REPUBLIC OF KENYA

MINISTRY OF HEALTH

2023 ANNUAL REPORT

NATIONAL TUBERCULOSIS, LEPROSY AND LUNG DISEASE PROGRAM

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DIVISION OF TUBERCULOSIS AND OTHER LUNG DISEASES

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EXECUTIVE SUMMARY

Dr. Immaculate Kathure

Ag. Head, Division of Tuberculosis and other Lung Diseases

The world continues to achieve great progress in the fight against tuberculosis with over 75m lives saved since the year 2000. There remain critical challenges to be overcome in order to eliminate the epidemic that are brought needless deaths and suffering to communities. About 50% of the people remain unreached with services. In 2022, an estimated 10.6 million people developed TB with 1.3 million deaths, a reduction from 1.6m in 2021.Kenya has a high burden of TB and HIV-associated TB. While Kenya transitioned from the list of high-burden DRTB countries, DRTB remains a threat that could undermine the gains so far realized.

During the year, efforts were intensified to find and treat people with TB through various initiatives such as active case finding in facilities, targeted outreaches and roll out of cutting-edge diagnostic technologies including X rays with artificial intelligence (AI). As a result, a total of 97,126 people was started on treatment representing a 7.2% increase compared to 2022. During the same period, the estimated number of people with TB was 124000 which means the country achieved 78% treatment coverage. Similarly, it was estimated that 1,200 people had drug resistance TB (DR TB) out of which 706 were diagnosed and started on appropriate second line treatment. Treatment coverage for DR TB is at 58% which is lower compared to the drug susceptible TB. The proportion of children notified compared to adults increased from 11.4% in 2022 to 13.3% in 2023.

In Kenya, TB case detection among PLIHIV as at 50% with sub optimal screening and testing among remarkable HIV testing rates among TB patients at 98% in 2023 with a TB/HIV coinfection rate of 24%. ART initiation among TB/HIV coinfected people was at 98%.

Routine surveillance for drug resistant TB has been limited to high- risk groups including those previously treated for TB. The program working with partners has taken measures to improve universal access to Drug Susceptibility Testing. These efforts include continued strengthening of sample referral network, increased availability of WHO rapid diagnostics such as Truenat and GeneXpert. Plans are in place to deploy newer molecular diagnostic solutions in the coming year to improve access to DST.

For drug resistant TB surveillance, 70% of newly diagnosed pulmonary bacteriologically confirmed TB patients were tested for rifampicin resistance using WHO Recommended Molecular Tests (WRDs) while for previously treated patients it was higher at 73%.

The program will seek to accelerate active case finding to close the detection gap and scale up access for molecular TB diagnosis. Through adoption of shorter, more effective treatments the program will ensure improved quality of care and better treatment outcomes for persons with TB. This will be done in close collaboration with communities affected by TB.

Treatment success rate (TSR) for all forms of TB was 89% (2022 cohort) compared 88% in 2021. TSR among TB/HIV coinfected patients was 84% compared 89% among HIV negative TB patients. Treatment success rate for DR TB cases 2021 cohort was at 78%.

The country intensified implementation of TB preventive therapy during the period under review targeting high risks groups that include; people living with HIV, all household contacts of people with pulmonary TB and other risk groups (Health care workers, Prisoners and clinical at-risk groups). During 2023, there were 113,355 contacts of bacteriologically confirmed pulmonary TB cases that were reported and were symptomatically screened for TB disease. Despite this, there remains sub optimal TB screening among contacts. A total of 45,389 contacts (38% of set target) were started on TB Preventive Therapy.

There was a drop in the number of leprosy cases notified from 116 in 2022 to 77 in 2023. Leprosy remains a challenge in endemic counties of the Coast, Nyanza, Western and parts of the rift valley. The low notification could be due to sub optimal implementation of leprosy case finding and reporting.

The DTLD has expanded access to TB diagnostic and screening services throughout the country through strategic placement of the mWRDs tools after spatial analysis. The diagnostic tools under this engagement included; Ultra cartridge for Xpert testing, installation of Truenat, Chest X-ray/CAD for TB, QuantiFERON test for latent TB diagnosis, LF LAM, and TB-LAMP. Although sample referral systems remain sub-optimal in most parts of the country, the ministry of health worked with partners and the private sector to improve access to testing services. The country finalized a diagnostic network optimization analysis that will guide the future placement of TB diagnostic technologies. Use of Chest X rays with artificial intelligence is the next frontier in early TB diagnosis and the roll out was initiated during the year.

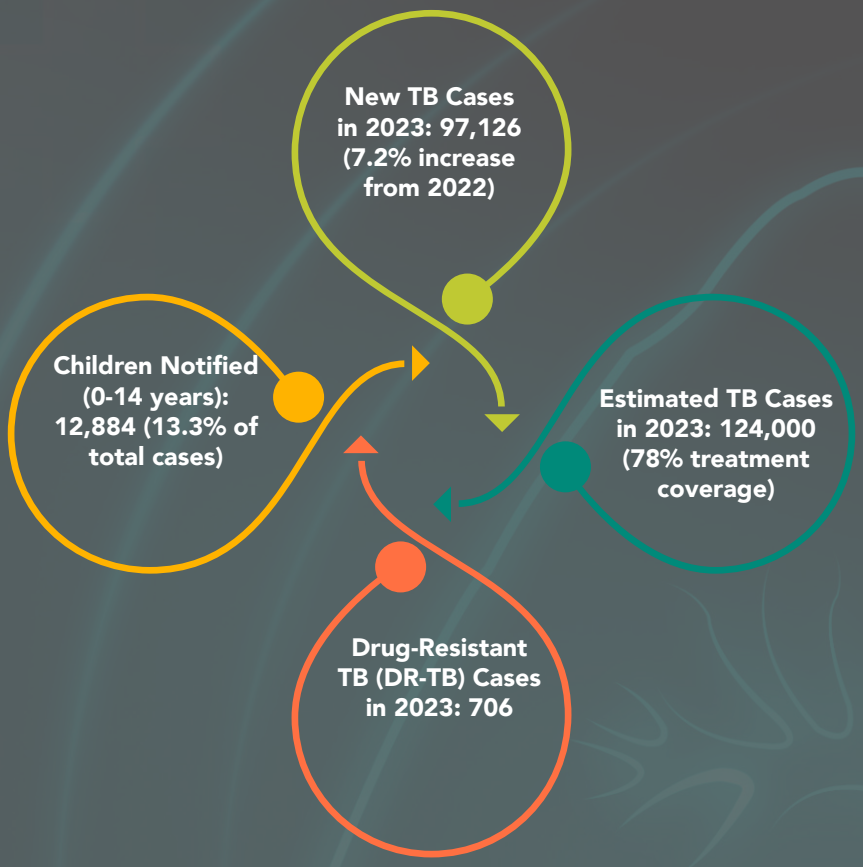
Social support, gender and human rights remain enablers for the acceleration of reduction of TB incidence and mortality. The program through the support of The Global Fund continued to provide Drug Resistant TB (DR TB) clients with cash transfers to support them during treatment. Most of the DR TB patients were also enrolled in NHIF in order to cushion them against catastrophic costs of TB management. With close to 50% of all forms of TB being malnourished, the program continued to provided nutrition support for eligible patients.

The implementation of TB human rights and gender activities is done through a Joint Technical Working Group for TB, HIV, and Malaria. The program working with communities completed data collection of TB stigma index assessment with final report expected in 2024. This was made possible through the support of the global fund.

Funding gap remains a challenge for TB with only Kshs.2.7B realized for implementation against the NSP needs of Ksh 7.22B. This translates to over 60% funding gap. The Funding sources included the government of Kenya (10%), The Global Fund (64%), USAID (25%) and CHAI (1%).

With the start of the new strategic plan 2023/24-2027/28, it is expected that there will be enhanced resource mobilization especially for areas that are traditionally underfunded including, lung health leprosy and research.

Kenya's TB Burden in Summary



- Pediatric TB Cases in 2023: **12,884 (13.3% of total cases)**
- Counties with High Pediatric TB Notifications: **Turkana, Embu, Kilifi, Isiolo, Samburu, Mombasa, Muranga, Lamu, Laikipia (18-29%)**
- Proportion of Male Pediatric Cases: **62%**
- Age Group Distribution: **0-4 years (60%), 5-9 years (17%), 10-14 years (22%)**

- Active Case Finding and AI Technology **Increased detection and treatment**
- People Started on Treatment in 2023: **97,126**
- DR-TB Diagnosed and Treated: **706** out of **1,200 cases**
- Pulmonary TB Cases Tested for Resistance: **New cases (70%), Previously treated (73%)**

- Overall TSR for All TB Forms **(2022 Cohort): 89%**
- TSR for TB/HIV Co-infected Patients: **84%**
- TSR for Drug-Resistant TB **(2021 Cohort): 78%**

- DR-TB Cases in 2023: **706 (7.1% decrease from 2022)**
- Patients with MDR/RR TB: **53% of DR-TB cases**
- DR-TB Treatment **Success Rate (2021 Cohort): 83%**
- Mortality Rate Among DR-TB Patients: **10%**

- HIV Testing Among TB Patients in 2023: **98%**
- TB/HIV Co-infection Rate in 2023: **25% (up from 23% in 2022)**
- ART Uptake Among TB/HIV Co-infected Patients: **98.2%**

- TB Preventive Therapy (TPT) Coverage: **38% of eligible contacts**
- HIV Co-infection Rate Among Pediatric TB: **9.3%**
- Comorbidity with TB: **Asthma, COPD, Drug Abuse Disorders, Cancer, Liver Disease**
- Mortality Rate in TB/HIV Co-infected Patients: **19%**

ACKNOWLEDGEMENT

The National Tuberculosis program annual report has been developed through coordination of the M&E team in the program, valuable support of the program head Dr Immaculate Kathure and all program staff. The writing team was drawn from program staff and partners including CHS TB ARC II, CHAI, AMREF and KOMESHA TB.

The program would like to thank specifically CHS TB ARC II for their financial support for the meeting held to develop this report.

1 EPIDEMIOLOGY OF TUBERCULOSIS AND LEPROSY IN KENYA

DRUG SUSCEPTIBLE TUBERCULOSIS

Drug-sensitive tuberculosis (DSTB) can be successfully treated with standard anti-TB medications. The majority of the DSTB cases were identified through active case-finding efforts and strategic initiatives in the country. These initiatives have helped to ensure that people with drug-sensitive tuberculosis receive timely diagnosis and treatment.

NATIONAL SUMMARY

Kenya notified a total of 97,126 cases of all forms of Tuberculosis in the year 2023 out of the estimated number of 124000 translating to 78% treatment coverage.The cases also increase by 7.2% compared to 2022. Among the notified cases, 8,231 (8.5%) were previously treated.

The country's TB incident cases (new and relapse) were 88,895 which is a case detection rate of 74%, with about 26% of the cases being missed or not notified. The overall case notification rate for the year 2023 was 204/100,000 population1.

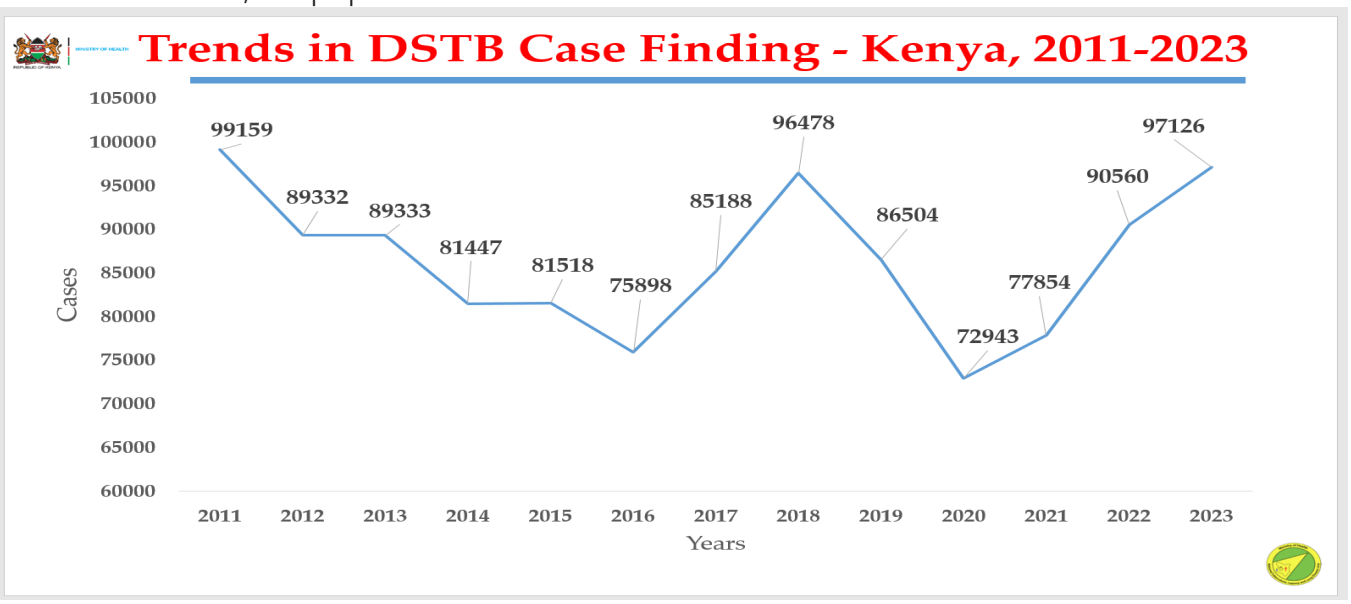


Figure 1: DSTB Case Finding Trends

1 Reference Kenya population projections for 2023

AGE DISTRIBUTION

The age distribution of TB cases in Kenya indicate that children aged 0–14 years accounted for 12,884 cases (13.3%) of the total notified cases. The age group 25 to 44 years bore the highest burden, with 61,390 cases (63%). A total of 58% of the patients who were notified were bacteriologically confirmed.

