatment outcome for drug susceptible TB

In FY 2023–2024, the overall treatment success rate for all forms of TB was 90%, while 5.7% of patients died, 2.2% were lost to follow-up, 2% were not evaluated, and 0.1% experienced treatment failure. Children under five years achieved the highest treatment success at 96%, with only 2% reported as deaths or lost to follow-up. Patients followed by community health workers (CHWs) also had excellent outcomes, with a 94% success rate, 2% deaths, and 3% not evaluated. Among age groups, patients aged 15 years and above achieved 90% success, with 6% deaths and 3% not evaluated, while those aged 5–14 years had slightly lower success at 87%, with 8% deaths and 3% not evaluated.

By disease form, extrapulmonary TB patients had a success rate of 87% with 10% deaths and 1% lost to follow-up, whereas pulmonary TB patients achieved 91% success, with 5% deaths and 3% not evaluated. HIV-positive patients had one of the lowest success rates at 81%, with 12% deaths and 5% lost to follow-up. Similarly, patients with a previous TB history had the poorest outcomes overall, with only 77% success, 12% deaths, and 9% lost to follow-up. Clinically diagnosed TB cases had 88% success, with 8% deaths and 1% lost to follow-up.

For bacteriologically confirmed cases, new and relapse patients (B+ N&R) had a 91% success rate, with 4% deaths and 4% lost to follow-up, while drug-sensitive TB patients recorded a 90% success rate, 6% deaths, and 3% not evaluated. These findings highlight strong overall program performance, with particularly good outcomes among young children and patients followed by CHWs. However, outcomes remain suboptimal among HIV-positive and previously treated patients, who continue to show the lowest treatment success and highest unfavorable outcomes.

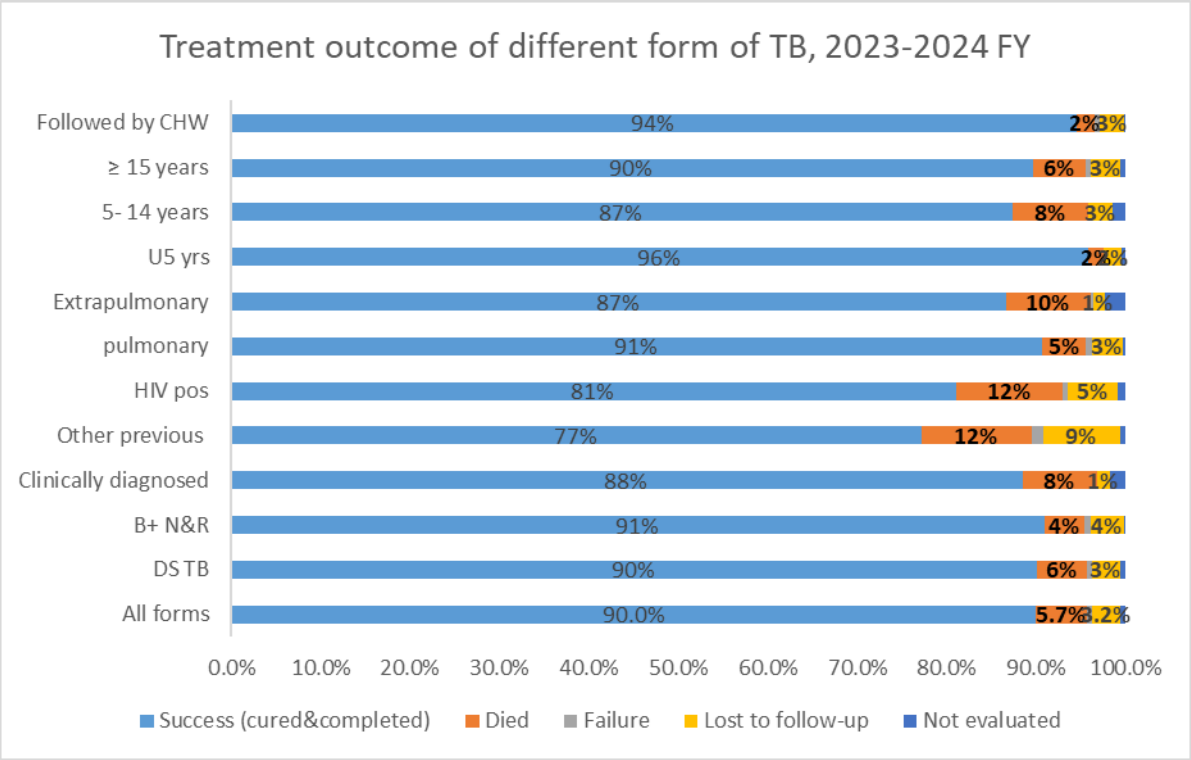

Figure 24: TB Treatment outcomes for all TB cases cohort of July 2023-June 2024

When analyzing treatment outcomes by sub-district catchment area, the analysis shows that overall, most sub-districts achieved a high treatment success rate, often above 85% to 90%. However, variations were observed across sub-districts. Sub-districts such as Bushenge, Byumba, and Ruhengeri reported excellent outcomes with very few deaths or losses, while others, particularly Kirehe and Kabgayi, recorded lower success rates of around 70% to 75%, mainly due to high mortality among patients. Although treatment failure and loss to follow-up were generally low across the country, they were more noticeable in a few sub-districts, including some sites in Kigali and Muhororo. The proportion of cases not evaluated remained minimal, reflecting strong program follow-up and data quality. Overall, the findings highlight good program performance nationwide, but they also point to the need for targeted interventions in sub-districts with lower treatment success, particularly to reduce mortality and strengthen adherence among TB/HIV co-infected patients.

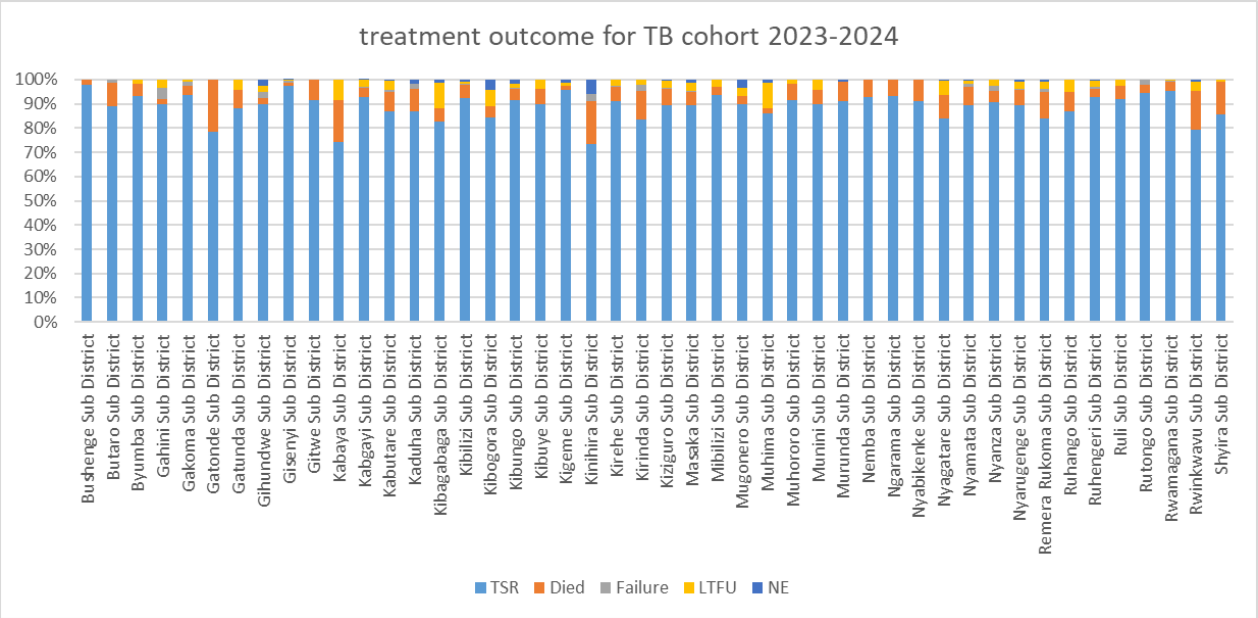

Figure 25:TB treatment outcome by hospital catchment area for the cohort July 2023- June 2024

The graph below shows the trend of TB treatment outcomes in Rwanda from July 2015 to June 2024. Overall, treatment success has steadily improved, rising from 85% in 2015/16 to 90% in both 2022/23 and 2023/24, reflecting strong progress toward the WHO target of 90% success. Treatment failures remained consistently low at around 1% or less throughout the period, while deaths, which were between 6–9% in earlier years, declined slightly to around 5–6% in recent years. The proportion of patients lost to follow-up remained stable at about 2–3%, and those not evaluated were minimal at 0–2%, showing good follow-up and reporting practices. Overall, the data demonstrate significant improvement in TB treatment outcomes, though TB-related mortality continues to represent the largest share of unfavorable outcomes and requires further attention

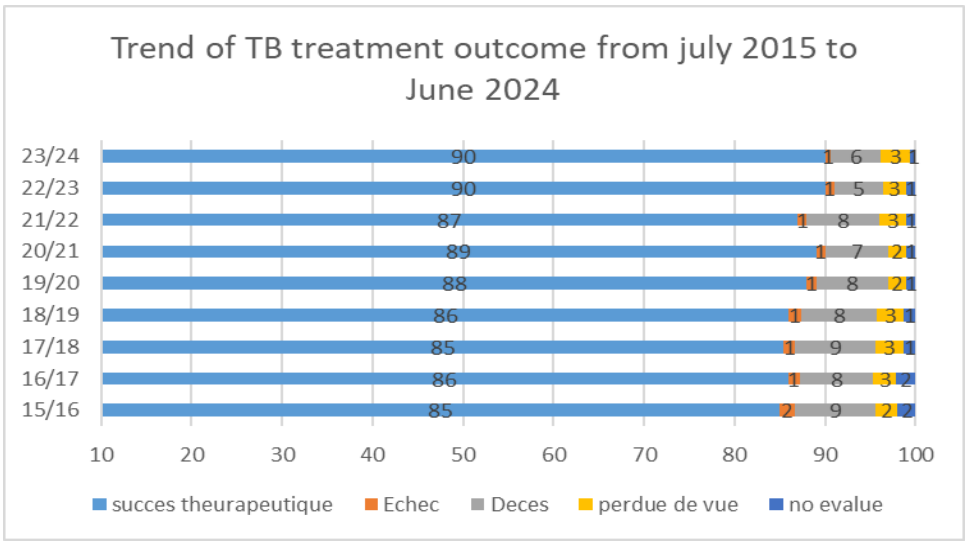

Figure 26: Treatment outcome for DS TB cases from July 2015-June 2024

4. 1.2. Treatment outcome by sex cohort July 2023-June 2024

The TB treatment outcomes in the fiscal year 2023–2024, disaggregated by sex. Among males, the treatment success rate was 91%, which is higher than that of females at 88%. Mortality was slightly lower in males (5%) compared to females (7%), while failure was negligible in both groups. The proportion of patients lost to follow-up was 3% in both sexes, and those not evaluated remained very low.we observed that men achieved slightly better treatment outcomes than women, with a higher success rate and lower mortality. However, in both groups, deaths and lost to follow-up remain the main contributors to unfavorable outcomes, indicating the need for targeted interventions, particularly among women, to further reduce mortality and improve treatment success.

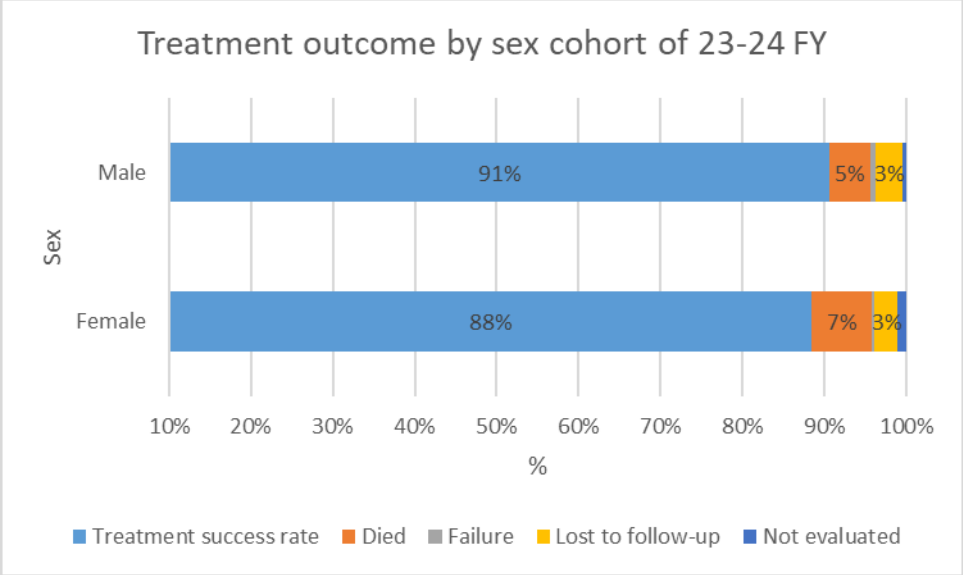

Figure 27:Treatment outcome by sex 2023-2024

4.2. TB treatment outcome by nutritional status among patient ≥15years of age

The policy stipulates that all TB cases with malnutrition (BMI <18.5 kg/m²) should receive nutritional support (RUTF or CSB). During the 2023–2024 cohort, among 8,463 drug-sensitive TB cases evaluated, 3,780 (44.6%) had a BMI <18.5 kg/m² at treatment initiation, and 49% (1,841) of them received nutritional support. At the end of treatment, BMI assessment showed that 49% (900) of those who received nutritional support achieved nutritional improvement, while 51% did not show improvement.

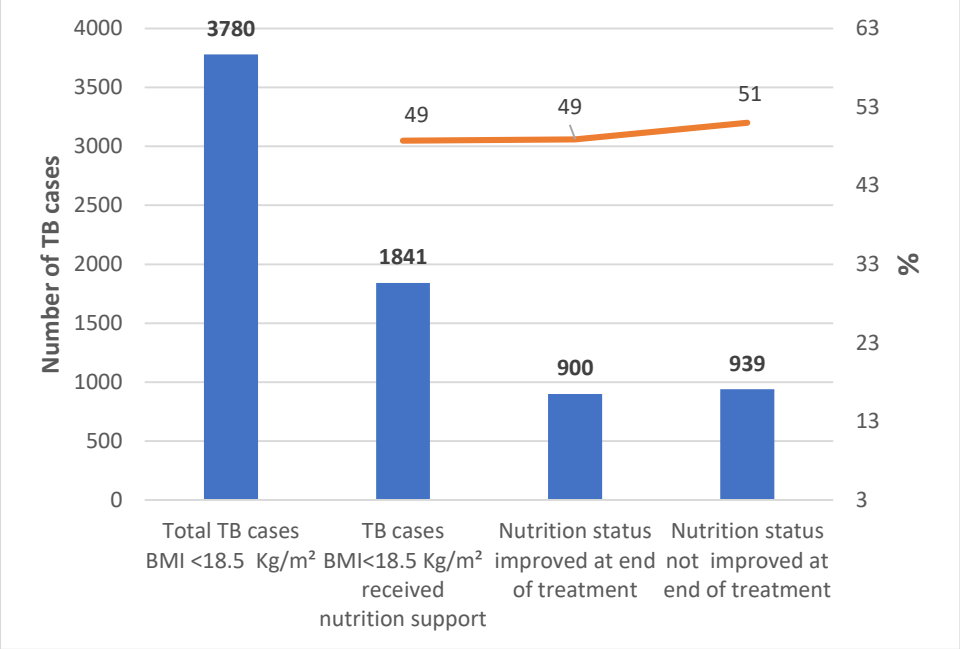

Figure 28: Nutritional Outcomes Among TB Patients with Baseline BMI <18.5 kg/m² Receiving Nutritional Support

We analyzed treatment outcomes among malnourished TB patients who received nutritional support and the graph below shows that the treatment success rate reached 98% among those whose nutritional status improved. In contrast, the mortality rate was high (12%) among patients who did not achieve nutritional improvement after treatment. These findings highlight the importance of nutritional support, suggesting that the overall impact could be even greater if such support were extended to all malnourished patients at the start of treatment.

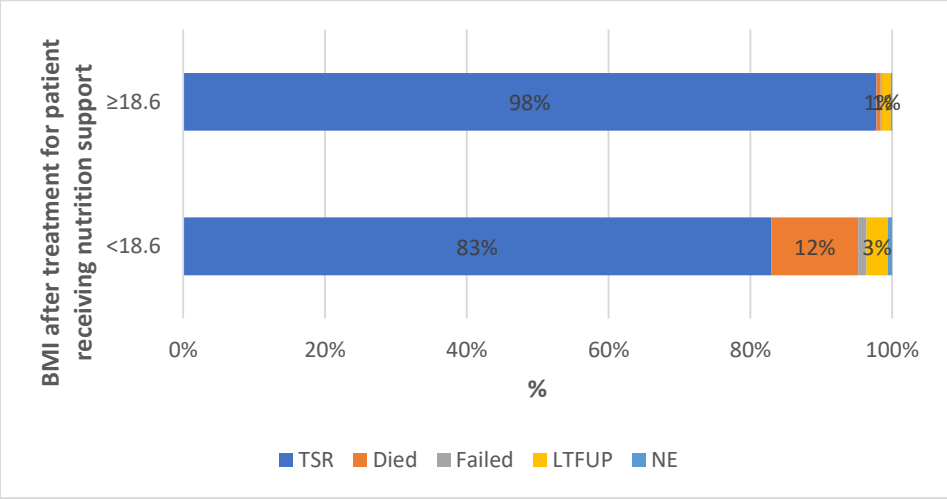

Figure 29: Treatment Outcomes Among Malnourished TB Patients Receiving Nutritional Support, 23-24 FY

This graph below shows TB treatment outcomes before and after treatment, stratified by nutritional status using BMI <18.5 (underweight) and BMI ≥18.5 (normal or above).

Before treatment, patients with BMI ≥18.5 had a higher treatment success rate (95%) compared to those with BMI <18.5 (88%). After treatment, the gap widened: treatment success decreased to 79% among underweight patients, while it improved to 98% among those with BMI ≥18.5.

Unfavorable outcomes (death, failure, lost to follow-up, not evaluated) were much higher among underweight patients, especially after treatment, where deaths contributed notably to the poor outcomes. In contrast, patients with BMI ≥18.5 showed very low levels of unfavorable outcomes across both periods.

In summary, the graph highlights a clear link between nutritional status and TB treatment outcome. Underweight patients (<18.5 BMI) experienced lower success rates and higher mortality, underscoring the importance of addressing malnutrition as part of TB management to improve survival and treatment success.

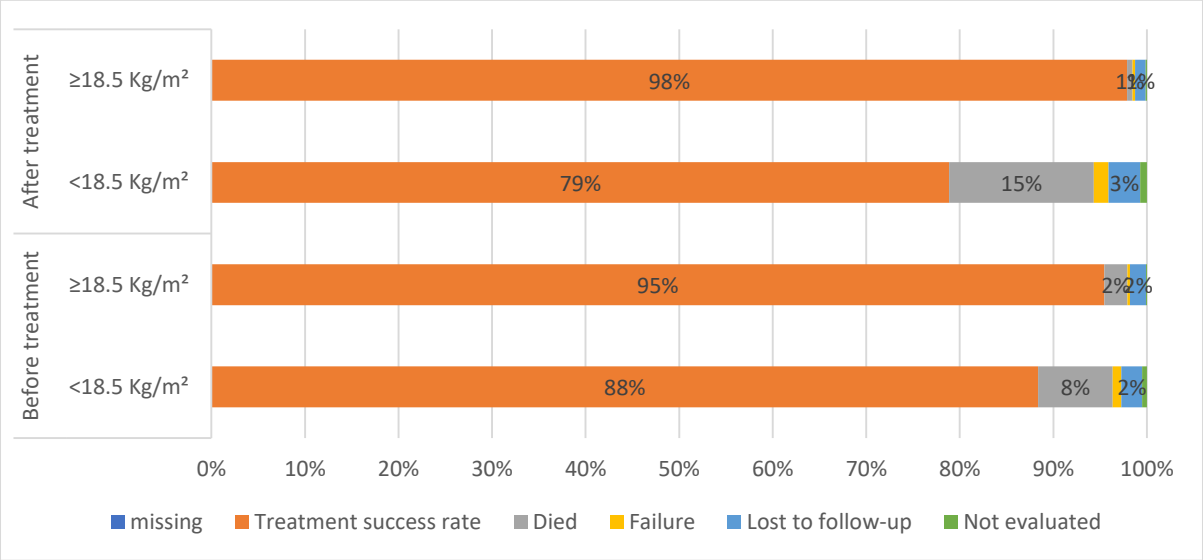

Figure 30: Treatment outcome based on BMI at the beginning and end treatment

4.3 Treatment outcome for drug resistant TB

The RR/MDR-TB treatment regimens currently in use are classified into two categories based on duration: shorter and longer regimens. The shorter regimens last either 6 months (the most commonly used) or 9 months, while the longer regimen extends to 18 months. To assess treatment outcomes for MDR-TB, we considered the cohort notified two years prior to the reporting year, and for shorter regimens, we considered only one year. The data show

that 99% of RR/MDR-TB patients were bacteriologically confirmed, while 1% were clinically diagnosed, mainly among children. During the 2024–2025 reporting year, we will evaluate treatment outcomes for 4 patients on longer regimens and 86 patients on shorter regimens, enrolled during fiscal years 2022–2023 and 2023–2024, respectively.

Table 9: Classification of notified RR/MDR-TB patients stratified by TB drug-resistance confirmation and duration of second-line treatment regimen used.

Fiscal Year	RR/MDR TB confirmation	Not treated	Longer regimen	Shorter regimen	Total
2022-2023	Confirmed	1	3	87	91
	Not confirmed	0	1	0	1
2023-2024	Confirmed	2	3	86	91
	Not confirmed	0	1	0	1

Overall, the treatment success rate (TSR) among RR/MDR-TB patients treated with shorter regimens in the 2023–2024 fiscal year was 87.2% (75/86), compared to 67% (2/3) among those on longer regimens. Loss to follow-up was higher among patients on longer regimens at 50% (2/4), while the death rate was 8.1% (7/86) among those on shorter regimens.
By HIV status, TSR was 90% among HIV-negative patients on shorter regimens, compared to 50% in those on longer regimens. However, the death rate was higher among HIV-positive patients (19%) compared to HIV-negative patients (6%) on shorter regimens. In the longer regimen group, one HIV-positive patient was lost to follow-up.

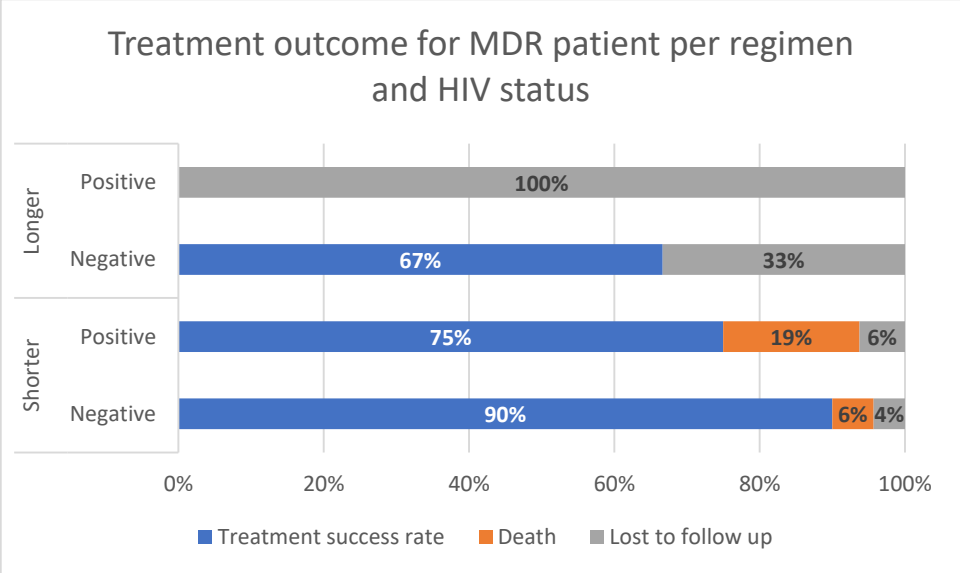

Figure 31: Treatment outcomes from confirmed RR/MDR-TB patients stratified by HIV status

There has been a 2.8% decrease in TSR compared to the 2022-2023 reporting period mainly due to a sudden increase of loss to follow-up from 1% in 2023-2024 FY to almost 5% in 2024-2025 FY.

More attention should be put on the RR/MDR-TB patients in ambulatory treatment mode by ensuring patients psycho-social support, early identifying potential factors of loss to follow-up and tackling them before completely losing the patients.

4.4. Treatment Outcome for TPT among Contacts of index TB cases

The treatment outcome for TPT among contact of TB index cases are subdivided into three categories according to the age, we have under five children, five to fourteen and fifteen - above.
In the category of children under five years of age, we have observed 99% (1,359/1,366) completion rate. Only 2 were lost to follow up, 2 developed, 1 died and 1 stopped TPT due to side effects.