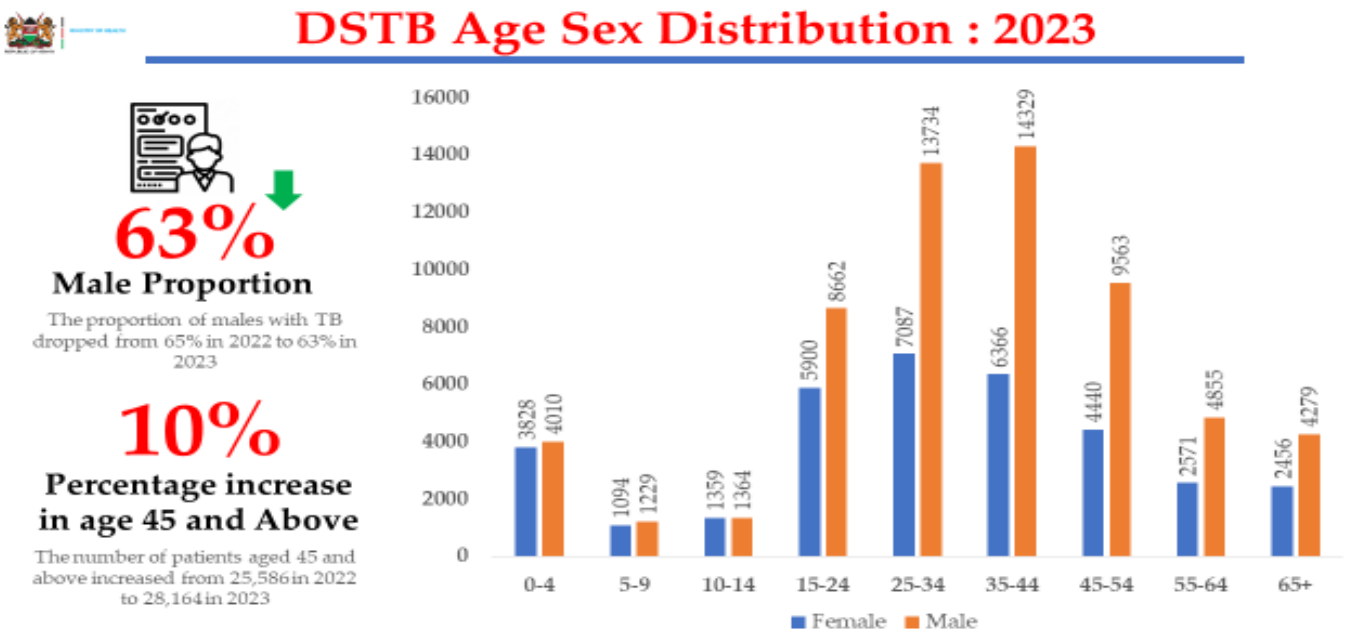


Figure 2: DSTB Age Gender

COUNTY PERFORMANCE

In 2023, the percentage of drug-susceptible tuberculosis (DSTB) cases that were bacteriologically confirmed increased to 56333 (58%), up from 57% in 2022. Nandi County achieved the highest percentage of bacteriologically confirmed DSTB cases at 83% (895) followed by Marsabit and Mandera with 74% (684) and 75% (667) respectively. Other counties that showed improvement included Meru 74% (4180) , Garissa 72% (888), Machakos 72% (2652), Uasin Gishu 72% (1871), Elgeyo Marakwet 72% (635), and Pokot 72% (1624) as shown below.

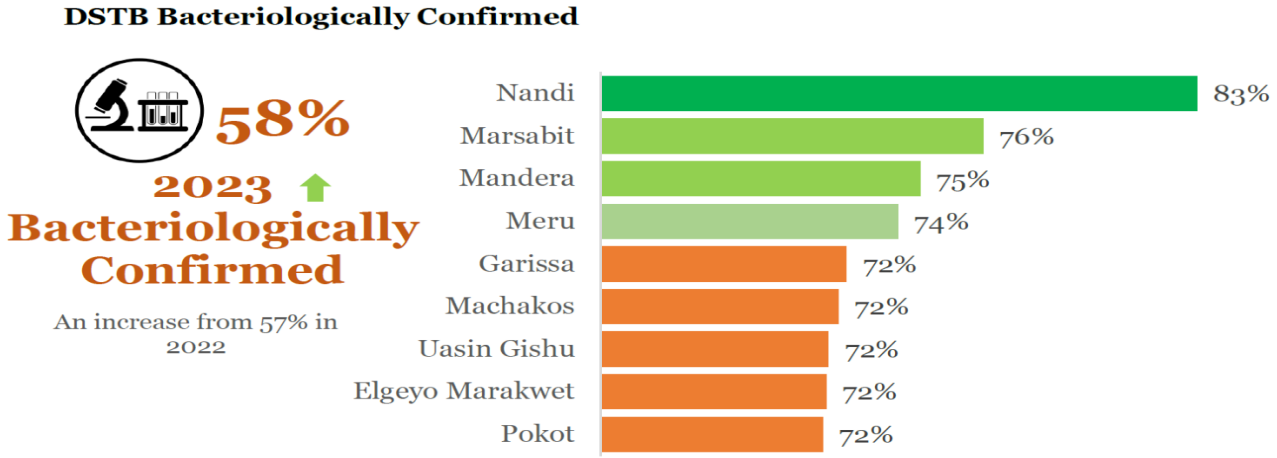


Figure 3: DSTB Bacteriologically Confirmed

DSTB TREATMENT OUTCOMES

The country reported an increase in the treatment success rate (TSR) from 86% in the 2021 cohort to 88% in 2022. Similarly, the cure rate rose from 76% in 2021 to 77% in 2022. The death rate remained at 6% in 2021, while the LTFU rate persisted at 5%. The country faced challenges in terms of mortality and loss to follow-up (LTFU) which might be attributed to severe malnutrition and delay in diagnosis among TB Patient.

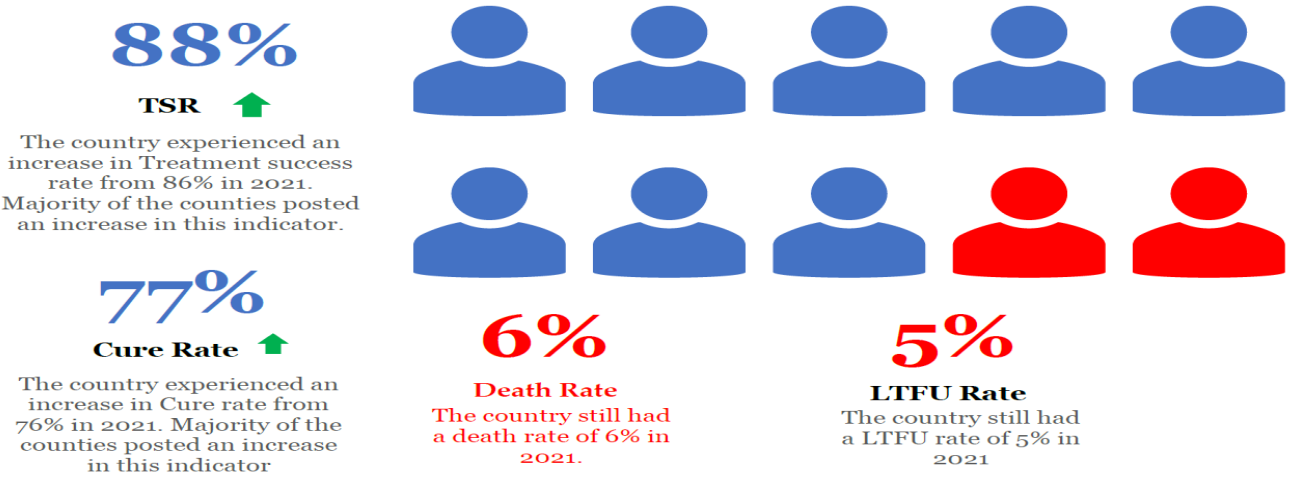


Figure 4: DSTB Outcomes

PEDIATRIC TUBERCULOSIS

The National target for the proportion of pediatric TB cases is 10-15% of the total TB cases notified. In 2023, the country reported 12,884 pediatric TB cases, accounting for 13.3% of all reported cases, which was an improvement from 11.4% in 2022.

The counties of Turkana, Embu, Kilifi, Isiolo, Samburu, Mombasa, Muranga, Lamu, and Laikipia reported a proportion of between 18% to 29%, as shown below.

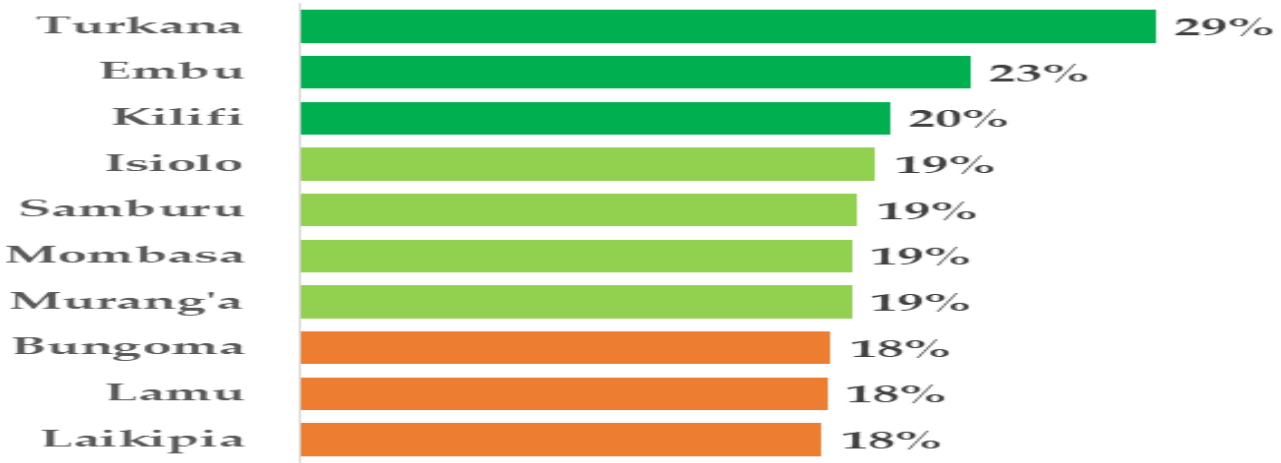


Figure 5 Proportion Of County Pediatric Performance

Most counties increased their pediatric TB case notification to 10% and above compared to 2022. However, the counties of Kitui, Uasin Gishu, Makueni, Nakuru, Machakos, and Nandi had case findings of less than 10% (although all these counties had increased pediatric cases compared to 2022 except Nandi County which had a reduction of pediatric cases from 6% in 2022 to 5% in 2023).The low case finding in some counties could be due to health worker knowledge gaps in screening and diagnosing TB among children.

To improve pediatric case finding in the Country, the program undertook the following activities in 2023;

- A consultant was engaged to support the roll-out of the updated childhood TB guidelines.
- The childhood TB guideline was updated to include the simplified diagnostic algorithm for PTB/EPTB and the short-term treatment regimen for non-severe TB in children aged 1 to 10 years.
- Trained 75 healthcare workers on pediatric TB from the counties of Kilifi, Kwale, West Pokot, Nandi, Machakos, and Makueni.
- Trained 94 TOTs on the simplified diagnostic algorithm and shorter term 4 months' regimen
- Trained 3240 Health care workers on the simplified diagnostic algorithm and the shorter term 4 months' regimen for non-severe TB

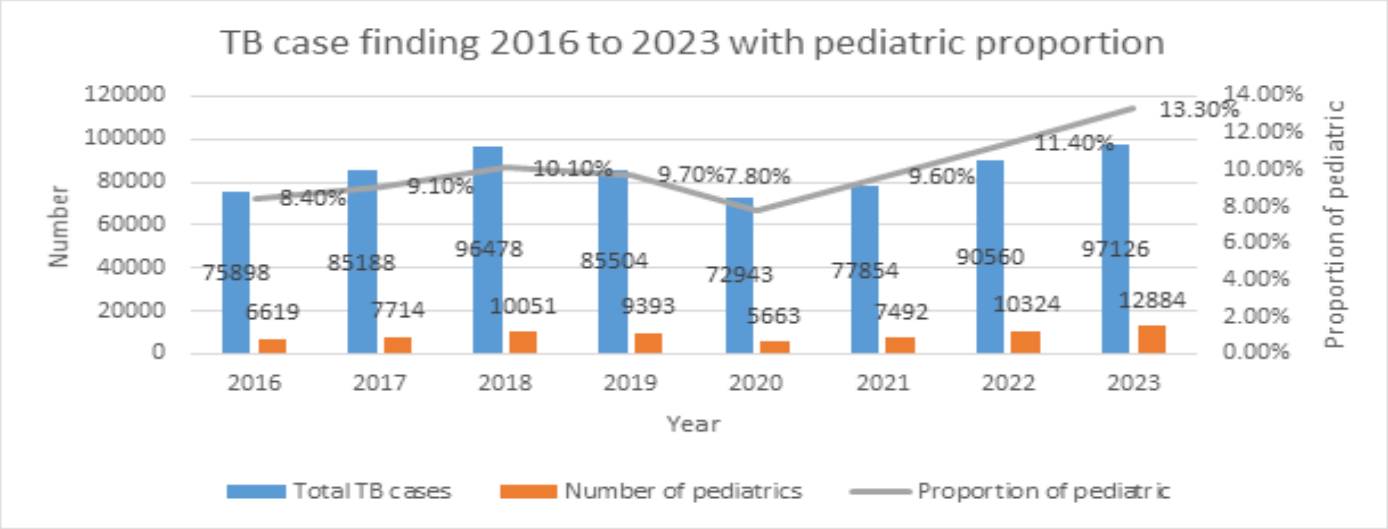


Figure 6: TB Case Finding Trends

CHARACTERISTICS OF PEDIATRIC TB CASES

TB HIV AMONG CHILDREN

In 2023, the HIV coinfection in pediatric TB was 9.3% (1193) out of the 12,884 cases diagnosed with TB which was an improvement from 2022 at 10.4%. The country achieved high ART coverage for children who were TB/HIV co-infected at 98.2%, maintained from 2021.

AGE-SEX DISTRIBUTION

The younger children (0-4 years) contributed 60% (7,839) of the total pediatric TB cases notified while the 5-9 age group contributed 17% and 9-14 contributed 22%. The proportion of male in children was 62% of the total notified pediatric TB cases (Figure:7).

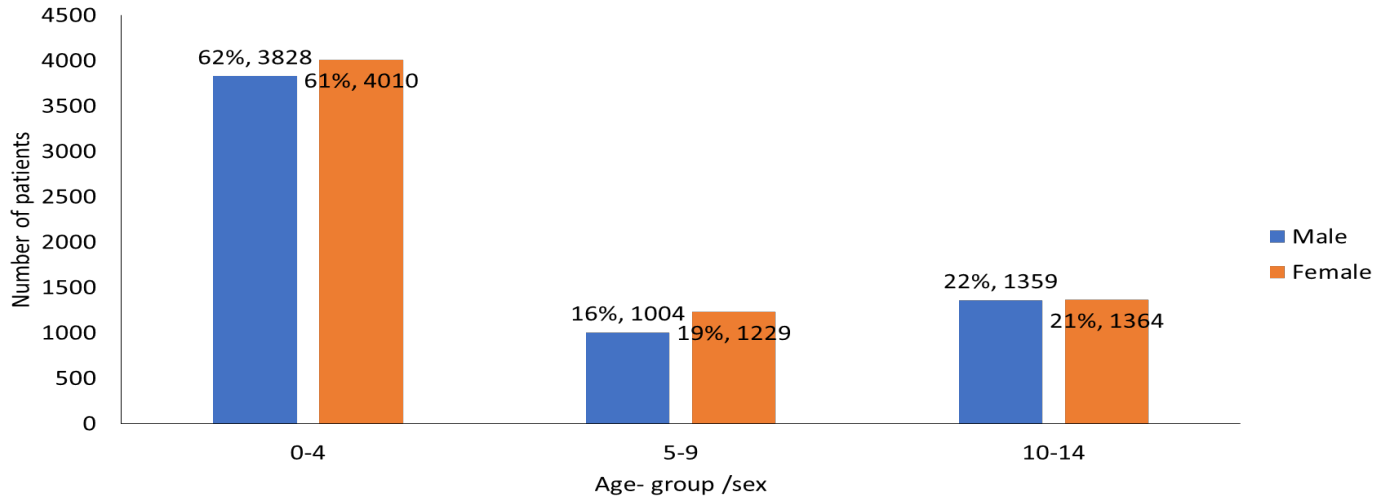


Figure 7: AGE Sex Distribution

TREATMENT OUTCOME

The treatment success rate (TSR) for pediatric TB cases notified in 2022 was 92% which was an improvement from 91% in 2021. The other treatment outcomes per different age groups(Figure:8)

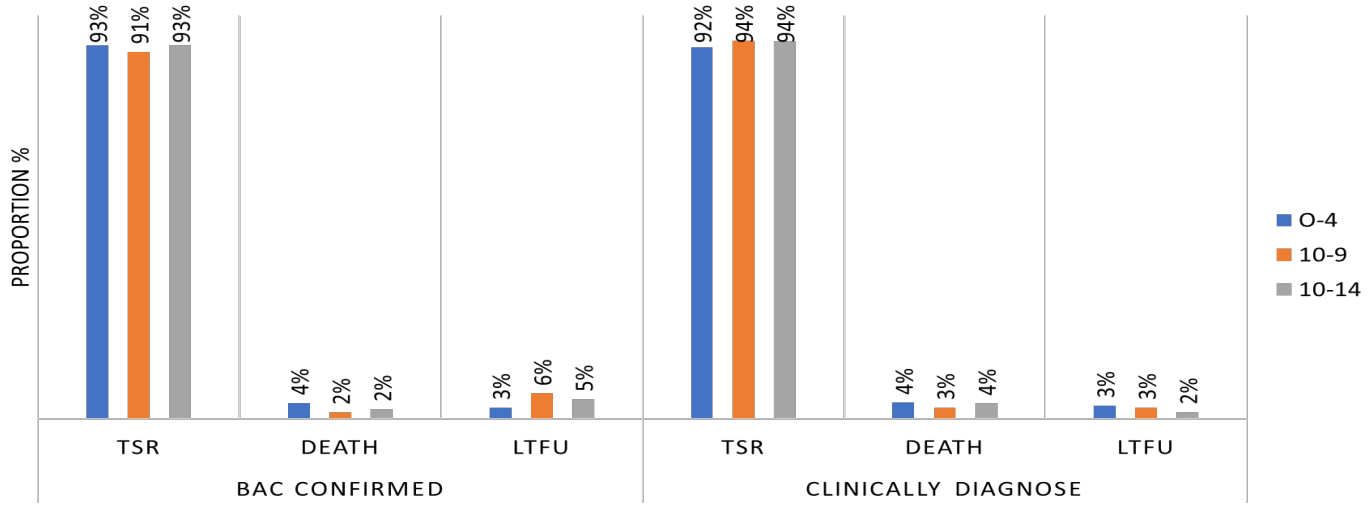


Figure 8: Treatment outcomes

DRUG-RESISTANT TB (DR-TB)

DRUG-RESISTANT TB CASE NOTIFICATION

Trends of DR-TB patients and proportion of pediatrics 2017-2023

The number of DR-TB patients notified has declined steadily from a peak of 957 in 2020 to 706 in 2023. The DR-TB patients notified in 2023 was 706, a 7.1% decrease from 2022. Male patients comprised 73% (513) while those aged 25-44 years contributed to 55% of the total DR-TB patients. There was a low DR TB pediatric case finding of 22 (3%) patients, a 23.1% decrease from the number notified in 2022. The decline in DR-TB case notifications may be due to low Drug-Susceptibility Testing (DST) coverage (53%), primarily due to frequent stock outs of critical laboratory commodities for DST including GeneXpert cartridges, culture, phenotypic DST, and Line Probe Assay (LPA) commodities. Further, suboptimal contact management compounded the low case notification, including inadequate contact listing , screening, and uptake of CXR for all DR-TB contacts, along with insufficient patient follow-up.

The Among the strategies implemented to enhance low case detection include:

- improving access to DST through timely availability of laboratory commodities, and the use of stool Gene-Xpert Ultra for diagnosis of TB in children below 10 years
- Expand the use of chest X-rays (CXR) for screening the contacts of DR-TB contacts, and strengthen healthcare worker (HCW) capacity for early detection and effective management of DR-TB through ongoing training and support.

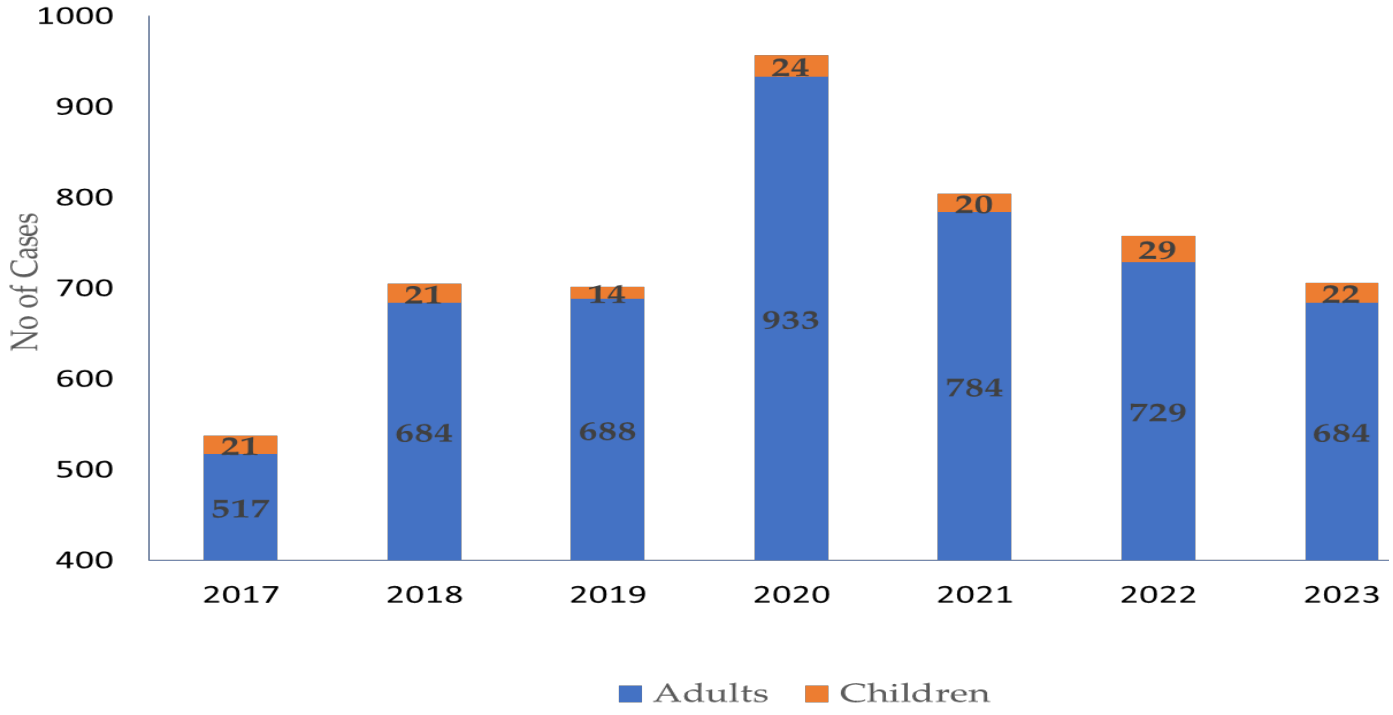


Figure 9: DRTB Case Notification

DR-TB surveillance

DR TB surveillance refers to the systematic monitoring of DR TB which includes drug susceptibility testing for treatment monitoring to manage and control the spread of drug-resistant strains of TB. The WHO recommends universal DST for Rifampicin, among all bacteriologically confirmed drug-sensitive TB patients in Kenya, GeneXpert Ultra and Truenat MTB/RIF are the initial recommended tests for TB detection and rifampicin DST. Additional DST is indicated for the high-risk groups. DST coverage is shown in the table below. DST coverage among new and previously treated patients has increased to 60% from 57%in 2022.