In the category of patients above five years of age, we have found the TPT completion rate of 99.4% (1,716/1,727). Only 1 was lost to follow up, 1 developed TB disease, and 1 stopped TPT due to side effects. We noticed 8 contacts who started TPT but were not reported! These contacts are for 7 TB index cases that have been notified: 3 at Gikondo HC, 1 at Kicukiro HC, 2 at Nyange HC (Ruli Sub District), and Cyabingo HC (Nemba Sub District).

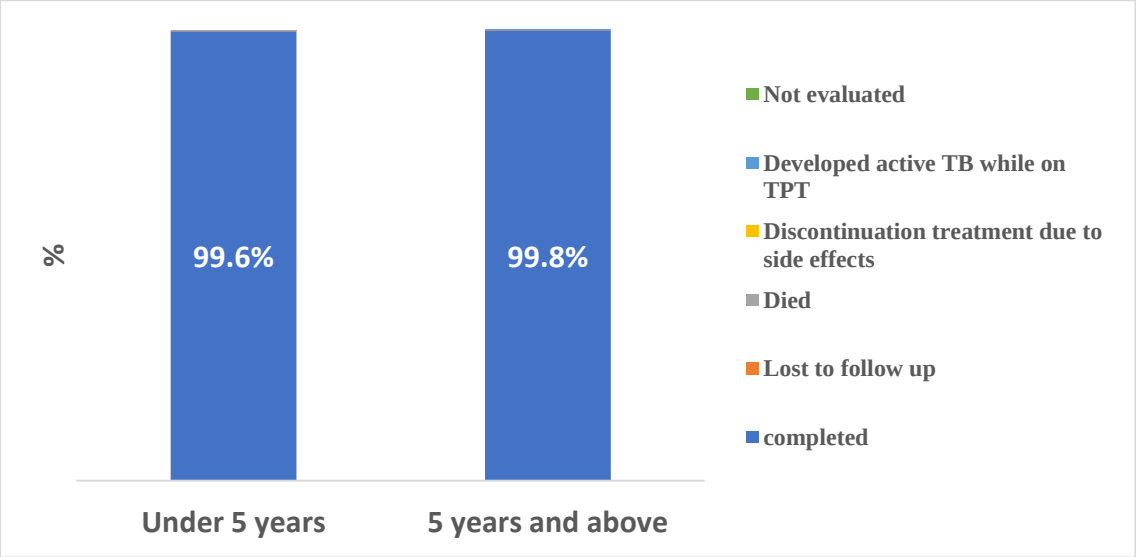

Figure 32: TPT outcomes among TB contact

4.5. Treatment outcome for TPT among PLHIV

As we are reporting the FY 2024-2025, TPT outcomes findings shall consider PLHIV that were initiated one year prior, which means those who were put on TPT from July 2023 up to June 2024. We highlight that TPT outcomes among PLHIV, the reporting period is for 8 months after initiation.

Thus, the extraction of TPT outcomes data considered the period of March 2023 to February 2024.

The completion rate for the cohort of PLHIV initiated on TPT is 97% (12106/12451). Around 1.3 % were defaulted from the TPT and 0.5% were stopped due to the side effects.

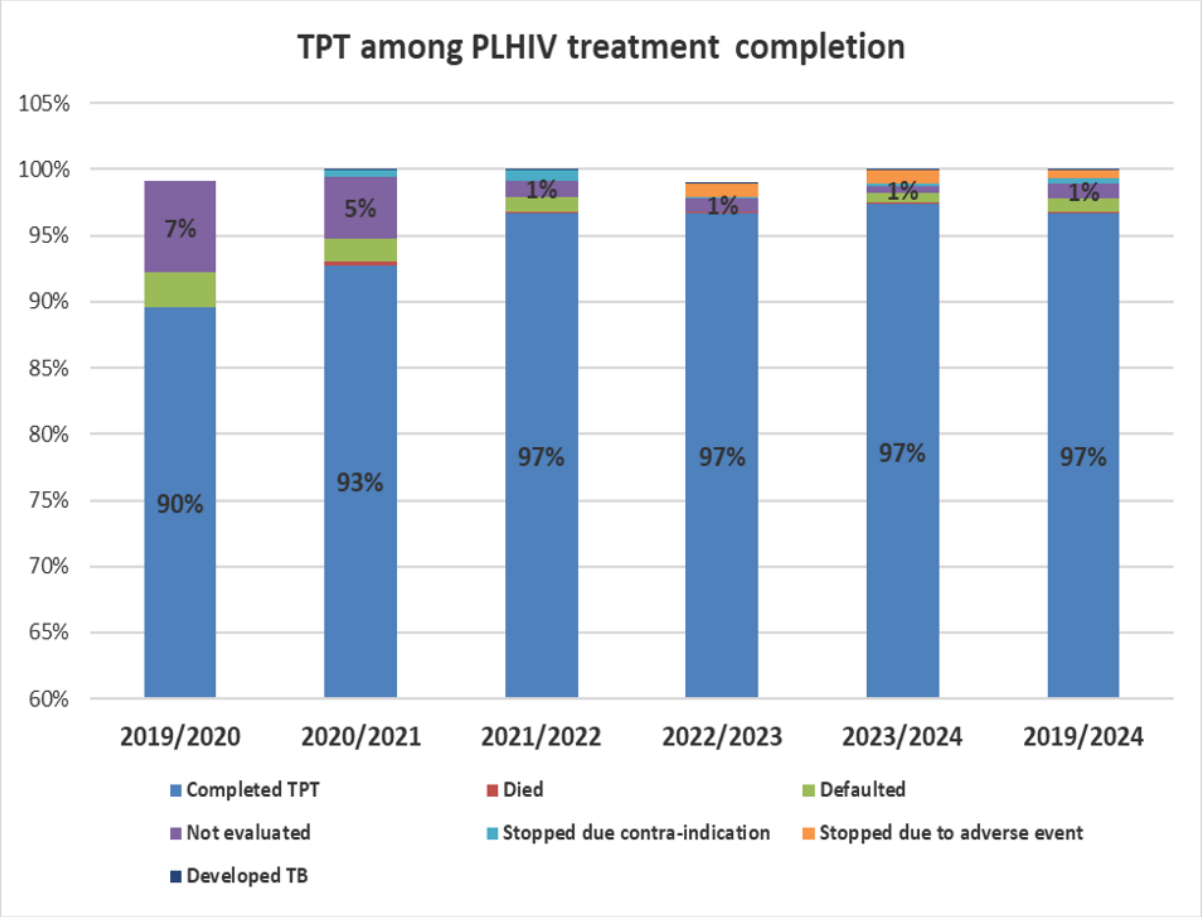

Figure 33: TPT completion among PLHIV

4.6. TB death audits in the context of TB control in Rwanda

n the 2023–2024 fiscal year, the annual report recommended strengthening TB death reporting through the E-TB system to enhance data quality and timeliness. To support this, central-level mentorship and on-site training were provided to nurses at decentralized health facilities to improve TB death audit reporting. Since May 2023,

the integration of the audit report into the E-TB system has enabled real-time data access, thereby facilitating analysis and targeted interventions. Nurses responsible for TB services enter audit data directly into E-TB using a standardized form completed collaboratively by hospital staff, including the TB focal doctor, a medical specialist, and the TB supervisor.

Between July 2023 and June 2024, a total of 412 TB death audits were extracted and analyzed out of 476 expected reports, representing a completion rate of 86.5%. This reflects a marked improvement in reporting compared to previous years: 22% in 2019, 29% in 2020, 17% in 2021, 35% in 2022, and 53% in 2023. This upward trend underscores the positive impact of transitioning to the E-TB system and highlights the importance of sustained efforts to ensure timely and accurate reporting across all health facilities. Regular supervision and technical support remain essential to maintain and further strengthen data quality.

Of the audited TB deaths, 296 cases (71.8%) were diagnosed with pulmonary tuberculosis, while 116 (28.2%) were extra-pulmonary. Among extra-pulmonary cases, the pleural site was most frequently affected, accounting for 32 deaths (50%). Overall, 234 deaths were among bacteriologically confirmed TB cases—91.9% of which were pulmonary—while 97 were clinically diagnosed, of which 54.5% were extra-pulmonary. Interpretation of bacillary load was not possible, as Xpert MTB/RIF was the initial diagnostic test and the system does not currently capture its semi-quantitative results. Future efforts should aim to improve data collection by incorporating Xpert categories such as high, medium, and low bacillary burden.

TB itself was identified as the primary cause of death in 70.6% of cases, showing a slight decline compared to 74% in FY 2022–2023. Among the 272 audits analyzed, 79.4% (216 cases) occurred within the first two months of treatment. Additionally, 54.8% of TB deaths were among patients who were underweight (BMI <18.5 kg/m²) at diagnosis, a decrease from 63% in FY 2022–2023. Patients under the age of 15 (n=22) were excluded from this analysis. It is recommended that MUAC (Mid-Upper Arm Circumference) be adopted to assess nutritional status in children under 15 years.

HIV co-infection remained an important contributor: 29% of deceased TB patients were HIV-positive, a slight reduction from 33% in the previous fiscal year. HIV-positive patients were more likely to be underweight compared to HIV-negative patients (63.2% vs. 51.1%). CD4 counts were not analyzed due to incomplete data. Among HIV-positive TB deaths, 45.2% were recorded as being on antiretroviral therapy (ART), while 49.5% had no ART status documented, highlighting a significant data gap. Strengthening collaboration with HIV services is encouraged to improve completeness and reliability of reporting for TB/HIV co-infected patients

Key Results Cohort 2023- 2024

Indicator	***2023-2024***		
	Target	***Achievements***	***level of achievement***
Treatment success rate (TSR) for all forms of TB cases (DS & DR-TB cases)	89%	90%	101%
Treatment success rate, confirmed RR/MDR-TB	92%	85%	92%
Treatment coverage new drugs	95%	100%	105%
Proportion of HIV positive TB cases given antiretroviral therapy during TB treatment	95%	95%	100%
Treatment success rate for TB patients (all forms) receiving DOT through community health workers (CHW)	96%	95%	98%

Chapter 5: TUBERCULOSIS PROGRAM MANAGEMENT.

5.1. Health promotion, community, and stakeholder engagement

Sensitization in refugee camps and congregated settings remains crucial for reducing TB transmission and improving knowledge in these high-risk populations. To strengthen prevention, the TB&ORD Division conducted biannual sensitization sessions in 13 prisons and six refugee camps supported by peer educators. Refresher training covering TB symptoms, diagnosis, treatment and prevention is provided to peer educators before each sensitization. Peer educators played a central role by raising awareness and referring symptomatic individuals to health services.

In total, 2,620 peer educators were trained or refreshed in prisons and refugee camps. Post-training assessments confirmed significant improvement in TB knowledge, demonstrating the value of continuous capacity building. This approach also helps to dismiss misconceptions and stigma, and strengthens community-driven support for early diagnosis and adherence to treatment.

Beyond congregated settings, TB&ORD used a multi-channel behavior change communication (BCC) strategy to reach the general population. During FY 2024–2025, TB awareness was promoted nationally through radio, television, print, online platforms, and social media.

- **Radio outreach:** 15 TB awareness programs were broadcast on public, community, and private stations such as RBA, Isango Star, Radio 10, Salus, Izuba, and others. With the support of RRP+, live talk shows on TB awareness, diagnosis, and treatment were hosted on Radio 1, Isango Star, and B&B FM.
- **Community dissemination:** Messages on TB symptoms, transmission, and early diagnosis were aired in major car parks (e.g., Musanze, Muhanga, Nyabugogo, Nyagatare, Huye, Kigali Downtown) and markets (Musanze, Nyarugenge, Inkundamahoro, etc.), broadcasted ten times daily during peak hours to maximize outreach.
- **Television coverage:** TB and leprosy prevention messages were featured through spots and interviews on RTV, TV1, TV10, Isango, BTN, and others.
- **Print and online media:** Outlets including Igihe.com, The New Times, Imvaho Nshya, Kigali Today, Ubuzima.rw, Umuseke, and Africanapost.com disseminated TB information.
- **Social media:** Messages were amplified via RBC, WHO Rwanda, and partners' accounts. Short videos, posters, and testimonials were widely shared on Twitter and WhatsApp.



Key awareness themes addressed included MDR-TB care, childhood TB, healthcare worker screening, symptoms and prevention of TB and leprosy, CHWs' role, and survivor testimonials.

The annual **World Tuberculosis Day**, commemorated on **March 24, 2025**, was held in Kayonza District under the global theme ***"Yes! We Can End TB."*** This event served to reaffirm commitment to ending TB as a public health threat, highlighting that through innovation, partnerships, and collective action, TB elimination is achievable. The celebration gathered high-level officials and partners, including the RBC Ag. Head of HDPC, Dr. Patrick Migambi,

The WHO Country Representative, Dr. Theopist Kabutembe, and representatives from civil society organizations such as RRP+, Rwanda NGOs Forum, FXB Rwanda, and Strive Rwanda.