DR-TB surveillance among TB patients in 2023	
New Patients	41.0%
High-risk groups	
Previously treated patients	63.0%
Patients with a positive smear at Month 2	66.9%
Prisoners	64.7%
Refugees	50.8%
The data on DST coverage among healthcare workers, contacts of DR-TB, and individuals who have received TPT is unavailable	

Resistance patterns

Trends of DR-TB cases by resistance pattern 2015 - 2023

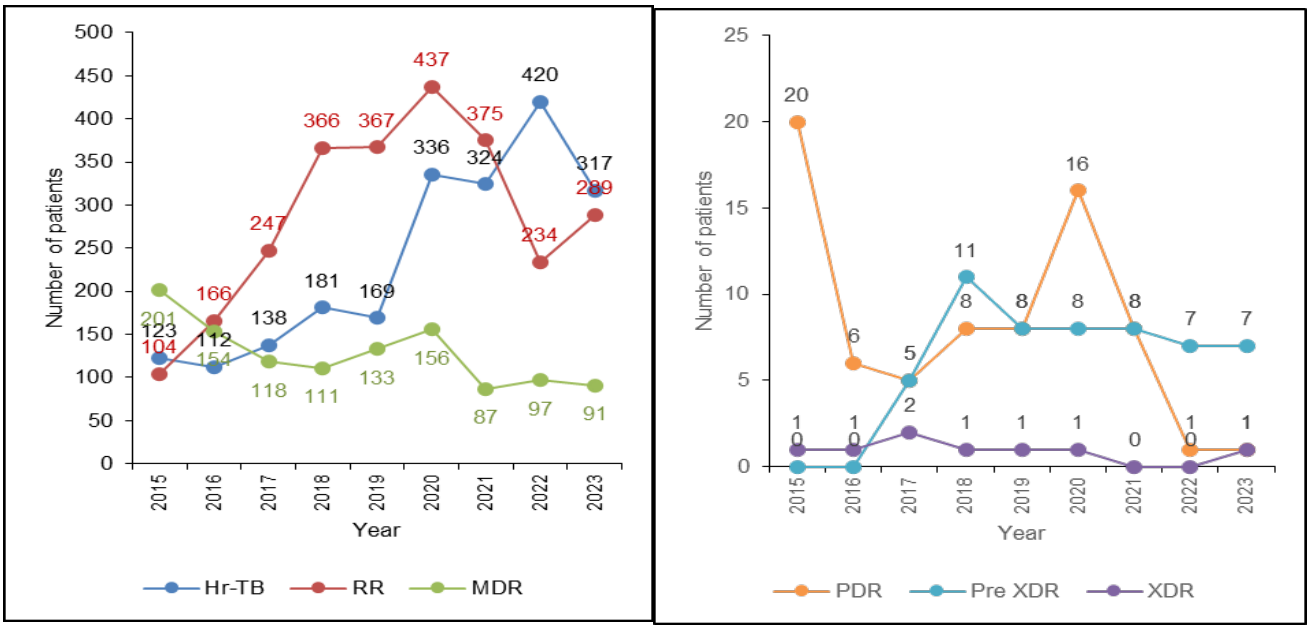


Figure 10: Resistance Pattern

Patients with MDR/RR TB comprised 53% (706) of the total number of DR TB patients notified. The number of patients with isoniazid mono-resistant TB declined by 25% compared to 2022. One (1) patient was diagnosed with XDR TB in Nairobi. This marks the second consecutive year in which a patient with XDR TB was diagnosed. The emergence and persistence of XDR TB pose a major public health challenge due to the limited drug options available, long-term complications, and direct and indirect health costs to the patients and health systems.

Treatment outcomes

The treatment success rate (TSR) was 83% among the 784 patients notified in 2021, an increase from 81% in the 2020 cohort. TSR was notably lower in patients with moderate acute malnutrition (MAM) at 83% and severe acute malnutrition (SAM) at 72%. TSR among the HIV co-infected was also low at 76%, despite the commendable increase in HIV testing rates among DR TB patients from 96% in 2022 to 97% in 2023. The HIV co-infection rate stood at 23%, while antiretroviral therapy (ART) coverage was 97% among those diagnosed with HIV, indicating a strong response to co-infection management.

The overall proportion of patients lost to follow-up (LTFU) was 4% (32 patients), which was comparatively lower at 3% among those co-infected with HIV, SAM, and MAM. Although the proportion of LTFU remained within the national target, the number of patients affected is still significant.The overall mortality rate remained high at 10%, this was higher among the patients with comorbidities; HIV-co-infected patients at 19%, the MAM at 12% and SAM at 23%

Timely availability and initiation on second-line drugs (SLD) medicines for DR-TB patients are crucial to improving treatment outcomes and controlling the spread of DR TB. In 2023, there was a delay of 2-4 weeks in treatment initiation of second-line drugs (SLD) medicines for DR-TB patients.. To improve on the treatment outcomes for DR-TB patients, have been planned for implementation in 2024, include strengthening healthcare worker (HCW) capacity for early detection and quality management, ensuring monthly clinical review meetings for DR-TB patients, and improving the overall quality of care for all TB patients through a multidisciplinary approach. This approach can help improve patient adherence to treatment plans, prevent unfavorable outcomes, manage adverse drug reactions, and reduce the emergence of even more difficult-to-treat strains of TB.

The quality of case-based data in TIBU remains a major challenge including data on follow-up, treatment

regimens, and post-treatment complications. This limited the ability to effectively monitor, evaluate, and improve the Programmatic Management of DR-TB (PMDT). this led to inefficiencies, missed opportunities, and potential public health risks.

Activities conducted in 2023

- PMDT Guideline review workshop - Two workshops to incorporate the updated WHO guidelines on new diagnostics, resistance pattern definitions, treatment outcomes, shorted regimens including BPaL(M) for adults and 9-to-12-month regimens for children – USAID TB ARC II
- Training of HCWs
    - DR-TB training of 100 HCWs from 8 counties – GF supported
    - DR-TB training in Kisii county - LVCT
    - USAID TB ARC II – provided technical support in training HCWs on DR-TB in Kisii County
- DR-TB TA missions
    - USAID TB ARC II supported DR-TB TA in 3 high burden counties
    - Support for hematology and biochemistry tests for DR-TB patients at baseline – Supported for all DR-TB patients through USAID TB ARC II
    - Support for ECGs for eligible DR-TB patients in the 11 counties supported by USAID TB ARC II

TB/HIV AND OTHER COMORBIDITIES

HIV infection is one of the risk factors associated with the development of TB in both children and adults. Further, TB disease can lead to rapid progression of HIV in patients not on treatment, thus the need for a comprehensive approach to the management of TB and HIV.

HIV testing among TB patients

Kenya achieved an overall HIV testing rate of 98% among all notified TB cases in 2023, compared to 93% in 2022. Kirinyaga, Kwale, Mandera and Nyandarua achieved 100% testing rate, a result of intensified screening efforts. Counties with the lowest testing rates were Marsabit and Isiolo at 86% and 53% respectively.

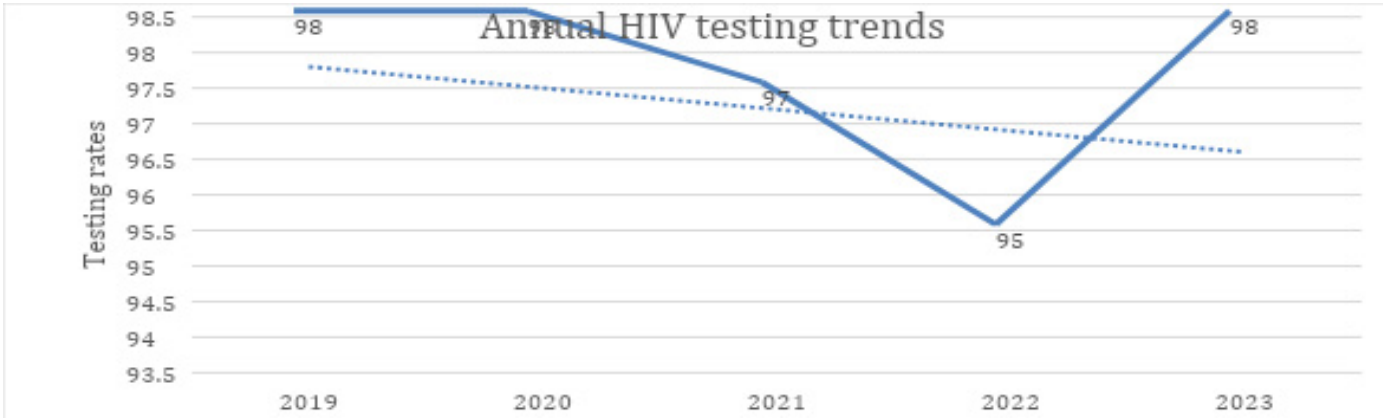


Figure 11: HIV Testing among TB patients in Kenya 2019-2023

The graph depicts the trend in HIV testing coverage over the last four years. While there may be various reasons for this trend, it highlights the need for continued efforts to ensure that all TB patients are tested for HIV.

TB/HIV coinfection and ART uptake

The country reported a co infection rate of 25% in 2023, an increase from 23% in 2022, with Kisumu, Homabay, Siaya and Busia having the highest co-infection rates at 57%, 53%, 52%, and 40% respectively, indicating need to intensify TB/HIV collaborative activities. Low co-infection rates were reported in counties of Baringo 14%, Mandera 3%, and Wajir 1%. The highest ART uptake was recorded in 2023 at 98.2%, compared to 97% in 2022, this high uptake has been maintained from 2019 to 2023. In 2022, among TB patients with comorbidities, the highest loss to follow-up (LTFU) rates were observed for those with asthma (12%), COPD (12%), and drug abuse disorders (12%). The highest death rates were reported for patients with cancer (50%) and liver disease (45%). The highest treatment success rates were seen in patients with smoking (83%), alcoholism (80%), and asthma (80%), despite the high LTFU rate for asthma.

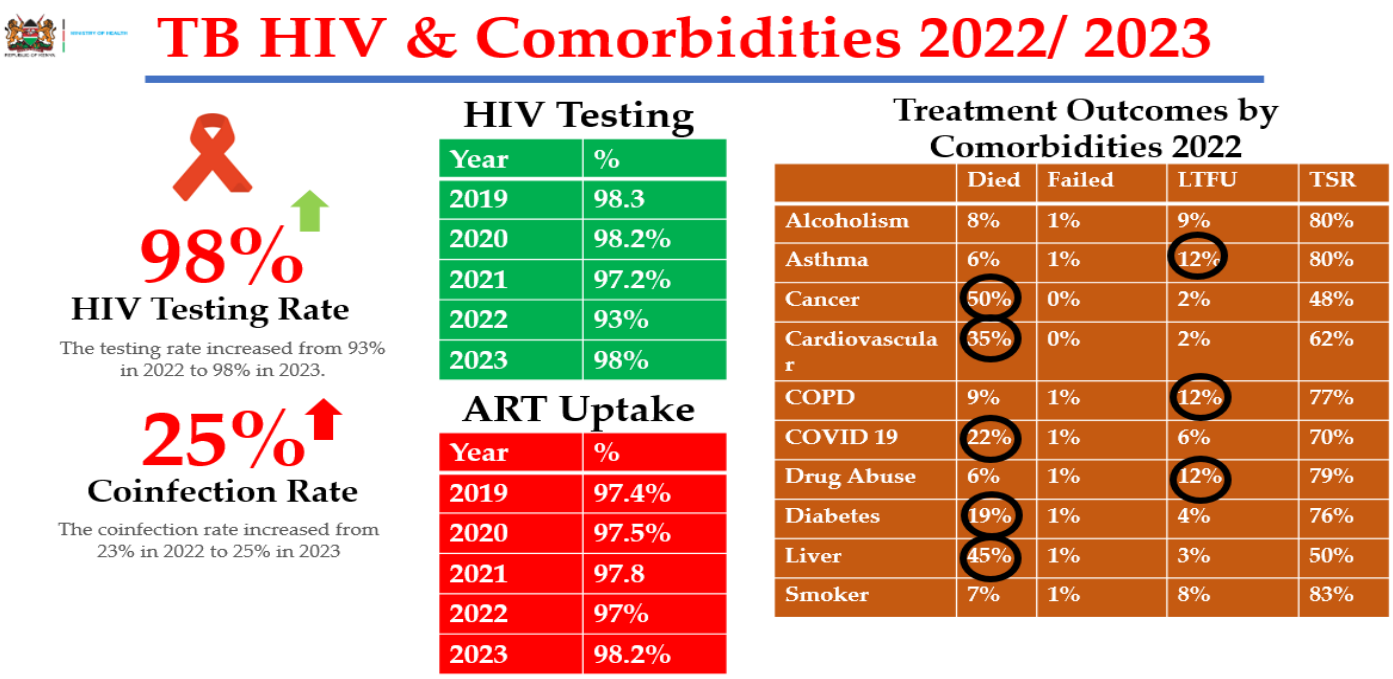


Figure 12: TB HIV and Comorbidities 2022/2023

Treatment outcomes in TB/HIV co-infected patients

In 2021, the country achieved a treatment success rate of 76% among HIV-positive TB patients. The cure rate was 63% and the mortality rate of 19%. Loss to follow-up was low at 3% among the TB HIV co-infected.

TB Preventive therapy/ Latent TB Infection

TB Prevention is a key intervention to ensure that the Country achieves the goal of ending TB by 2035, which is to reach 90% of the eligible population, including; people living with HIV, all household contacts of people with Bacteriologically confirmed pulmonary tuberculosis and other risk groups (Health care workers, Prisoners, and other clinical at-risk groups). Tuberculosis Preventive Therapy (TPT) prevents tuberculosis (TB) infection progression to TB disease, and is critical to reduce TB incidence.

Kenya adopted the WHO's TB prevention recommendations in 2020 to include TPT, three months' weekly doses of Rifapentine plus Isoniazid (3HP) and Rifampicin plus Isoniazid daily for three months. The roll out to all 47 counties was achieved in 2023. TPT is provided to the eligible populations that includes PLHIVs, all Household contacts, Health care workers, prisoners and other clinical risk groups (such as patients undergoing dialysis, cancer patients). The uptake of TPT per indication in 2023 is as indicated below:

TPT Indication	Number	%
Health Care workers	6252	4%
Household Contacts	38131	23%
Other Clinical Risk Groups	367	0.2%
PLHIV	122076	73%
Prisoner & Prison staff	1150	1%
Total	**167976**	**100%**

The chart below shows the distribution of patients by regimen use in 2023 for all populations.

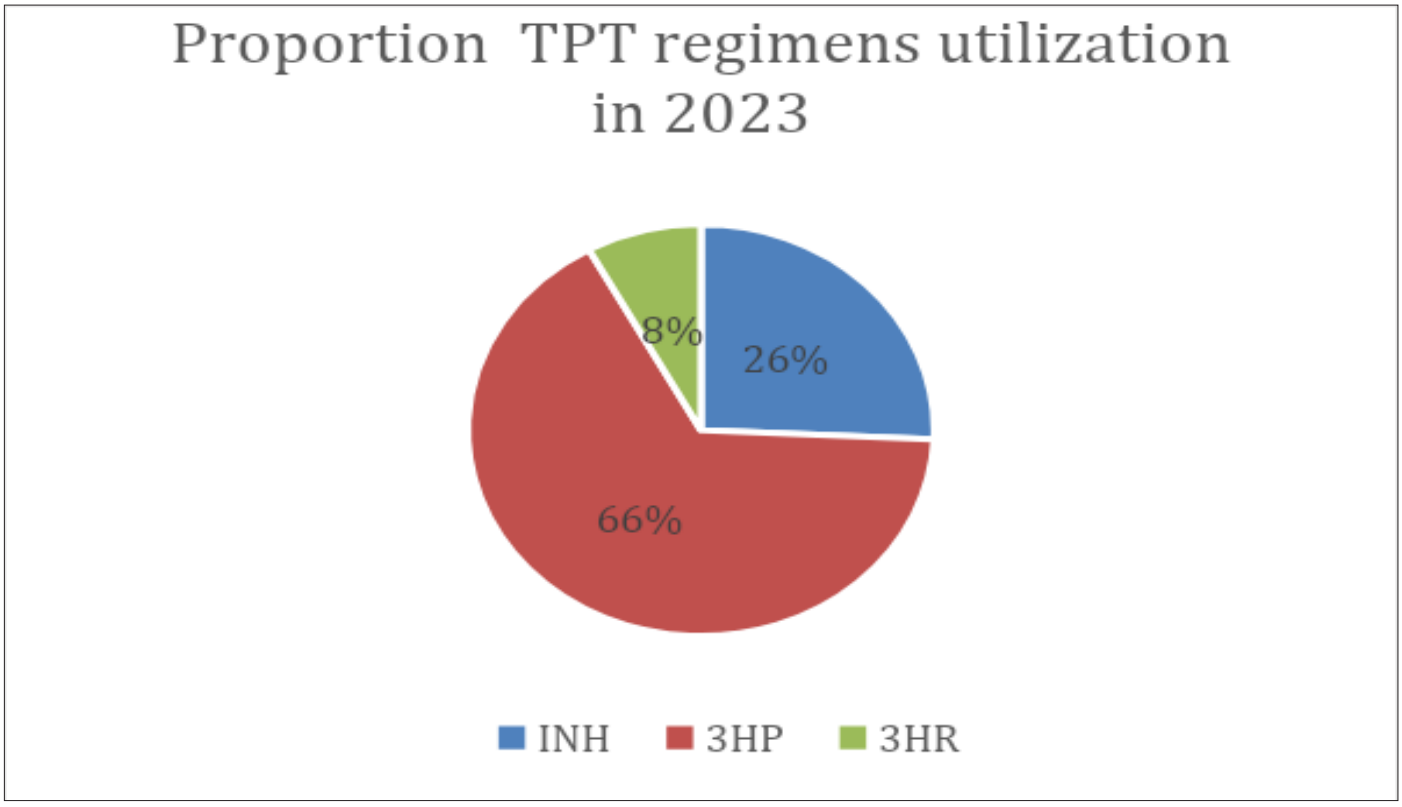


Figure 13: TPT Regimen Utilization

TB PREVENTIVE THERAPY: OVERALL STATUS OF PROGRESS

People Living with HIV (PLHIVs)

The guidelines recommend all adults living with HIV aged 15 years and above whose TB infection is ruled out to be initiated on 3HP while children below the age of 15 years to be Initiated on Isoniazid for six months (6H). In 2023, a total of 122,076 of PLHIVs were started on TPT of which ≥15 years were 115,903 (95%) and ≤15 years 6,173 (5%). This pushed the coverage of TPT among PLHIVs from 88% in 2022 to 94% in 2023.

Household contacts

Household contacts for Bacteriologically confirmed pulmonary TB patients were screened for TB and those asymptomatic started on TPT, the target being at least 3 contacts per index case. The average size of the Kenyan household is 3.9 indicating for every index case there are three contacts to be screened for TB and put on TPT. In 2023, the country reported 56,333 (58%) active TB cases that were bacteriologically confirmed and 37,684 household contacts to the index cases were put on TPT, adults were 24,387(64.7%) while children were 13,297(35.3%).

TPT treatment outcomes for household contactsThe completion rate was an improvement from that of 2021 which was at 85% to 90% in 2022. This was likely due to the introduction of the shorter TPT regimens hence better adherence and completion. In addition, there was marked improvement in those not evaluated from 14% in 2021 to 8% in 2022.

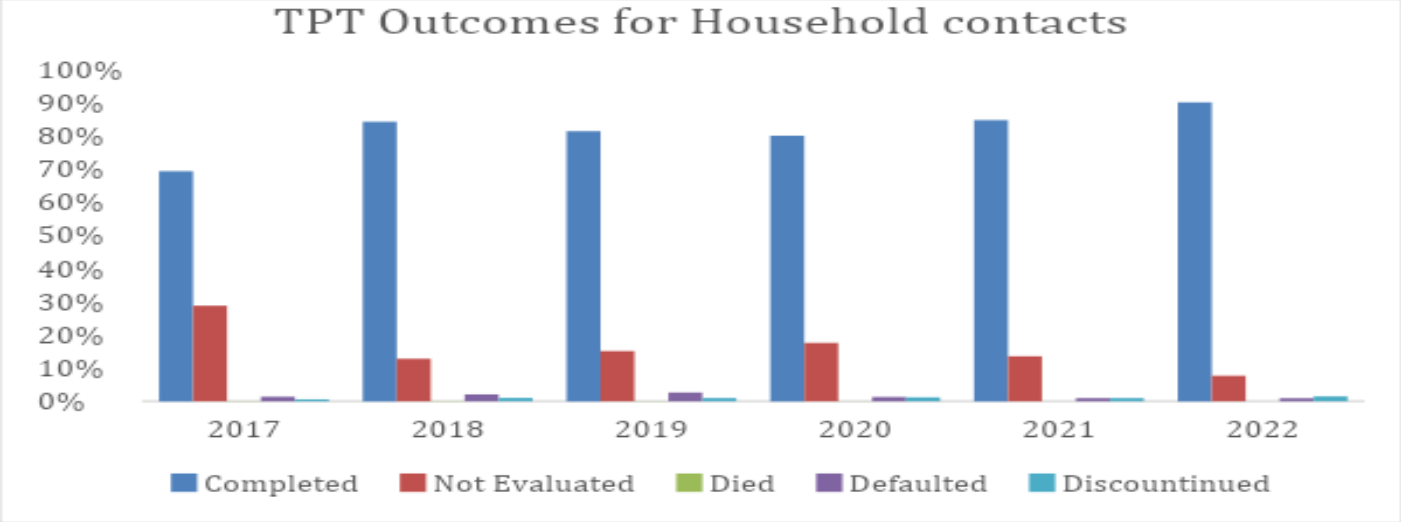


Figure 14: TPT outcomes for household contacts 2017-2022

Health care workers

In 2023, a total of 6,179 health care workers were screened for TB and notified in TIBU and 6,100 (99%) were asymptomatic and started on TPT while 79 (1%) were symptomatic and investigated for active TB. Evaluation of outcomes in 2023 for HCW initiated on TPT in the year 2022that 89% completed treatment, 1% were lost to follow up and 7 % not determined.

LEPROSY

Background information on leprosy

Leprosy is a chronic infectious disease caused by a bacillus, Mycobacterium leprae. The bacterium multiplies slowly and the incubation period of the disease, on average, is 5 years. Symptoms may occur within 1 year but can also take as long as 20 years or more. It mainly affects the skin and the peripheral nerves, resulting in neuropathy and associated long-term consequences, including deformities and disability. The disease is curable with multidrug therapy.

Leprosy is likely transmitted via inhalation of droplets containing M. Leprae, from the nose and mouth, during close and frequent contact with untreated cases. Untreated, leprosy can cause progressive and permanent damage to the skin, nerves, limbs, and eyes.

Leprosy case finding data progress

Kenya has successfully eliminated leprosy (defined as point prevalence below 1 per 10,000 population) in 1989. However, the number of new patients diagnosed with the disease is still significant. There were 77 leprosy cases detected in 2023 from 16 counties as indicated on the graph below (Table 1). This was a 33.6% decrease as compared to the number of cases notified in 2022 (116 cases) (dashboard.nltp.co.ke). The proportion of patients with Multi bacillary (MB) type of leprosy in the year was 91%, which was a slight increase as compared to 2022 that was 84%.

County	Case Notified	County	Case Notified	County	Case Notified	County	Case Notified
Kilifi	26	Kisumu	7	Kitui	2	Garissa	1
H.Bay	11	Bungoma	3	Lamu	1	Kiambu	1
Busia	10	Mombasa	2	Siaya	1	Nakuru	1
Kwale	7	Turkana	2	Pokot	1	Nyamira	1

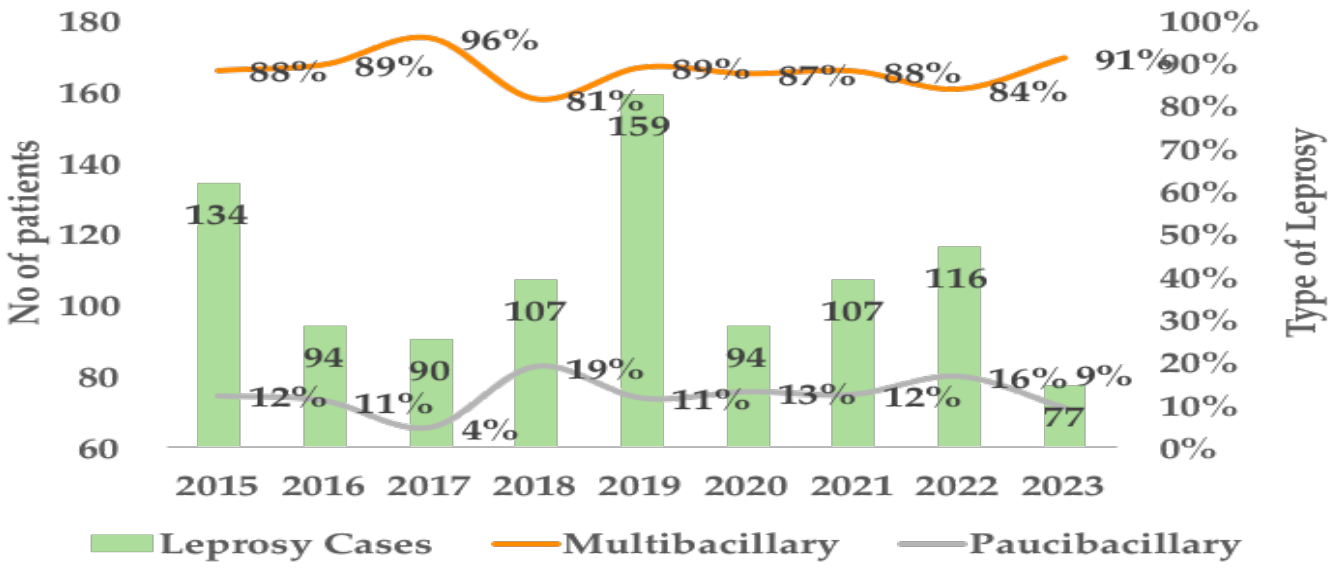


Figure 15: Trend of total of cases and the types of leprosy notified

Disability Grading

Assessment for impairment using WHO disability grading (DG) was done for 49% of all notified cases in 2023, with 27% of patients having disability grade 1 and 22% having grade 2 disability (figure 2). There was a slight increase (2%) in grade 2 disabilities as compared to 2022. There is a need to continue sensitization to healthcare workers and awareness creation at the community level to improve health-seeking behavior by the patients and early diagnosis of leprosy.