Community Health Workers (CHWs), who play an essential role in TB prevention and follow-up, were also recognized for their contribution, with outstanding CHWs awarded bicycles as a symbol of appreciation.

5.2 Civil Societies Organization in TB control

5.2.1. Rwanda network of People Living with HIV (RRP+)

RRP+, through education, home visit, referral and adherence follow-up complementary by youth ambassadors who reach youth people and digital platforms, RRP+ continues to strengthen community-centered HIV and TB responses nationwide. The main achievements are here listed:

- Peer educator deployment: 4,724 peer educators deployed in 547 facilities.
- Art sdherence follow up: 166,522 PLHIV supported.
- TB education sessions: 44,183 sessions facilitated with attendance of 124,000 individuals for which 26,534 screened positive to TB then referred to HC.
- Community outreach: 1,199 home visits.

- Confirmed TB cases: 95 people.
- Public awarenessL over 234,885 individuals reached through media and youth outreach.
- Digital reporting: 365 peer educators trained and received handsets with application for reporting.

Challenges Identified:

- Low rate of education and referral materials
- Inclusion of incomplete or outdated reporting materials
- TB screening registers lack space to capture peer educator referrals
- Inadequate access to new HV-TB manuals and training

5.3. Creation of furum of former TB patients

Coordination meeting with former TB patients is among key initiative aiming to foster collaboration, share experiences, and improve community-based TB interventions. This meeting serves as a platform to assess service delivery and promote peer involvement in TB education, adherence, and early detection. Involving former TB patients reinforces a patient-centered approach that enhances the quality Tuberculosis care.

Bi-annual coordination meetings were organized at the district level with former TB patients. These gatherings brought together 450 individuals who had successfully completed TB treatment, recognizing them as vital stakeholders in the fight against the disease. The meetings provided a platform for participants to reflect on their personal treatment experiences, identify challenges within their communities, and strengthen their involvement in TB awareness, stigma reduction, and future contact tracing efforts.

As a result of these engagements, 10 committees of former TB patients were established across the intervention areas. These committees are expected to play a key role in mobilizing communities, supporting treatment adherence, and enhancing the overall response to TB at the grassroots level.

These activities were implemented by a network of 12 civil society organizations (CSOs): FXB, Strive Foundation, HDI, We Actx for Hope, Ihorere Munyarwanda, Alliance for Health Committee, Dream Village, ASOFERWA, AEE, Imbuto Foundation, Caritas Rwanda, and Bamporeze.

Chap 6 SUPPLY PLAN CHAIN MANAGEMENT AND COMMODITIES

6.1. Coordinated Procurement and Distribution system

To ensure uninterrupted logistics for TB control, the Rwanda Biomedical Centre (RBC), through the TB & Other Respiratory Diseases (TB&ORD) Division, conducted its annual forecasting and budgeting exercise for TB diagnosis, treatment, and prevention. This was carried out with the national quantification team comprising MOH, RBC, RMS, referral hospitals, and partners under the Coordinated Procurement and Distribution System (CPDS). Through this integrated process, the forecasted needs for TB commodities for 2024–2029 were established, and the supply plan for fiscal year 2025–2026 was finalized. Integrating quantification across programs proved cost-effective.

Stock monitoring and order tracking were conducted throughout the year to detect and address potential shortages. Nearly all TB commodities were available at the central level, except for a few laboratory items such as potassium permanganate, Linezolid powder, LJ powder, BD products, and antibiotic standards for HPLC. On the distribution side, requisitions from RMS branches were followed up to ensure timely delivery to health facilities. However, the introduction of a new RMS distribution system temporarily disrupted activities, causing some delays. Despite these challenges, close coordination ensured continuous treatment access. According to e-LMIS, 95% of facilities reported no stock-outs in 2024–2025, and TB medicines remained consistently available, preventing treatment interruptions.

6.2. Procurement status of TB products at end of June 2024

By the end of the 2024–2025 fiscal year, implementation of the TB commodities supply plan demonstrated progress while also revealing pending actions. Of the 244 planned shipments, 47.1% (115) were fully received, and 23.4% (57) had been ordered and were awaiting delivery. A further 27.9% (68) remained under planning, largely supported through Global Fund commitments, while 1.6% (4) were cancelled during the supply plan review based on actual consumption trends and available stock. Notably, no consignments were partially received or placed on hold during the reporting period

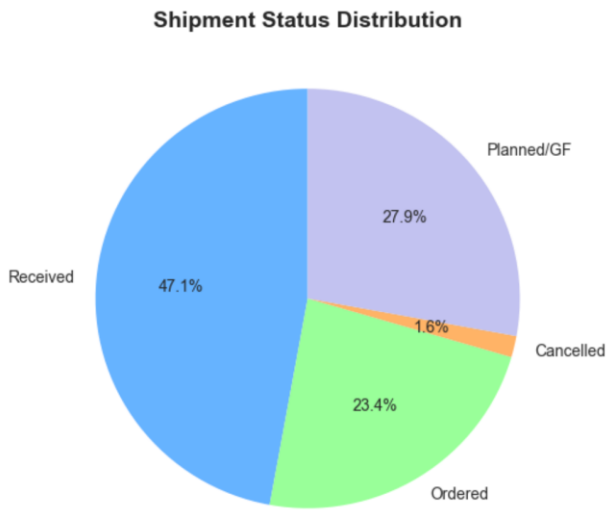

Figure 34: Procurement status of TB products, FY 2024-2025

The execution rate analysis indicates that 70% of the planned consignments were ordered, of which 67% had been received by the end of the reporting period. In total, 47% of the planned TB shipments were successfully delivered. While this reflects notable progress, it also underscores the need for stronger follow-up with suppliers and partners to accelerate pending orders and ensure timely delivery. Most of the consignments that were planned and ordered but not yet delivered consist of laboratory commodities, creating a potential risk of stock gaps if delays continue. Close monitoring will therefore be critical to safeguard uninterrupted TB diagnostic and treatment services in the upcoming fiscal year.

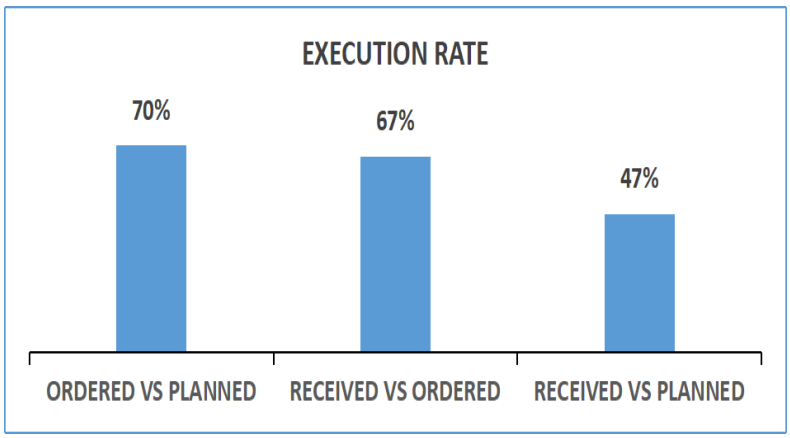

Figure 35: Execution rate for the supply chain plan

6.3 Forecasted accuracy of TB medicines

The analysis of forecast accuracy for the period July 2024 to June 2025 indicated that, overall, the forecast was reliable for second-line TB medicines. However, an increase in DS-TB notifications and pediatric TB cases was observed, largely due to the nationwide mentorship activities that strengthened case detection and reporting. This unexpected rise required a revision of the projected number of cases for the 2025–2026 fiscal year and closer monitoring of stock levels. To mitigate the risk of shortages, an emergency order was placed to ensure uninterrupted availability of pediatric TB medicines.

The table below summarizes the forecast accuracy for different TB regimens:

Table 10:Forecast accuracy for TB medicines

Regimen	Target in Quantification	Cases registered	%
Patients under first-line adult medicines	7188	6986	97.19%
Children under paediatrics formulation	491	1057	215.27%
DR TB Cases	65	48	73.85%
TPT Contacts less 2years (3HR)	498	460	92.37%
TPT Contacts Above 2years (3HP)	2512	1888	75.16%
TPT PLHIV	5283	6851	129.68%

6.4 Quality Control and Quality assurance

To ensure the quality of anti-TB products, a receiving committee has been established, with designated staff verifying product quality upon delivery. At this stage, visual inspections are performed to detect any observable defects, while product samples are collected and sent to certified laboratories for further analysis when non-visual quality attributes need confirmation.
In the 2024–2025 fiscal year, 18 pharmaceutical and nutritional products related to the TB program including first-line and second-line anti-TB medicines, combination therapies, and nutritional supplements were tested by Zest Laboratories. All samples complied with the required quality parameters and standards.

6.5 Drug safety monitor

6.5.1 Active drug-safety monitoring and management(aDSM)

The aDSM stands for the Active TB Drugs-Safety Monitoring and Management, intending to monitor patient safety, prevent and manage adverse drug reactions (ADRs) to relieve patient suffering and improve treatment outcomes. With

introduction of new TB drugs and new treatment regimens for DR-TB management, there was an urgent need to implement aDSM in Rwanda. In this regard the workshop on implementation of aDSM in TB program was done with the objective of introducing participants on active drug, safety monitoring and management with emphasis on adverse events recording and reporting. We reviewed the current TB aDSM recording and reporting systems (eTB and Rwanda FDA online ADR reporting system) and evaluated the possibility of interoperability in order to avoid double reporting by one joint reporting system to be agreed upon.

The aDSM is implemented in all health facilities involved in management of TB patients. Health care providers are requested to regularly evaluate TB treatment response, record and report on any identified TB drugs adverse effects to the patients on TB treatment. Patient files for both DS and DR-TB management have specified place for aDSM on the hard copies as in the individual electronic TB case surveillance system. The report is generated from the information collected in the last one.

From 8196 patients registered during 2024-2025 FY, adverse event stage has been reported on 7079 that represent 86.35%. Among the reported cases 96 patients presented at least one adverse event and represent 1.36%. The table below summarizes the findings about adverse events among TB cases.

Table 11: Adverse events reported among TB cases

	Patient registered	Patient reported SE	Percent
Reported on a-DSM	8196	7079	86.37%
Patient with side event recorded		96	1.36%

6.5.2 Grading of adverse events

For 96 cases reported for having experienced adverse events, the grading of them was reported on all cases and represents 100%). The most identified grade is moderate observed on 71 cases, that represents 73.9% among the graded cases. The following table shows all reported cases and their proportions:

Table 12: Grading of adverse events reported among TB cases

Grade of adverse event	DS-TB	DR-TB	Total	%
Unknown grade	0	0	0	0%
Mild	2	0	2	2%
Moderate	2	69	71	74%
Severe	3	20	23	24%
Life threatening	0	0	0	0%
Total	**7**	**89**	**96**	**100%**

The most reported adverse events by preferred term include skin rash,16 (16.7%), Arthralgia, 14 (14.6%), Gastritis, 13 (13.5%), Abdominal pain 12(12.5%). The adverse events graded severely include anemia, skin lesion, facial lesion, hepatotoxicity and blindness.

Chap 7: TUBERCULOSIS MONITORING, EVALUATION AND RESEARCH

7.1. Overview

Monitoring, Evaluation, and Research (M&E/R) are central to Rwanda TB control strategy, ensuring accountability, evidence-based decision-making, and alignment with the End TB Strategy. The TB & ORD Division continues to strengthen surveillance and performance validation through e-TB case-based reporting, DHIS2 integration, and innovative tools such as Data-To-Care and Digital Adherence Technology (DAT).

7.2. Data Quality Review, Challenges, and Strategic Recommendations

The national TB program conducts quarterly evaluation meeting to ensure TB data accuracy , consistency , and completeness . Since July 2019, the national TB program uses the e-TB case-based surveillance system for comprehensive data collection and analysis. TB Focal Points and Data Managers enter real-time data into e-TB and HMIS, with submissions due by the 5th of the month following each quarter. The TB & ORD Division conducts quarterly data quality assessments and performance reviews with hospitals and health centers to validate data, address discrepancies, and improve overall dataset quality. The 2024-2025 QEM focused on enhancing the accuracy, completeness and reliability of TB and TB/HIV data country wide.

7.3. TB & ORD Service Quality Assessment and Data Quality Audit (RSQA & DQA)

In FY 2024–2025, only one TB RSQA and DQA exercise was conducted in March 2025 across the East, North, and Kigali City, covering 98 health facilities: 81 health centres, 13 district hospitals, 1 provincial hospital, 2 regional hospitals, and 1 teaching hospital. A standardized and updated checklist, aligned with current TB & ORD guidelines, was used. The assessment of key TB and leprosy indicators showed an overall performance score of 65%, which is lower compared to the previous assessment. High scores (above 80%) were observed for TB diagnostic algorithms, treatment initiation, stock monitoring, and use of monitoring tools, indicating that core TB services are generally well implemented. However, significant gaps were noted in TB diagnostics (47%), MDR-TB monitoring (14.6%), active case finding (33%), and leprosy control (21%), highlighting priority areas requiring urgent improvement (see Table below

Table 13: Overview of RSQA Scores by Assessment Questions for Selected Health Facilities (March 2025)

#	Assessment Question	Score (%)
1	Are algorithms for TB screening, TB diagnosis and TB treatment available and displayed in health facilities?	85%
2	Are TB patients early initiated on TB treatment and on ART (if indicated), and their bacteriological control performed according to guidelines?	83%
3	Are stocks of TB drugs and reagents well monitored?	82%
4	Are rooms where TB services are provided well ventilated and Health workers' personal protection existing and used?	77%
5	Are TB diagnostics continuously functional (microscopy and Expert) and their results available timely (microscopy, expert and culture)?	47%
6	Are there personnel trained on Practical Approach to Lung Health (PAL) strategy and PAL instruments available for use?	75%
7	Are TB monitoring tools existing, updated and well used; supervisions and internal training conducted?	86%
8	Active drug safety monitoring and management (aDSM)	65%
9	Is the general population informed on cough hygiene, coughing patients separated from others, and health facilities workers screened for TB?	72%
10	Does TB infection control plan exist, implemented and its implementation monitored?	73%
11	Does the BMI monitor TB patients and nutritional support provided to the eligible patients?	81%
12	TPT Implementation	80%
13	Are patients with multi-drug resistant TB (MDR-TB) in ambulatory phase controlled (microscopy and culture) for effectiveness of their treatment?	15%
14	Is active case finding conducted in TB high-risk groups?	33%
15	Leprosy control	21%
—	**Average**	**65 %**

7.3. Research Strengthening and Innovation

The Rwanda Biomedical Center (RBC), through Tuberculosis and Other Respiratory Diseases (TB & ORD) Division, has made operational researches a key pillar of TB control. Emphasizing the translation of data into actionable evidence, RBC has implemented a range of capacity-building initiatives for NTP/TB-HIV staff, provincial coordinators, and health facility teams.

These initiatives, conducted in collaboration with partners such as CDC, the University of Rwanda, RIDS, HISP Rwanda, CIIC-HIN, CHUK, and selected representative of district hospitals (Mugonero DH and Nyamata level II Teaching Hospital) , focus on research methodology, data analysis, protocol development, scientific writing, and dissemination of findings. We present a summary of key research activities and outputs conducted during the FY 2024–2025 reporting period, including publications, abstracts, manuscripts, closed studies, ongoing MDR-TB research, workshops, and planned manuscripts for 2025:

- Publication done during this FY:
    - Determinants of TB/HIV coinfection-related deaths audited using the TB death checklist from health facilities in Rwanda: published in Rwanda Medical Journal. https://www.ajol.info/index.php/rmj/article/view/293419
    -
- Abstracts presented in different conference
    - Prevalence and Risk Factors of Rifampicin Resistance Among TB-HIV Patients in Rwanda: Estimates from Programmatic Surveillance Data (2019–2024): Abstract published (IAS2025) https://www.iasociety.org/sites/default/files/IAS2025/abstract-book/IAS-2025_Abstracts_Medium.pdf
    - Performance of Chest X-Ray in Identifying Pulmonary Tuberculosis Cases Among People Living with HIV. Abstract published (IAS2025) https://www.iasociety.org/sites/default/files/IAS2025/abstract-book/IAS-2025_Abstracts_Medium.pdf
- Manuscrupts under development and review
    - Assessing the Quality of Tuberculosis Care in Rwanda: Retrospective Analysis of Diagnosis, Treatment, and Infection Control Practices in Hospitals and Health Centres.
    - Study on long-term outcomes among MDR-TB patients who successfully completed treatment
    - Performance comparison of the IGRA and TST in the diagnosis of LTBI in Rwanda, 2024
    - Prevalence and risk factors associated with positive tuberculin skin tests in Rwanda, 2024
    - Prevalence and risk factors associated with positive IGRA in Rwanda, 2024

7.4. TB Digital Surveillance System

7.4.1. Improving Interoperability and Data Validation

Since 2012, Rwanda has used DHIS2 for health data management, with the TB & ORD Division shifting to an individual-based TB surveillance system in 2013. Despite progress, system fragmentation particularly the lack of interoperability between the Laboratory Information System (LIS) and HMIS remains a challenge.

A national workshop in November 2024 improved DHIS2 integration, strengthened data validation between HMIS and e-TB, and updated TB indicators (age disaggregation, INH resistance, GeneXpert data). While LIS–HMIS interoperability is still pending final guidance, the workshop resulted in standardized validation processes, stronger collaboration with HISP Rwanda, and a stakeholder network to support implementation

7.4.2. DataToCare System

The TB & ORD Division has utilized GeneXpert machines since 2012 to strengthen TB and MDR-TB diagnosis, with 86 operational machines now connected to the DataToCare software. This platform integrates diagnostic laboratories into a centralized network, enabling real-time data collection, dashboards, and improved surveillance. To date, DataToCare has been rolled out to 82 GeneXpert sites, with laboratory staff trained in its use. Currently, 67% of workstations actively use the platform at least biweekly.

In FY 2024–2025, the system was upgraded, with the desktop application moving to version 4.11.2 and the web platform to 3.11.2. These updates introduced key enhancements, including integration of the Xpert MTB XDR assay, improved LIS interoperability, optimized system architecture, and bug fixes addressing test order transmission and DHIS2 API compatibility.

Despite these advances, challenges persist, particularly inadequate RAM—most machines require upgrading from 4GB to 8GB—and poor internet connectivity across sites, both of which remain the main causes of system downtime and connectivity problems.

7.5. Implementation of Digital Adherence Technology (DAT)

To address treatment adherence challenges, the TB Division introduced Digital Adherence Technology (DAT) in 54 health facilities with high lost-to-follow-up rates. DAT leverages mobile apps, SMS reminders, and real-time tracking platforms to

support patients in adhering to their TB treatment regimen. This aligns with WHO recommendations and Rwanda's National Strategic Plan (2019–2027), which prioritizes digital interventions for better treatment outcomes.

Computers for DAT use were procured and distributed, and facility staff received comprehensive training. Healthcare providers can now monitor adherence via a secure online platform, receive alerts for missed doses, and directly communicate with patients to provide personalized support. This system reduces dependence on resource-intensive approaches like directly observed therapy (DOT) and offers timely interventions to prevent treatment interruptions and drug resistance.

7.6. KVP TB Match Analysis

During FY 2024–2025, the Rwanda Biomedical Center (RBC), in collaboration with the KIT Institute (Royal Tropical Institute, Netherlands) and supported by Expertise France, conducted a KVP TB Match Analysis to identify gaps in TB detection and care among Key and Vulnerable Populations (KVPs). The study combined Population Size Estimation (PSE) with MATCH geospatial methodologies to reveal where people with TB are being missed and to guide targeted, data-driven interventions.

Key Findings:

The analysis highlighted persistent gaps in reaching high-risk groups such as the homeless, female sex workers, drug users, residents of urban slums, and refugees. Vulnerable groups, including street children and sex workers remain undercounted, limiting targeted planning. Geographic disparities were evident, with rural districts (e.g., Nyamagabe, Nyaruguru) and refugee-hosting areas showing low TB notifications, reflecting underreporting and poor diagnostic access. Barriers to TB services included long distances to clinics, stigma (particularly gender-based), and limited access to diagnostic tools like GeneXpert and chest X-ray. MATCH analysis further identified high-burden sectors in urban slums, border zones, refugee settings, mining areas, and remote communities with poor health infrastructure.

To address these gaps, RBC/TB & ORD Division, together with partners and stakeholders, developed an implementation plan.
This plan is expected to improve TB detection and service delivery in underserved areas, ensure inclusion of marginalized groups, and strengthen Rwanda's progress toward ending TB by 2035 through a people-centered, rights-based, and evidence-driven approach.

7.7. Capacity building conducted during 2024-2025 FY

Between September 2024 and May 2025, the TB & ORD Division implemented a series of mentorships, trainings, and workshops to strengthen TB diagnosis, case management, and research capacity.

- Childhood TB diagnosis mentorship was conducted in 62 hospitals and private clinics, screening 6,204 children and notifying 528 TB cases.
- Chest X-ray interpretation training (May 2025) for 26 pediatricians and GPs improved childhood TB and TB/HIV diagnostic capacity.
- General TB case management mentorship in 27 districts covered 257 facilities, enhancing diagnostic accuracy and treatment adherence in low-TSR settings.
- TB death audit mentorships in 12 hospitals and their catchment facilities improved use of audit tools and case review practices.
- Chest X-ray screening training for PLHIV trained 112 participants (80 technicians and 94 doctors), strengthening TB detection in high-risk populations.
- New TB screening and diagnostic algorithm mentorship supported 42 facilities, ensuring readiness for accreditation as TB treatment centers.
- TB/TB-HIV research workshop (March–April 2025) engaged 30 staff in protocol development, manuscript writing, and analysis of MDR-TB and LTBI surveillance datasets.

7.8. Evaluation of performance of indicators in M&E, 2024-2025 FY

The TB &ORD monitoring and evaluation plan has 32 indicators which are tracked every year. Among indicators, 4 are monitored based on the implementation of survey and other on the external evaluation which can be conducted every 3 or 5 years. To track the performance we categorized in three, achieved is if the greater or equal to 98%, on track if between 85%-97.9% and not achieved if below 85%.

The graph below shows that 63% of indicators achieved the target, 16% are on track, 9% were not achieved, and 13% are marked as N/A

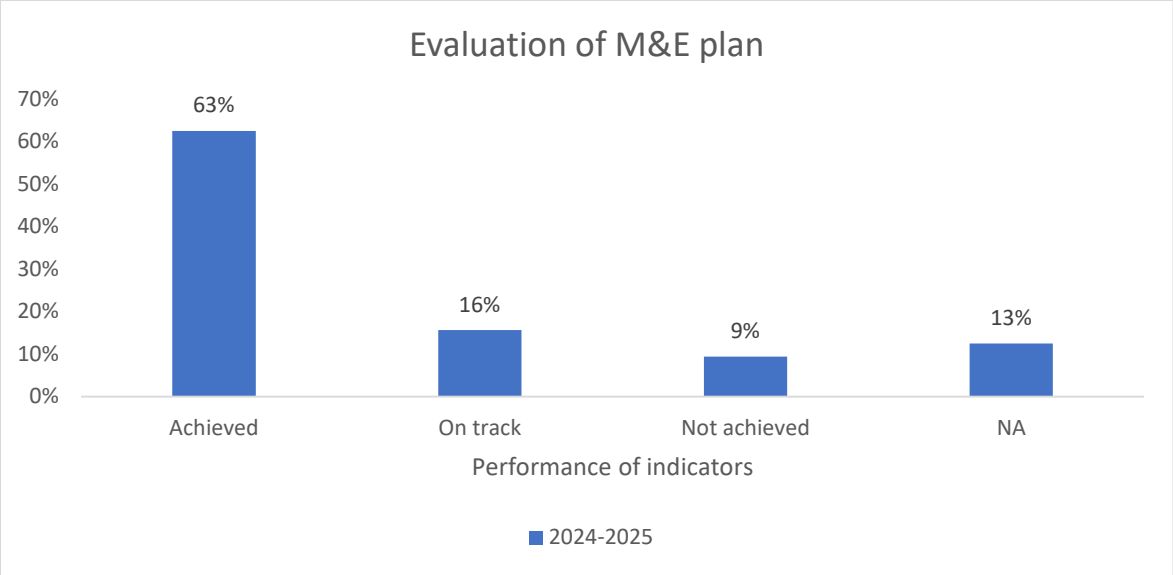

Figure 36: Evaluation of indicators under M&E plan

CHAPTER 8: STRENGTHENING LEPROSY SURVEILLANCE AND RESPONSE

Leprosy control in Rwanda is integrated across all levels of the healthcare system, beginning at the primary care level. The TB&ORD Division oversees the planning, coordination, and implementation of leprosy prevention and control measures, offering technical guidance and mentorship to healthcare providers managing leprosy cases.