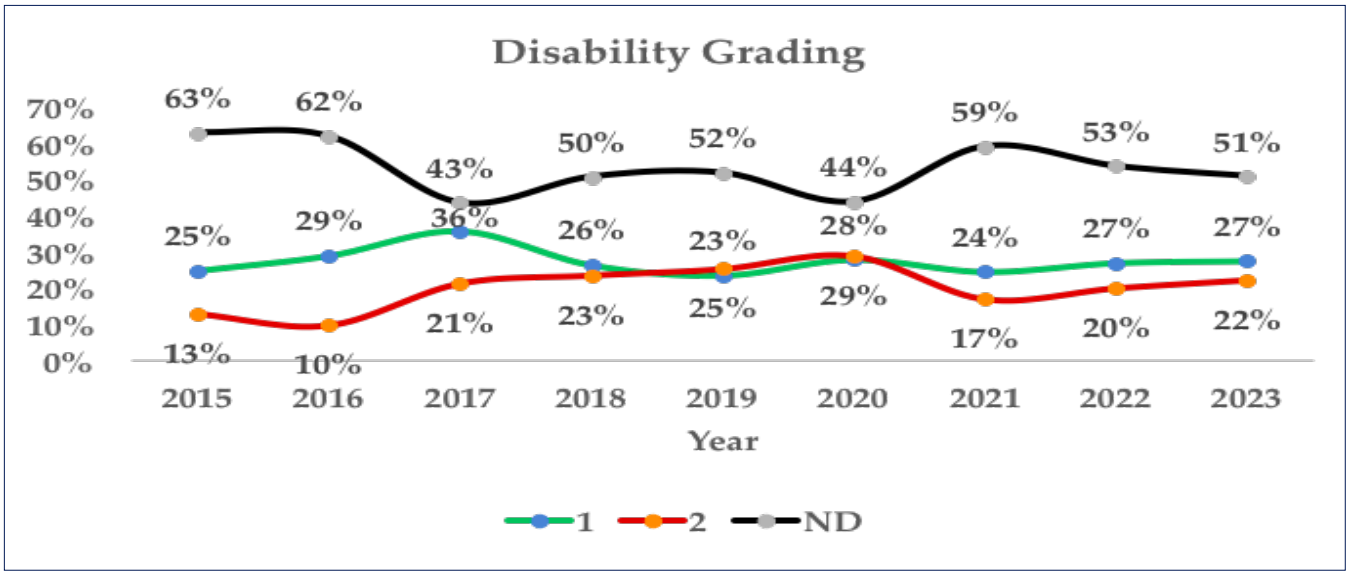


Figure 16. The trend of disability grades among leprosy cases

Treatment outcomes

Review of treatment outcomes for the 116 patients who were initiated on leprosy treatment in 2022, 82% of cases were released from treatment successfully, 1% were lost to follow-up, 1% died, and 3% were not evaluated for treatment completions.

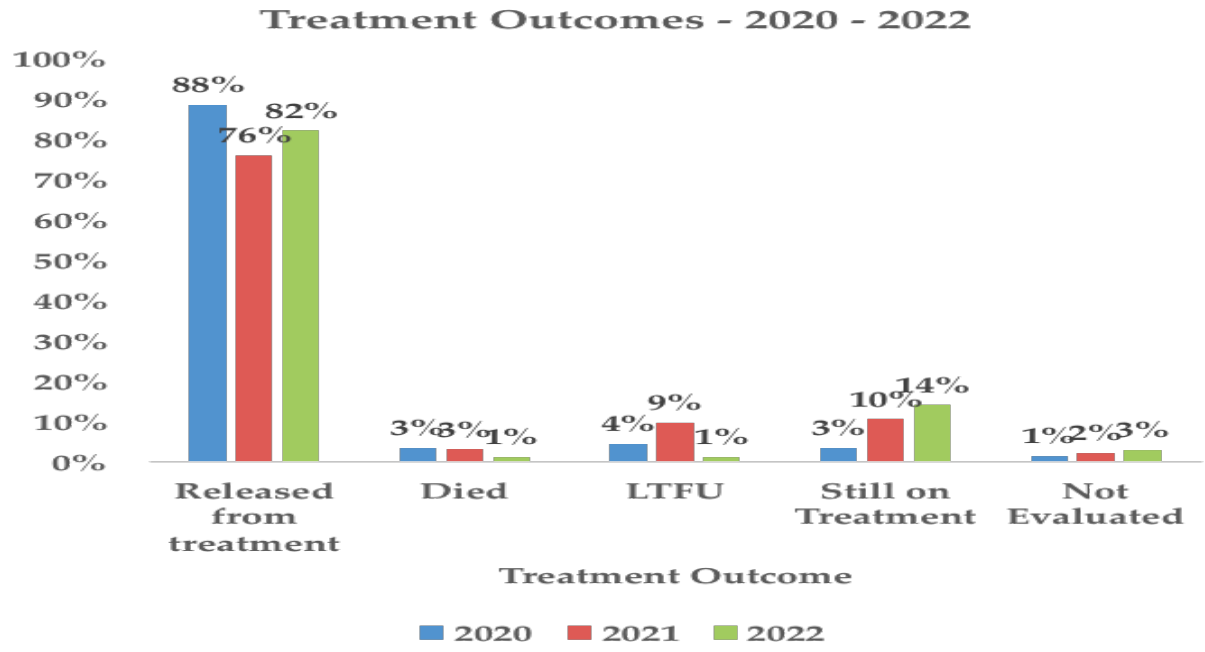


Figure 17: Treatment Outcomes

Leprosy Reactions (LRs)

The presence of leprosy reactions (LRs) was assessed in all the cases under review and 21% of all patients were found to exhibit reactional episode, 14% with Reversal Reaction (RR), and 7% exhibited erythema nodosum leprosum (ENL)

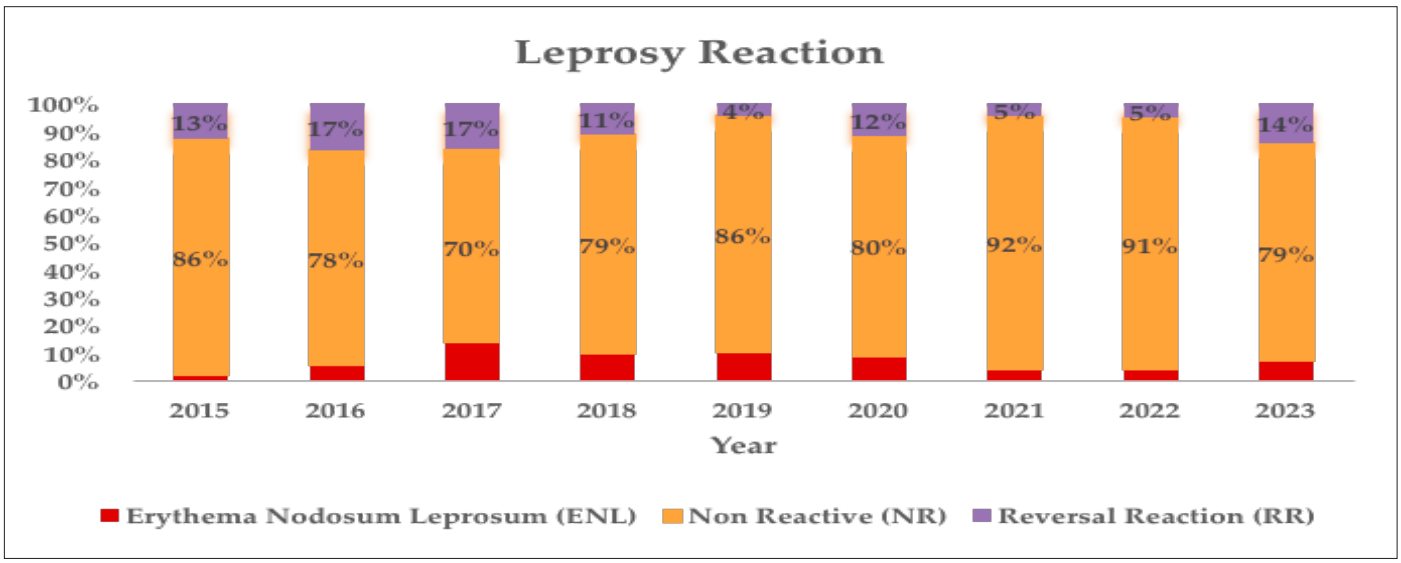


Figure 18: Leprosy Reaction

TB COVID BIDIRECTIONAL SCREENING

Background

In 2022 the TB program developed and launched the integrated TB and COVID-19 guidelines for use in clinical settings. This was intended to strengthen bi-directional screening for the two diseases; TB and Covid conditions that have similarities in some symptoms, transmission patterns, and risk factors for poor outcomes. In addition, all counties were sensitized. In 2023 through support from CHAI, the program had one workshop to review the interim guidelines to include Covid 19 therapeutics.

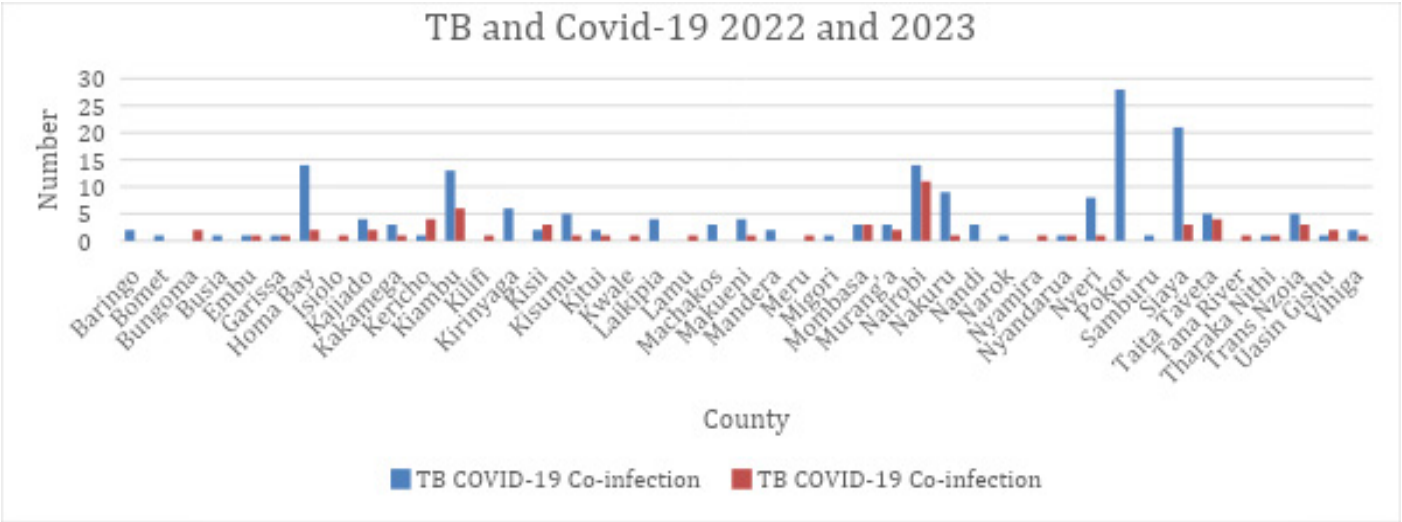


Figure 19: TB and COVID -19 2022 and 2023

During the year 2023, a total of 25,947 clients were screened for both TB and Covid-19 and 15,769 were screened for covid-19 only and a total of 65 patients were diagnosed with both TB and COVID-19 compared to 176 in 2022. A total of 31 counties reported at least 1 case of dual infection of both TB and Covid-19 in 2023 compared to 34 counties in 2022.

Nairobi reported the highest number of Covid-19 in 2023 who reported 11 patients with both diseases followed by Kiambu which reported 6 cases with both TB and Covid-19 as shown in the graph

The treatment outcome for patient with TB and Covid-19 were lower than the national average with TSR of 70%, failure rate of 10%and LTFU of 6%

Performance of the ACF care cascade 2020–2023

Indicator	2020		2021		2022		2023	
	n	%	n	%	n	%	n	%
Workload	68,234,948	N/A	79,481,469	N/A	73,221,107	N/A	99,726,833	N/A
Respiratory conditions	18,147,117	N/A	25,938,025	N/A	21,622,286	N/A	24,237,343	N/A
Screened for TB	15,203,738	22	18,239,923	23	25,253,561	34	32,071,871	32
Presumptive TB cases identified	460,491	3	499,381	2.7	812,882	3.2	841,501	3
Presumptive TB cases investigated for TB	273,769	59	245,902	49	502,970	62	509,419	61
Total presumptive cases confirmed to have TB	27,935	6	26,443	5	41,733	8	50,936	10
Presumptive cases clinically diagnosed to have TB	8,580	31	8,347	32	13,331	32	17,182	34
presumptive cases bacteriologically confirmed to have TB	19,355	69	18,096	68	28,402	68	33,754	66
Confirmed TB cases started on treatment	25,511	91	24,414	92	39,738	95	47,366	93
Presumptive cases referred by CHV	23,402		14,020		22,952		27,100	

STRATEGIES FOR FINDING MISSING PEOPLE WITH TB

2

ACTIVE CASE FINDING (ACF)

Background

Active case finding (ACF) is the systematic identification of persons with respiratory symptoms that suggest TB from a predetermined target group/population by doing symptomatic screening, detailed history taking, physical examinations, and further laboratory and/or radiological investigations to diagnose TB. The NSP 2023/24-2027/28 is committed to patient-centered quality care, grounded in an evidence-based priority setting and planning approach that allocates resources to the identified and validated best practices along the patient pathway to quality care. Patients presenting to any health service delivery point (SDP) are symptomatically screened for TB. Other TB screening options, such as digital X-rays with AI /chest radiographs (CXR), are necessary for particular patient groups, such as children and PLHIV, as recommended in the diagnostic algorithms.

There have been gains and lessons learned in the case-finding initiatives, while some challenges and lessons have been realized. The key challenge among these identified by the ACF mission in 2019 was the inefficiency of ACF activities. Quality improvement is a mainstay in improving key indicator outcomes in TB response; the program is currently implemented in 10 counties and continuously learns from QI for the HIV program, which is more established.

To respond to gaps revealed during the 2016 prevalence survey, the TB program continues to strengthen the implementation of strategic initiatives to find the missing people with TB. The Kenya Innovation Challenge TB Fund (KIC-TB) is one of the Global Fund-supported strategic initiatives that aims to find the missing people with TB in the community using innovative approaches and link them to diagnosis and treatment. Other strategic initiatives include Public Private Mix (PPM) and contact management. PPM collaborations contribute to ongoing efforts to enhance and broaden the involvement of the private sector in combating TB. The current approaches to engaging private providers are outlined in the PPM Action Plan 2021-2023, which delineates the goals, objectives, and actions aimed at expanding and amplifying existing PPM initiatives nationwide.

ACTIVE CASE FINDING AT THE HEALTH FACILITY LEVEL

In 2023, the NTP continued with intensified efforts toward case finding in health facilities. There was an increase in cases notified in 2023 compared to 2022 by 6.9%

Achievement

Mentorship and support supervision: During the year, counties benefited from the facility-specific ACF mentorship and supervision. These were integrated into the routine TA missions to counties.

Sensitization of health care workers: To address the knowledge gap among HCWs and hence get their buy-in and ownership on TB screening, 6513 health care workers were sensitized/re-sensitized on ACF from 501 health facilities across the 29 counties in 2023.

ACF cascade: The ACF is monitored based on performance indicators across the cascade of care for patients. The table below summarizes trends in achievement from 2020 - 2023.

Since integrating ACF indicators into TIBU, there has been a surge in reporting from the counties, leading to nearly comprehensive documentation from 2020 to 2023. However, there was a notable uptick in reporting workload in 2022 and 2023, which could partially account for some of the fluctuations in the cascade. As indicated in the table above, there was a slight decrease of 3% in presumptive identifications in 2023 compared to 3.2% in 2022, largely attributed to the increased workload. Despite this, the ACF cascade indicators still fall below the anticipated target, emphasizing the necessity for quality improvement strategies, particularly concerning the reporting of ACF cascade data into TIBU.

PROGRAM QUALITY AND EFFICIENCY (PQE) IN ACTIVE CASE FINDING.

To align with the Kenya Quality Model for Health, the National Tuberculosis, Leprosy, and Lung Disease Program (NTLDP) has adopted the program quality and efficiency (PQE) approach for locating individuals with TB in healthcare facilities. The primary objective of implementing PQE in Active Case Finding (ACF) is to enhance TB case detection by institutionalizing the PQE model within health facilities across Kenya. To enable this, the program initially developed the PQE ACF handbook and the Quality Improvement (QI) framework. Subsequently, the program prioritized enhancing the capacity of stakeholders at various levels to ensure their active participation and ownership. Initially, implementation was focused on 10 counties, comprising 250 facilities, before expanding to the rest of the counties. After successfully conducting TOT PQE sensitization for national program officers, partners, and CTLCs (10 PQE counties), SCTLCs, mentors/coaches, and facility HCWs in 2022, some of the activities carried out in 2023 included:

i) Facility review meetings and quarterly mentorship

Mentorship is conducted by QI coaches/mentors supporting the WIT and QIT at the facility level. To track progress on the implementation of facility-based active case finding by utilizing facility quality improvement approaches, meetings were held every month at the PQE facilities. Mentorship at the facility was supported through NTP every quarter, while Amref, through the sub-recipients, supported 746 quality improvement meetings in 223 health facilities.

Linkage assistants receive a monthly stipend to aid in facilitating ACF processes within health facilities, connecting clients in need of TB services with different departments. On average, 548 linkage assistants were supported each month in 2023 across counties.

ii) PQE ACF Experience sharing forum

The PQE-ACF Experience sharing provides a brief on the pilot activities towards integrating the utilization of quality improvement principles in enhancing TB case finding at the health facility. Facility-based Quality Improvement Teams (QITs) were capacity-built to implement TB-ACF through the quality improvement cycle. A team of quality improvement coaches at the national and county levels provided the QITs with continuous mentorship through Technical Assistance (TA) missions conducted by the national PQE-ACF task force team and quarterly mentorship by the PQE coaches/mentors from the counties. Representatives from these implementing facilities converged in March 2023 to enable the teams to share experiences.

Highlights from the experience facilities: 66% of PQE-ACF projects are implementing QI initiatives, with varying degrees of success in problem identification, root cause analysis, activity planning, and quality improvement project monitoring across health facilities. (PQE ACF Experience Sharing Report 2023)

Key Lessons/Best Practices

- Engaging specialized clinicians, especially in the pediatric unit, improved the booking of eligible children for sample collection.
- Including ACF targets in healthcare workers' performance indicators ensures consistent and quality ACF implementation and monitoring.
- Customizing OPD cards aids in documenting clinical evaluation outcomes.

Recommendations

- Strengthen continuous PQE mentorship at all levels.
- Integrate PQE ACF teams into existing quality improvement structures at county levels.
- Implement routine monitoring of PQE initiatives using a QI reporting dashboard.
- Promote regular sharing of experiences and feedback.

iii) PQE ACF Technical Assistance and Mentorship to the PQE Counties

This PQE-TA provides NTLDP with a progress update on PQE-ACF following 12 months of implementing the pilot phase at the facility level. The purpose of the TA was to evaluate the experience of teams participating in the QI Collaborative. Conducted using a modified QI program assessment tool aligned with the KQMH Scoring methodology, the TA played a crucial role in assessing and enhancing the pilot's implementation, promoting continuous mentorship, and preparing for the successful expansion of the ACF-PQE program beyond the pilot phase. The TA findings showed a varied maturity level of the PQE teams and county-by-county ability to spread and sustain implementation of ACF-PQE (PQE-ACF TA Report 2023)

PQE TA Key Recommendations

- To enhance the PQE approach for TB ACF as we plan to scale up, the TA findings pinpointed areas of suboptimal performance during the pilot phase. To facilitate seamless scaling up, the TA team suggests these steps
- Strengthen coordination and management of PQE activities to enable real-time engagement of the National Taskforce on PQE implementation.
- Support the county-level PQE coordinating structures in the integration of PQE plans into the respective QI work plans from the county to facility level.
- Consolidate QI training needs for seamless PQE implementation and explore mechanisms to continuously build implementation capacity and capability.
- Strengthen facility teams' capacity to implement PQE activities by providing adequate reference tools and policy documents.
- Strengthen PQE coaches/mentors' capacity to provide continuous T.A. to the facility teams on the QI process cycle.
- Strengthen PQE project documentation, reporting, and communication mechanisms to enable seamless performance monitoring of PQE projects by the coordinating units.

KENYA INNOVATION CHALLENGE FOR TUBERCULOSIS

The Kenya Innovation Challenge TB (KIC-TB) fund is one of the strategic initiatives under the Global Fund TB Grant, implemented through Amref Health Africa in Kenya, the non-state principal recipient (PR). In 2023, four innovations that were approved for implementation in the New Funding Model 3 (NFM 3) grant were supported. These were:

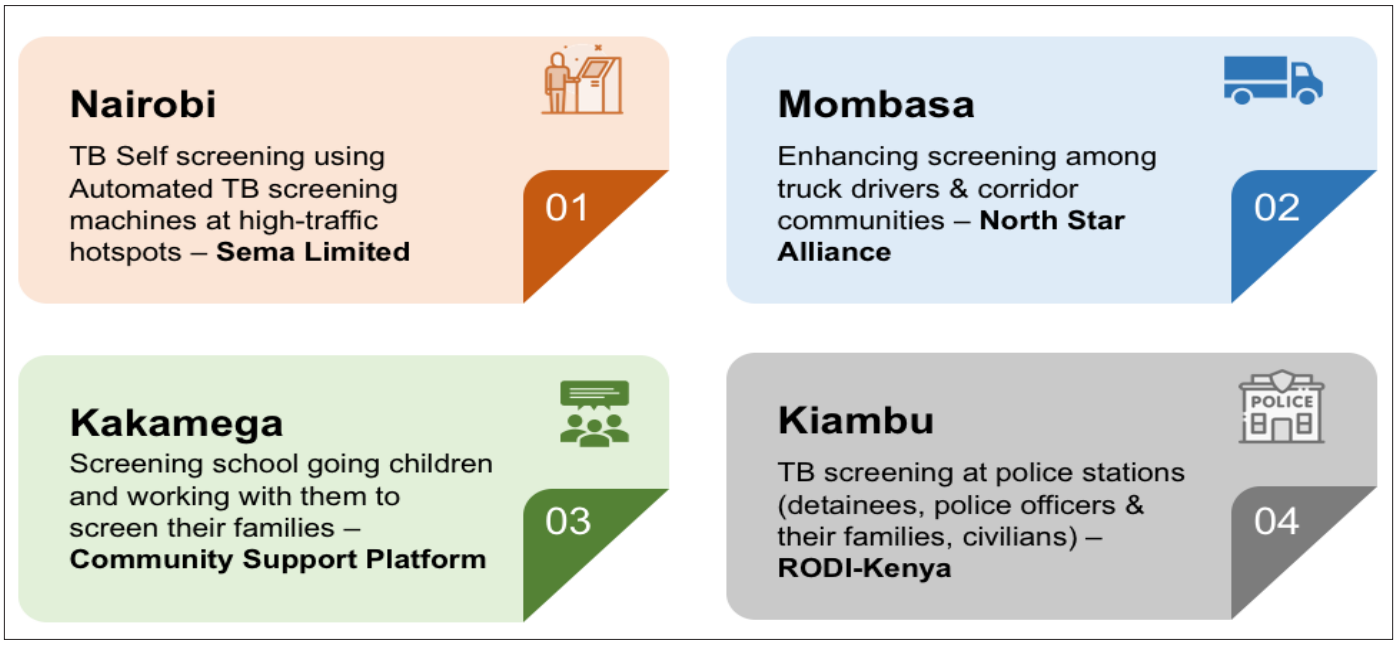


Figure 20: KIC-TB innovations implemented under the Global Fund NFM 3 grant

Below is a snapshot of the TB cascade performance for the innovations from January to December 2023:

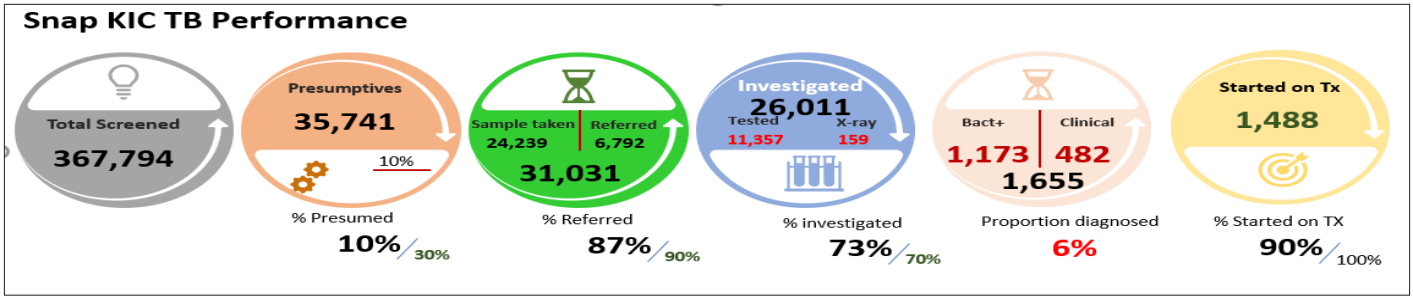


Figure 21: Snapshot of TB case finding for KIC-TB innovations from January – December 2023

Amref held a performance review meeting for the KIC-TB innovations in July 2023. The meeting brought together the implementing sub-recipients, DNTLD-P, County TB, and leprosy coordinators from the four counties, and a representative of the National Police Service AIDS Control Unit (ACU). During the meeting, plans to mainstream the innovations into routine programming were discussed in addition to a review of implementation progress, gaps, best practices, and lessons learned.