The goal is to eliminate leprosy through early detection, thorough contact screening, and effective treatment to halt transmission, while also providing adequate psychosocial support to address stigma and discrimination faced by affected individuals. Despite ongoing financial constraints at the decentralized level, the central level supported by the Government of Rwanda continues coordinates systematic community-based active screening as much as possible, however, health facilities are equipped, hence expected to implement all aspects of leprosy control from the primary level in endemic areas and non-endemic regions that have reported at least one leprosy case in the past 10 years.

Additionally, integrated activity approaches are among the key strategies employed to support leprosy control efforts. Leprosy integration into TB field activities and capacity building, as well as its inclusion in Neglected Tropical Diseases (NTDs)-related activities, are essential to improve community awareness. In this line, 432 CHWs from Rusizi, Gisagara and Bugesera District were trained on how to recognise various skin NTDs, including Leprosy, the right referral channel to ensure early detection and access to care for such individuals.

8.1. Improve the leprosy surveillance system.

The improved leprosy surveillance system is fully aligned with control and prevention efforts, with all health facilities using a standardized electronic case-based system to record new cases, contacts screened, and provision of PEP/SDR. Mandatory same-day case registration and disability assessment ensure timely reporting. Data quality is strengthened through remote support, field supervision, and quarterly review meetings at district hospitals. In 2024, Rwanda submitted surveillance data to the WHO Global NTD Annual Report. The system also introduced new elements, including index case names and auto-generated IDs, to enhance case–contact linkage and improve monitoring of key indicators and program planning.

8.2. Leprosy screening and diagnostic

Leprosy screening in Rwanda is conducted through two main approaches: passive screening, which involves individuals presenting with skin conditions at outpatient departments, and active case finding, which is usually a collaborative initiative by concerned health facilities, the community, CHWs, local leaders and faith-based

organizations in leprosy-endemic areas and non-endemic areas that have reported at least one case in the past 10 years. In fiscal year 2024-2025, 92.3% (36/39) and 7.7% (3/39) were diagnosed through active and passive approaches, respectively. Historically, the majority of leprosy cases have been identified through active case campaigns, accounting for 73.4% (105/143) of all cases identified over the last five fiscal years.

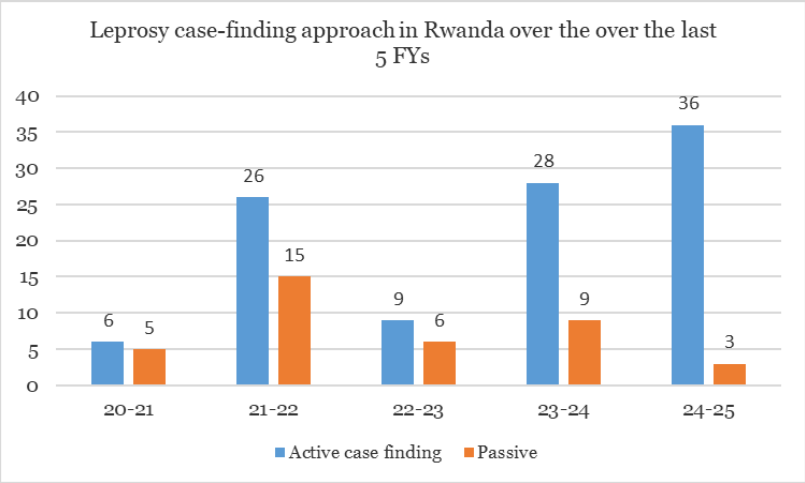

Figure 37: Leprosy case finding over the last five years

Clinical diagnosis, based on leprosy cardinal signs, is the main method to diagnose leprosy. For instance, 94.1% (37/39) of all leprosy cases were diagnosed clinically, versus 5.1%(2/39) who had positive slit skin smears.

8.3. Leprosy case-finding

This fiscal year, in collaboration with local facilities, the national program led 5 active case-finding campaigns, involving 39 health facilities across 10 districts in both endemic and non-endemic areas. 69.27% (728/1051) of all individuals who followed IEC sessions had signs and symptoms suggestive of leprosy. Of these, 9.2 % (67/728) were presumed leprosy cases; of them, 41.79% (28/67) were confirmed to have Leprosy. The majority of individuals who did not exhibit signs or symptoms of leprosy were found to have other skin conditions that would benefit from review by dermatologists.

Table 14: Leprosy active case finding screening cascade

District/ Health Facility	# of People given IEC	# of screened	# of Presumptive leprosy cases	# of leprosy cases
Bugesera	211	121	8	3
Burera	0	0	0	1
Gisagara	119	66	9	3
Karongi	47	43	4	2

Kirehe	**217**	**162**	**4**	**2**
Ngoma	**81**	**70**	**13**	**8**
Nyamasheke	**84**	**68**	**8**	**0**
Nyaruguru	**30**	**25**	**1**	**0**
Rubavu	**72**	**33**	**4**	**1**
Rusizi	**190**	**140**	**16**	**8**
Grand Total	**1051**	**728**	**67**	**28**

Source: Field visit report of ACF in endemic and non-endemic areas, FY 2024-2025

Active case-finding (ACF) is vital to detect hidden leprosy cases, given its subtle symptoms and limited clinical experience among providers. Capacity building ensures facilities can conduct both passive and active screening, while integration of leprosy into district action plans strengthens ownership. Attendance at ACF campaigns rose from 441 in FY 2023–24 to 1,051 this FY, but awareness of leprosy and other skin NTDs remains low. To address this, the program leverages community platforms *Inteko z'abaturage*, faith-based groups, CHWs, and former patients—while distributing IEC materials and pamphlets to improve knowledge and encourage participation in screening.



The TB&ORD Division, in collaboration with MOPDD, conducted a two-week leprosy ACF sensitisation and capacity-building activity at Cyibingo and Bugarama HCs. A total of 74 TB and leprosy focal persons from Bugesera, Rusizi, Ngoma, and Gisagara districts were trained on skin NTDs, including leprosy, yaws, lymphatic filariasis, podoconiosis, tungiasis, mycetoma, scabies, and onchocerciasis. Training combined theoretical and practical sessions, enhancing participants' skills in case recognition, management, and community education, while empowering them to independently organise ACF campaigns.



In the second week, trained nurses oriented CHWs from 428 villages with the highest leprosy notifications. Attendance reached 93.7% (401/428). CHWs were trained on symptom recognition, community engagement, and referral pathways. Over three days, they conducted sensitisation and referred 1,113 individuals for screening at health centres. Of these, 8 (0.8%) were confirmed with leprosy: 4 MB cases in Ngoma, 1 MB relapse in Gisagara, 1 new MB case in Bugesera, and 2 MB cases in Rusizi. All were enrolled for treatment.

8.4. Leprosy notification

In FY 2024–2025, a total of 39 leprosy cases were reported, including 28 new cases (18 multibacillary [MB] and 10 paucibacillary [PB]) and 11 retreatment cases (8 relapses and 3 after default).Among the new cases, 5 (18%) were children aged 0–14 years, and 13 (46.4%) were women. The majority (25 out of 28 new cases; 89%) were detected during active case-finding campaigns. All new cases were evaluated for disability at diagnosis, with 4 patients (14%) presenting grade 1 disability. No children presented with visible deformities (G2D), but 4 MB cases had visible deformities at diagnosis. One PB case was identified as a foreign-born patient who had been in Rwanda for less than 15 years at diagnosis.

The findings highlight the importance of active case-finding in detecting the majority of cases, the continued occurrence of childhood leprosy indicating ongoing transmission, and the need for strengthened disability prevention and early detection strategies

Table 15: Leprosy notification, FY 24-25

LEPROSY CASES	MB	PB	Total
New cases (NC).			
# of new cases (NC)	18	10	28
# of children among new cases (0-14 years)	2	3	5
# of women among new cases	7	6	13
# of new cases detected during the active case finding Campaign	16	9	25
# of new cases evaluated for their disability at Diagnosis	18	10	28
# with grade 1 disabilities	2	2	4
# of children with visible deformities (G2D)	0	0	0
# of all-new cases with visible deformities (G2D)	4	0	4
# of foreign-born new cases notified in Rwanda for less than 15 years at the time of diagnosis	0	1	1
Retreatment cases			
# of relapses	8	0	8
# of retreatment after default	1	2	3
Total cases	**27**	**12**	**39**

8.5. Leprosy treatment outcome

To evaluate leprosy treatment outcomes, we considered multibacillary (MB) cases reported in the 2022–2023 fiscal year, as they received 12 months of treatment, and paucibacillary (PB) cases reported in the 2023–2024 fiscal year. In total, we evaluated 16 PB cases, of which 15 were new, and 9 MB cases, including 8 new cases. The Treatment success was excellent among relapse and retreatment cases (100%) and high among new PB cases (93%), but lower among new MB cases (63%). No deaths were reported across all categories. Loss to follow-up was significant for new MB cases (38%) and minimal for new PB cases (7%), while no relapse or retreatment cases were lost. Three leprosy patients were lost to follow-up: one in Gikundamvura after staff turnover, one fisherman from Gashora who relocated, and one from Bugesera (2022–23) later re-enrolled. These interruptions hinder disability assessment and risk ongoing transmission.
All patients were evaluated, with disability assessments conducted at treatment start and end for 63% of MB new cases, 93% of PB new cases, and 100% of relapse and retreatment cases.

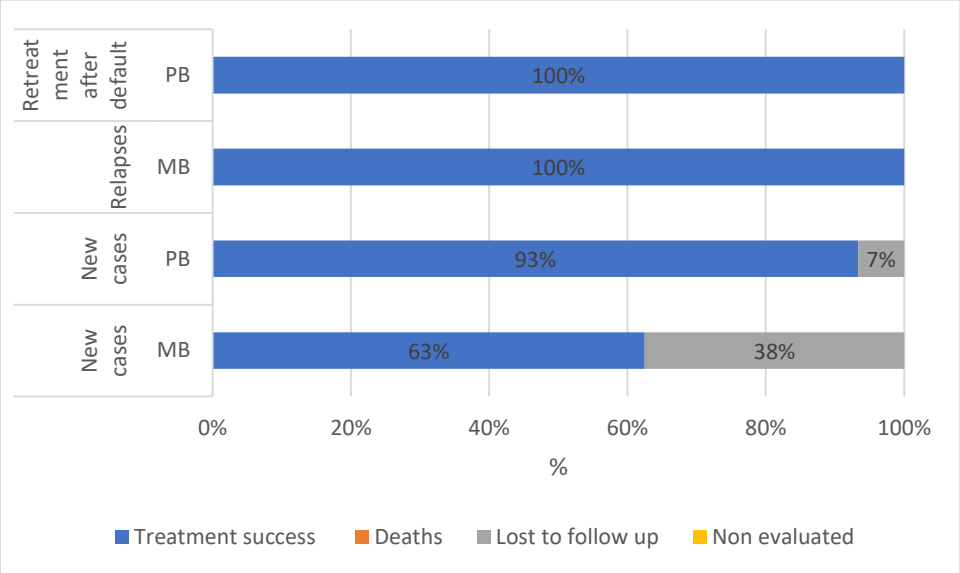

Figure 38: Leprosy treatment outcome cohort July 2022 to June 2024

8.6. Contact tracing and post-exposure chemoprophylaxis

Three years ago, the program initiated leprosy contact tracing and chemoprophylaxis to protect contacts in whom TB and active leprosy have been ruled out. The tracing involves household contacts for index cases enrolled from 2019 onwards. Consenting contacts are then enrolled in the program, receive a single dose of Rifampicin, and are reviewed at least once a year for 5 years to evaluate any development of Leprosy symptoms.
Over the past five fiscal years, 143 new and retreatment cases with 602 contacts were recorded. 89% (537/602) of contacts underwent their initial screening, and 3% (15/537) of them were suspected to have leprosy, leading to nine new leprosy cases: three MB and eight PB cases. Four contacts were scheduled for follow-up visits, while 21 contacts were considered ineligible for PEP because they were under 2 years of age,

meaning 91% (488/537) of all contacts were eligible for PEP, and 68% (332/488) of those eligible began PEP.

Table 16: Leprosy contact tracing cascade and chemoprophylaxis initiation

Health facilities	# of contacts	Screened	Presumed leprosy	Leprosy cases MB	PB	To be reviewed next visits	Eligible for PEP	Received PEP
Bugarama (rusizi) CS	75	67	1	0	0	0	66	60
Butaro CS	12	0	0	0	0	0	0	0
Gashora CS	6	6	0	0	0	0	0	6
Gikundamvura CS	274	245	6	1	2	2	224	140
Gishubi CS	49	48	2	0	1	1	42	32
Islamic (Bugarama) CS	19	19	0	0	0	0	19	17
Jarama CS	51	50	0	2	0	0	47	18
Kigembe CS	6	6	0	0	0	0	6	6
Mahama CS	5	5	0	0	0	0	5	0
Mahama Refugee Camp II CS	5	5	0	0	0	0	5	0
Mubuga CS	1	1	0	0	0	0	1	1
Nyabitimbo CS	46	42	0	0	0	0	42	37
Nyakabuye CS	9	9	0	0	0	0	9	0
Nzangwa CS	35	26	6	0	5	1	14	7
Ruheru CS	9	8	0	0	0	0	8	8
Total	**602**	**537**	**15**	**3**	**8**	**4**	**488**	**332**

Among 78 identified contacts of leprosy patients, 72 (92%) underwent initial screening. Three contacts (4.1%%) were diagnosed with leprosy, and one contact (1.4%) was scheduled for review during the next visit. A total of 69 contacts (94.4%) were eligible for post-exposure prophylaxis (PEP), and 45 (66.2%) received it, indicating a gap in preventive coverage

Contact tracing and PEP provision in Rwanda FY 24-25

Number of contacts	Number of contacts who had an initial screening	Number of leprosy cases	Number of contacts to be reviewed in the next visits	Number of contacts eligible for PEP	Number of contacts who received PEP
78	72	3	1	68	45
Proportion	92.31%	4.17%	1.39%	94.44%	66.18%

Table 17: Leprosy contact tracing for case reported 2024-2025 FY

8.7. Healthcare provider's mentorship on Leprosy, leprosy contact tracing, and PEP



During this fiscal year, a mentorship program was conducted for healthcare providers (HCPs) on leprosy contact tracing, diagnosis, case management, and the use of preventive therapy (Single Dose Rifampicin, SDR).

The program reached 18 health facilities across both leprosy-endemic and non-endemic areas, aiming to strengthen HCPs' knowledge, skills, and techniques while updating them on progress and key national strategies aligned with the global goal to eliminate leprosy as a public health threat by 2030.

The sessions engaged over 100 participants, including medical students, doctors, and a dermatologist at Kibuye Referral Hospital, who shared insights on a holistic approach to leprosy care. Using PowerPoint presentations, treatment guidelines, and open discussions, participants learned about common presentations, diagnosis, management, and relevant public health interventions. Discussions with health leaders at Kibuye RH, Mugonero DH, Kibilizi DH, and Kibogora PH emphasized their role in ensuring HCPs are equipped to conduct active case finding and recognize leprosy among other skin conditions.

For community awareness, posters were displayed in waiting areas, and over 100 pamphlets with simple leprosy illustrations were distributed. Additionally, community health workers at Rangiro HC were engaged to incorporate leprosy

education into routine community activities, enhancing visibility and encouraging early detection and preventive efforts.

In the same context, to further leprosy awareness and integration in other NTDs, Leprosy was included in all key topics of the World NTD Day celebration at the national level in Bugesera District. In the week leading to the celebration, the program was engaged in activities highlighting key successes in the fight against leprosy, raising awareness through social media, radio talk shows, news articles and distribution of pamphlets to enhance the visibility.

CHAPTER 9: FINANCING THE NSP TB

9.1. Introduction

The TB National Strategic Plan (NSP) is a key instrument to guide TB control work in Rwanda in accordance with the most recent World Health Organization (WHO) international guidance.

The major funding sources for the Rwanda TB programs are:

- Government Revenues
- Development Partners contributions through General and Sector Budget Support and Donor funds, partially on budget as seen in the development budget, and partially earmarked and project related. These include the Global Fund for HIV & AIDS, TB and Malaria, and CDC – COAG.

9.2. Funding Sources for TB Expenditures in Rwanda FY 2024-2025

The Ministry of Health and the Rwanda Biomedical Center in collaboration with its partners worked on the design and development of the Health Resource Tracking Tool (HRTT), where all health sector actors (Government institutions and development partners) report on a periodic basis. The system is designed to collect expenditures and budgets on a quarterly and annual basis.

To facilitate the collection of financial information for this year's report, a separate data collection process was adopted using SMART IFMIS (Integrated Financial Management Information System) for Global Fund grant and Government contribution.

9.3. Public and external funding sources for TB NSF

Table 17: Source of Fund for TB NSP for the year ended 30 June 2025

Source of fund	Budget approved for FY 2024-2025 in USD	Revised budget for FY 2024-2025 in USD	Expenditures for FY 2024-2025 in USD	Variance for FY 2024-2025 in USD	Budget execution rate
Global Fund for AIDS, TB and Malaria (GFATM)	4,077,680	4,077,680	3,697,337	380,343	91%
GoR (Recurrent budget)	2,263,240	2,285,318	2,100,131	185,187	92%
Total	6,340,920	6,362,998	5,797,468	565,530	91%

The Global Fund for AIDS, TB and Malaria (GFATM) contributed USD 4,077,680; the GoR contributed USD 2,285,318 to give a total budget of USD 6,362,998 for fiscal year 2024-2025.

9.3. 1. Government contribution to TB National Strategic Plan

Methodology used to estimate the GOR allocations to various health programs

The GoR funds are allocated to different health programs during the annual planning and budgeting process, which entails prioritization process by the Ministry, RBC and decentralized levels based on HSSP III and different disease program strategic plans serve as guiding documents.

Apart from program specific financing, the estimation of GoR contribution takes into consideration all other health related programs costs, categorized as health systems strengthening costs in the MTEF Chapter of: compensation of employees, use of Goods & Services, subsidies, grants, social assistance, other expenditures, inventory, fixed tangible non-financial Assets and machinery and Equipment.
The TB/NSP total spending amounted to USD **5,797,468** (91%) as follows: Global Fund spent USD 3,697,337 representing 91% of total budget; GoR expenditures were USD 2,100,131 representing 92% of planned budget for Fiscal year 2024-2025. The type of MTEF Chapter with the highest budget ceiling is Compensation of employees with USD 1,393,086; Use of goods and services with USD 396,214 and Fixed tangible non-financial Assets with USD 198,387. The expenditure was respectively USD 1,266,610 for Compensation of employees, USD 363,256 for Use of Goods and services and USD 197,007 for Fixed tangible non-financial Assets.

Table: GoR TB NSP budget and expenditure per MTEF chapter for the year ended 30 June 2025

MTEF Chapter	Approved Budget for FY 2024-2025 in USD	Committed Amount FY 2024-2025 in USD	Budget Balance end June 2025 in USD	Performance rate
21 Compensation of employees	1,393,086	1,266,610	126,476	91%
22 Use of goods and services	396,214	363,256	32,958	92%
25 Subsides	42,452	42,338	115	100%
26 Grants	105,649	101,613	4,035	96%
27 Social assistance	122,574	106,568	16,006	87%
28 Other expenditures	18,776	14,617	4,159	78%
33 Inventory	7,492	7,459	33	100%
34 Fixed tangible non-financial Assets	198,387	197,007	1,380	99%
37 Machinery and Equipment	687	663	24	96%
Total	**2,285,318**	**2,100,131**	**185,187**	**92%**

As reflected in the table below, the GoR budget per budget agency is USD 2,285,318 whereas the expenditure is USD 2,100,131.

The type of budget agencies with the highest budget ceiling is Districts hospitals with USD 988,223, RBC with USD 453,072 and Ministry of Health with USD 440,669. The expenditures were respectively USD 855,741 for Districts, USD 418,297 for Ministry of Health and USD 417,358 for RBC.

Table 18: GoR TB NSP budget and expenditure per Budget agencies for the year ended 30 June 2025

Budget Agency	Approved Budget for FY 2024-2025 in USD	Committed Amount FY 2024-2025 in USD	Budget Balance end June 2025 in USD	Performance rate
CHUB	91,384	91,384	-	100%
CHUK	128,661	128,661	-	100%
Districts	988,223	855,741	132,482	87%
HNN	36,105	51,171	-15,066	142%
MINISANTE	440,669	418,297	22,372	95%
RBC	453,072	417,358	35,714	92%
RMH	85,905	85,889	16	100%
RWANDA FDA	61,300	51,630	9,670	84%
Total	**2,285,318**	**2,100,131**	**185,187**	**92%**

9.3.2 The Global Fund contribution

For the Global Fund contribution, the budget for the year 2024–2025 was USD 4,077,680 out of this budget, a total of USD 3,697,337 have been effectively spent by Global Fund per MTEF Chapter representing 91 % of total budget for RBF TB grant.

Table 19: GF TB NSP budget and expenditure per MTEF Chapter for Fiscal Year 2024-2025

MTEF Chapter	Approved Budget for FY 2024-2025 in USD	Committed Amount FY 2024-2025 in USD	Variance end June 2025 in USD	Performance rate
22 Use of goods and services	2,719,426	2,692,030	27,396	99%
26 Grants	772,767	633,384	139,383	82%
27 Social assistance	219,649	154,701	64,948	70%
28 Other expenditures	365,837	217,222	148,615	59%
Total	**4,077,680**	**3,697,337**	**380,343**	**91%**

The type of MTEF Chapter with the highest budget ceiling is Use of goods and services with USD 2,719,426 and Grants transfer with USD 772,767. The expenditures were respectively USD 2,692,030 for Use of goods and services and USD 633,384 for Grants transfer.

Table 20: GF TB NSP budget and expenditure per Budget agencies, 2024-2025 FY

Budget Agency	Approved budget for FY 2024-2025 in USD	Expenditures for FY 2024-2025 in USD	Variance in USD end June 2025	Performance rate
CHUB	26,590	26,884	-294	101%
CHUK	26,590	26,884	-294	101%
MOH	245,546	257,188	-11,642	105%
RBC	3,778,954	3,386,379	392,574	90%
Total	**4,077,680**	**3,697,337**	**380,343**	**91%**

As reflected in the table below, the approved budget is USD 4,077,680 whereas the expenditure is USD 3,697,337. The type of budget agencies with the highest budget ceiling is Rwanda Bio Medical Centre with USD 3,778,954 and Ministry of Health with USD 245,546.The expenditures were respectively USD 3,386,379 for RBC and USD 257,188 for the Ministry of Health.

CHAPTER 10: Conclusion

Rwanda's tuberculosis (TB) program in the 2024–2025 fiscal year demonstrated notable progress across multiple areas, reflecting a concerted effort toward early detection, prevention, treatment, and elimination, in alignment with World Health Organization (WHO) recommendations. TB screening and diagnostic initiatives highlighted the integration of molecular testing, targeted interventions for high-risk populations, and strengthened surveillance systems. Achievements such as near-universal drug susceptibility testing (DST) coverage and expanded access to GeneXpert technology underscored the resilience of Rwanda's TB program, particularly in managing co-infections with HIV and tackling drug-resistant TB (DR-TB). Despite these gains, challenges persist, including inconsistent laboratory quality, suboptimal utilization of technology, and logistical issues with sample transport. Addressing these challenges through sustained investments in training, digital infrastructure, and quality assurance remains critical to achieving comprehensive coverage and minimizing missed diagnoses. Future strategies emphasize community-based screening via community health workers (CHWs) and the adoption of innovative tools such as computer-aided detection (CAD) for X-rays, which are expected to reduce TB burden, prevent transmission, and advance the country toward elimination goals.

TB notification efforts during the same period indicated sustained progress in case detection and targeted interventions. CHWs exceeded national targets, contributing to significant reductions in TB-HIV co-infection and DR-TB cases. Targeted efforts focusing on high-risk populations yielded 74.7% of notifications, and mentorship programs improved childhood TB detection, demonstrating the effectiveness of focused strategies. Nonetheless, a decline in overall notifications, especially in low-burden areas such as the Northern Province, suggests the presence of under-detection and the need to enhance active case finding. High TB prevalence in Kigali City and the Eastern Province, coupled with a rising rate of DR-TB co-infections, highlights the continued necessity of investing in diagnostic capacity, particularly for extrapulmonary TB and resistant strains. Strengthening data integration for vulnerable populations, including people who inject drugs, and sustaining mentorship initiatives remain vital for maintaining Rwanda's trajectory toward TB elimination, as outlined in the Extended National Strategic Plan (NSP) 2019–2027.

Preventive therapy and infection control efforts reflected robust progress, with high compliance in infection control measures (89.4%), near-universal contact tracing (98%), and strong TB preventive therapy (TPT) coverage among children under five (96.2%) and people living with HIV (PLHIV) on antiretroviral therapy (ART) (97.8%). The widespread use of the 3HP regimen, along with systematic screening of health workers and CHWs, reinforced TB prevention strategies. However, challenges such as inconsistent data reporting, lower infection control performance in certain sub-

districts, and reduced TPT coverage among newly enrolled PLHIV indicate the need for targeted interventions. Enhancing mentorship, improving Health Management Information System (HMIS) data submissions, and addressing barriers to TPT initiation for new ART patients are essential to sustain progress, reduce transmission among high-risk groups, and strengthen alignment with global TB elimination targets.

TB treatment outcomes for 2023–2024 demonstrated significant achievements, with a 90% success rate for drug-susceptible TB, near-perfect TPT completion, and improved death audit reporting through the electronic TB (E-TB) system. Community-based care through CHWs and nutritional support contributed to better outcomes among children and malnourished patients. Nevertheless, lower success rates persisted among HIV-positive individuals, previously treated patients, and RR/MDR-TB patients on longer regimens. High early mortality and gaps in HIV-related data underscore the necessity for enhanced TB-HIV integration, psychosocial support, and targeted nutritional interventions. Continued investment in real-time data systems, along with focused interventions in underperforming areas, is critical to achieving WHO TB elimination targets.

Health promotion and stakeholder engagement significantly advanced TB prevention and awareness, particularly in high-risk settings such as prisons and refugee camps. Peer educator training, a broad behavior change communication (BCC) strategy through radio, television, print, and social media, and the organization of World TB Day events strengthened community involvement. RRP+ outreach efforts reached 166,522 PLHIV, identifying 95 TB cases, while the establishment of 10 former TB patient committees reinforced grassroots TB response. Challenges remain, including outdated reporting tools, inadequate educational materials, and limited training access for peer educators. Strengthening digital reporting, updating TB-HIV manuals, and ensuring consistent resource availability are key to sustaining momentum, enhancing early detection, improving treatment adherence, and reducing stigma under the “Yes! We Can End TB” vision.

Supply chain management achieved a 95% stock availability rate, ensuring uninterrupted treatment through effective forecasting and quality control. The Central Pharmaceutical Distribution System (CPDS) facilitated 47.1% of planned shipments, although delays in laboratory commodities and distribution system challenges posed risks. The active drug safety monitoring (aDSM) system improved patient safety tracking, with adverse events reported in 1.36% of patients, predominantly moderate. Persistent gaps in laboratory supplies and the need for integrated reporting systems highlight areas for improvement. Strengthening supplier follow-up, enhancing digital interoperability for aDSM, and proactively addressing pediatric medicine demands are essential to maintaining a resilient TB commodity supply chain and uninterrupted patient care.

Monitoring, evaluation, and research (M&E/R) strengthened evidence-based TB control through real-time surveillance systems, including the e-TB system and DataToCare. While core TB services performed well, gaps remained in MDR-TB monitoring, active case finding, and leprosy control, highlighting the need for enhanced digital infrastructure, mentorship expansion, and targeted interventions for underserved populations. Research outputs, capacity-building initiatives, and digital adherence technologies (DAT) improved treatment outcomes and adherence, supporting progress toward Rwanda's End TB Strategy and reinforcing its commitment to evidence-driven, people-centered TB elimination by 2035.

Leprosy control in 2024–2025 also showed meaningful progress, with active case finding detecting 89% of 39 cases and high surveillance coverage through electronic systems. High treatment success among paucibacillary (PB) cases (93%) and training of 432 CHWs and over 100 providers strengthened early detection and care. Integration with TB and neglected tropical disease (NTD) programs, coupled with World NTD Day activities, enhanced community awareness. Nonetheless, challenges persisted, including low treatment success for multibacillary (MB) cases (63%), substantial loss to follow-up (38%), and suboptimal post-exposure prophylaxis (PEP) coverage (68%). Limited awareness and financial constraints at decentralized levels further hindered progress. To achieve leprosy elimination by 2030, intensified community engagement, improved PEP uptake, targeted psychosocial support, sustained capacity building, and enhanced funding are critical.

Financially, the TB NSP achieved a 91% budget execution rate, spending USD 5,797,468 of the allocated USD 6,362,998, with strong contributions from the Global Fund and the Government of Rwanda. Tools like HRTT and SMART IFMIS enhanced transparency, but a variance of USD 565,530 highlights the need for improved planning, expenditure tracking, and optimized resource allocation. Sustained collaboration with partners and robust financial management are vital to support Rwanda's TB elimination objectives by 2035.

ANNEXES 1: TB Indicators in Monitoring and evaluation framework, from July 2024 to June 2025

Indicator	2024/25 (Target)	2024/25 (performance)	level of performance	status
Proportion of first level health facilities that have at least one staff trained to provide PAL services	95%	79%	84%	Not Achieved
TB notification rate new and relapses (per 100,000)	46/100K	59/100K	128%	Achieved
TB treatment coverage (End TB Top-ten indicator N° 1)	95%	93%	98%	On Track
Contact investigation coverage (End TB Top-Ten N°6)	95%	99%	104%	Achieved
Proportion of TB cases notified among high-risk groups (HRGs(Number and Percentage)	54%	75%	139%	Achieved
The proportion of eligible malnourished DS TB patients (BMI<18.5) who have accessed appropriate nutrition support	85%	49%	58%	Not Achieved
Proportion of children 0-14 years notified among TB cases new and relapse	7%	14%	200%	Achieved
Proportion of newly notified patients diagnosed using WHO recommended rapid tests (End TB Top-Ten N°4)	70%	67%	96%	On Track
DST Coverage for TB patients (End TB Top-Ten indicator N° 7)	85%	96%	112%	Achieved
Proportion of notified patients with rifampicin resistant (RR) or MDR who receive second line DST	100%	100%	100%	Achieved
Proportion of health facilities diagnostic sites scoring pass in EQA for smear microscopy	95%	74%	78%	Not Achieved
Proportion of health facilities Xpert sites scoring pass in EQA for Xpert MTB/RIF	85%	89%	105%	Achieved
Treatment success rate (TSR) for all forms of TB cases (DS & DR-TB cases) (End TB Top-ten 2)	89.5%	90%	101%	Achieved
Percentage of CDT with no stock out of FL tracers (RHZE and RH ad) drugs of experienced in the last 12 months	100%	95%	95%	On Track
Percentage of MDR TB centers with no stock out of SLD in the last 12 months	99.5%	100%	101%	Achieved
Proportion of eligible PLHIV initiated on TPT	92%	98%	107%	Achieved
Treatment success rate, confirmed RR/MDR-TB	93%	87%	94%	On Track
Treatment coverage new drugs (End TB Top-ten indicator N°8)	100%	100%	100%	Achieved
Proportion of TB treatment cards where ADSM section is completed	90%	86%	96%	On Track
Proportion of diagnosed TB cases tested for HIV infection (End TB Top-ten indicator N°9)	97%	100%	103%	Achieved
Proportion of HIV positive TB cases given antiretroviral therapy during TB treatment	95.5%	95%	99%	Achieved
Treatment success rate for TB patients (all forms) receiving DOT through community health workers (CHW)	96%	95%	98%	Achieved
Percentage of Health providers screened for TB at least once during the year. (health facility workers)	83%	87%	105%	Achieved
LTBI treatment coverage among contacts < 5 years (End TB Top-ten indicator N°5)	90%	96%	107%	Achieved
LTBI treatment coverage among contacts > 5 years	80%	92%	115%	Achieved
Percentage of population with adequate knowledge* on TB symptoms, transmission and prevention		NA	NA	N/A
Proportion of TB cases (all forms) referred by community health volunteers during the evaluated year.	25%	27%	109%	Achieved
eTB coverage in CDT and CT proxy of Timeliness of routine reporting	70%	100%	143%	Achieved
Case fatality ratio (CFR) (End TB Top-ten indicator N° 10)	<5%	3.90%	128%	Achieved
Number of standard criteria met using WHO TB standard and benchmarks checklist	1000%	N/A	N/A	N/A
Proportion of public health facilities where at least one staff has participated in training on TB		N/A	N/A	N/A
Percentage of people diagnosed with TB who report stigma in health care settings that inhibited them from seeking and accessing TB services		N/A	N/A	N/A

ANNEXES 2: RBF achievement, from July 2024 to June 2025.

Coverage/Output Indicator	RBF Target 2024-2025	Program Results 2024-2025		Level of Achievement
	%	N# / D#	%	
TBDT-1 Number of patients with all forms of TB notified (bacteriologically confirmed + clinically diagnosed); "includes only those with new and relapse TB	6,184	8049 /		100%*
TBDT-2 Treatment success rate (all forms): Percentage of patients with all forms of TB, bacteriologically confirmed plus clinically diagnosed, successfully treated (cured + treatment completed) among all TB patients notified during a specified period; includes only those with new and relapse TB	89.50%	7494 / 8301	90.3%	100%*
TBDT-1 Other 4: Proportion of TB cases notified in high-risk groups among all TB cases	54.0%	6123 / 8196	74.7%	100%*
TBP-1 other 5: TPT coverage among contacts >5 years	83.0%	1389 / 1519	91.9%	100%*
TBT/HIV-6 Percentage of HIV-positive new and relapse TB patients on ART during TB treatment	96.0%	1091 / 1149	95.0%	99%
DRTB-9 Treatment success rate of RR-TB and/or MDR-TB: Percentage of patients with RR and/or MDR-TB successfully treated	92.2%	75 / 86	87.2%	95%
TBDT-4 Percentage of new and relapse TB patients tested using WHO recommended rapid diagnostic tests at the time of diagnosis	70.0%	5591 / 8196	68.2%	97%

ANNEXES 3: Leprosy Monitoring and evaluation indicators, from July 2024 to June 2025

No	Indicator	2022-2023		2023-2024		2024-2025	
		Target	Achievement	Target	Achievement	Target	Achievement
	Population		13,372,596		13,797,269		13,951,765
1	Number of children diagnosed with leprosy and visible deformities (G2D)	0	0	0	0	0	0
2	Rate of newly diagnosed leprosy patients with visible deformities (G2D)	0,3 per million	0,9 per million	0,3 per million	0.29 per million	0,3 per million	0.28 per million
3	Availability of web-based, case-based reporting system allowing disaggregation by age, sex, place of residence and other relevant criteria	juil-21	Yes	juil-21	Yes	juil-21	Yes
4	Percentage of endemic health facilities that have had at least 2 supervisory visits from district	100%	100%	100%	100%	100%	100%

	hospital in the reporting year						
5	WHO certification of leprosy elimination in Rwanda (prevalence < 1 case per 10.000 habitants)	juil-21	No	juil-21	No	juil-21	No
6	New case-detection (number and rate per 100000)	27	12	27	29	27	28
		(0,20)	0,09 per million	(0,20)	0,21 per million	(0,20)	0.21 per million
7	Leprosy prevalence rate per 10000.		12		29		28
		0,014	0,01 per 10000	0,014	0,02 per 10000	0,014	0,02 per 10000
8	Proportion of G2D cases among total new cases detected.	≤ 12%	8.3% (1/12)	≤ 12%	14% (4/29)	≤ 12%	14% (4/28)
9	Proportion of child cases among total new cases detected.	5%	0.0% (0/12)	5%	0.0% (0/29)	5%	17.9% (5/28)
10	Proportion of MB cases among total new cases detected.	38%	66.7% (8/12)	38%	44.8% (13/29)	38%	64.3% (18/28)
11	Proportion of female cases among total new cases detected.	> 45%	50% (6/12)	> 45%	55.2% (16/29)	> 45%	46.4% (13/28)
12	Proportion of contacts screened.	85%	85.7% (72/84)	85%	75% (382/509)	85%	92.3% (72/78)

13	Proportion of foreign-born among total new cases detected	0	0	0	7% (2/29)	0	4% (1/28)
14	MDT completion for new PB	> 95%	71% (5/7)	> 95%	80% (4/5)	> 95%	93.3% (14/15)
15	MDT completion for new MB	> 95%	100% (9/9)	> 95%	96% (22/23)	> 95%	62.5% (5/8)
16	Proportion of new PB patients assessed for disability status at least both at beginning and at end of treatment	> 90%	71% (5/7)	> 90%	80% (4/5)	> 90%	93.3% (14/15)
17	Proportion of new MB patients assessed for disability status at least both at beginning and at end of treatment	> 90%	100% (11/11)	> 90%	96% (22/23)	> 90%	62.5% (5/8)
18	Number and proportion of new PB patients who have developed new disabilities during the course of treatment	0 case	0 case	0 case	0 case	0 case	0 case
		0	0%	0%	0%	0%	0%
19	Number and proportion of new MB patients who have developed new disabilities during the	≤ 1 case	0 case	≤ 1 case	0 case	≤ 1 case	0 case
		(≤ 5%)	0%	(≤ 5%)	0%	(≤ 5%)	0%

	course of treatment						
20	Number of cases treated (new and retreatment) having developed leprosy reactions during treatment	≤ 3 cases	0 case	≤ 3 cases	0 case	≤ 3 cases	0 case
21	Number and proportion of retreatment cases over the total leprosy cases notified	≤ 10%	7.7 % (1/13)	≤ 10%	22 % (8/37)	≤ 10%	28 % (11/39)
22	Existence of an association of patients affected by leprosy in the endemic sectors	(2/8)	(2/8)	(2/8)	(2/8)	(2/8)	(2/8)