The next steps for the KIC-TB innovations

Core aspects of all four innovations were incorporated into the Global Fund TB Grant Cycle 7 (GC7), where they will be implemented as part of routine programming at scale, starting in July 2024. Further, plans are underway to incorporate approaches and lessons from the innovations into the related policy documents, including the TB screening policy for institutions of learning, the National Police Services Health and Wellness Policy, and the workplace policies of truck drivers.

Integration of KIC-TB innovations into routine programming at scale

PUBLIC PRIVATE MIX (PPM)

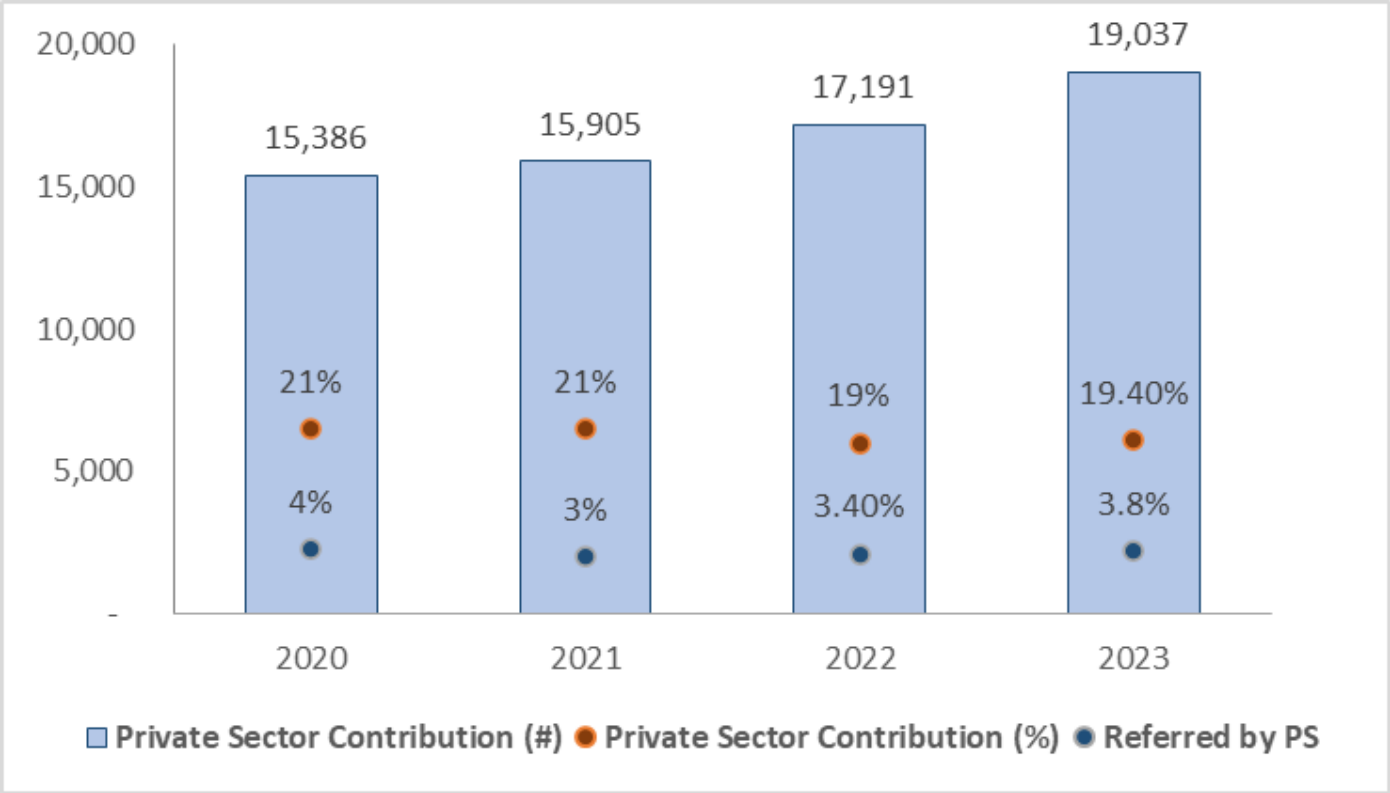
In 2023, the National Tuberculosis Program (NTP) continued its efforts to extend TB services across different sectors, including private for-profit facilities, corporate entities, faith-based organizations, the informal sector, civil society, and communities. These collaborations have significantly enhanced the accessibility and availability of TB services to a broader population. Additionally, they have contributed to improving the quality of care provided, which is in line with the target of ending TB by 2030.

Notably, there was an uptick in the number of cases reported from the private sector, rising from 17,191 patients in 2022 to 19,037 in 2023, indicating a 0.8 proportion increase.

Private Sector Case Reporting

2022: 17,191 patients

2023: 19,037 patients (0.8% increase)



Graph 22: Private Sector Contributions - Numbers, Proportions, and Referrals (2020-2023)

The PPM Committee of Experts (CoE) continued to play a pivotal role in advising and monitoring the implementation of PPM activities. Working alongside implementing partners such as AMREF Health Africa, the Center for Health Solutions in Kenya (CHS), and the Kenya Conference of Catholic Bishops (KCCB), the CoE reviewed the progress of ongoing PPM projects and programs. Its focus was on offering guidance and proposing solutions to implementation challenges, serving as an advisory and monitoring body for all PPM activities in the country. The NTP intensified support supervision for private facilities in high-burden TB areas. This initiative aimed to enhance the quality of healthcare services by ensuring compliance with standard protocols and guidelines, thereby promoting favorable patient outcomes.

PPM DASHBOARD

In 2023, with WHO support, Kenya developed a PPM dashboard with the objective of creating a comprehensive and user-friendly data view to facilitate the monitoring and management of PPM activities related to tuberculosis control. The PPM dashboard empowered stakeholders by providing insights into TB control efforts, and enhancing transparency and accountability within the PPM CoE and it's networks. The geographic insights provided by the dashboard continue to facilitate the targeting of interventions to high-burden counties, resulting in more efficient use of resources

Collaboration with Key Implementing Partners

- AMREF Health Africa
- Center for Health Solutions in Kenya (CHS)
- Kenya Conference of Catholic Bishops (KCCB)

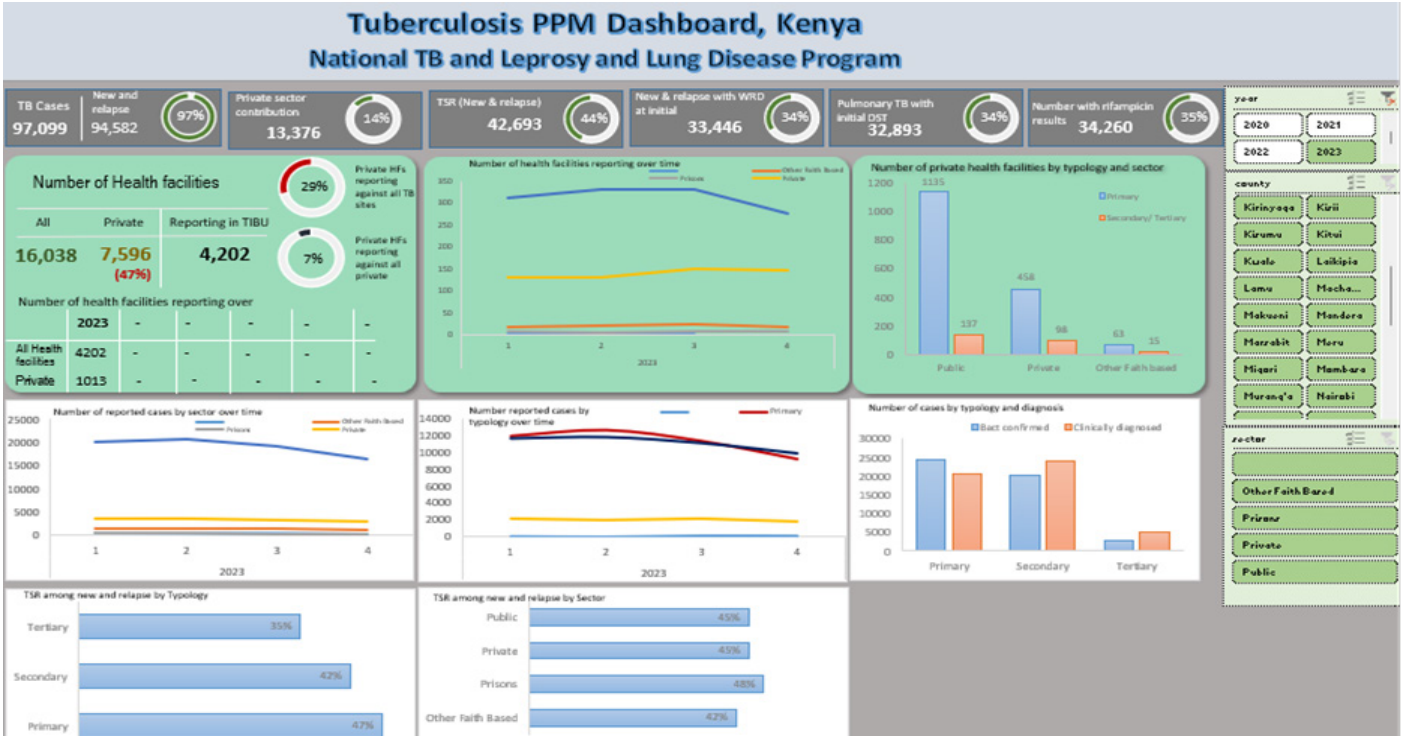


Figure 23: Snapshot of Kenya TB PPM Dashboard

AMREF HEALTH AFRICA IN KENYA, GLOBAL FUND TB GRANT -PPM REPORT

Amref Health Africa in Kenya, through the Global Fund New Funding Model (NFM) 3 implemented PPM activities in all 47 counties to strengthen TB case finding and quality of care across all five PPM models. For implementation purposes, the counties were categorized into 2 categories based on TB burden and the number of facilities. Category A had 19 counties with a high burden of TB and a high number of private facilities and included; Bomet, Kiambu, Homa Bay, Kilifi, Kakamega, Kitui, Kericho, Machakos, Kisii, Makueni, Kisumu, Meru, Migori, Mombasa, Nakuru, Murang'a, Siaya, Nairobi, and Uasin Gishu. All the other counties fell under category B. Implementation in category A counties was carried out by 2 dedicated interface agencies; Respiratory Society of Kenya (RESOK) and NEPHAK. In category B implementation was carried out by the CSO implementing community TB activities. Below is a summary of key activities implemented and achieved in 2023.

- **Engagement of private facilities to offer TB services** – Out of 4,326 private facilities mapped, 2715 were engaged and signed an MOU to provide TB services, and 2197 reported on TB services consistently in the year. These facilities included both previously engaged facilities selected for optimization and newly engaged facilities.
- **Provision of data bundles to strengthen reporting and e-learning** - HCWs from 2142 facilities were provided with data bundles to strengthen reporting of PPM data and participation in e-learning.
- **Sensitizations of HCWs on TB** - 15 sensitization meetings were carried out in the period where 647 HCWs from the engaged private facilities were sensitized on TB using the national TB curriculum and provided with certificates.

- **Supported riders to strengthen sample networking** - A total of 97 motorcycle riders were supported to strengthen sample networking in the counties and to ensure private facilities were linked to TB diagnostic sites.
- **Provided incentives to strengthen uptake of TB services** - To promote uptake of TB services in the private sector and catalyze TB case finding, incentives were provided at a rate of Ksh1000 per TB case successfully identified and linked to treatment. Incentives were given for a total of 11, 968 cases identified.
- **Supported PPM TWGs** – PPM TWGs were supported on a quarterly basis to provide a platform for county management, private facilities, and the various stakeholders working at the county level to review implementation of TB interventions in the private sector. A total of 46 counties supported and carried out 175 TWG meetings.
- **Technical support in category A counties** was provided at 3 levels; routine technical support by project assistants engaged by the SR, quarterly joint support supervision by sub- county TB coordinators, and the SR and National technical assistance provided by the national TB program. In the year, 2 national TA visits were carried out in 39 counties.
- **To enhance visibility of TB services in private facilities**, signage showing availability of TB services was developed and displayed in strategic locations in supported facilities. A total of 971 facilities were reached.

Figure 24.1:TB Services signage at a health facility

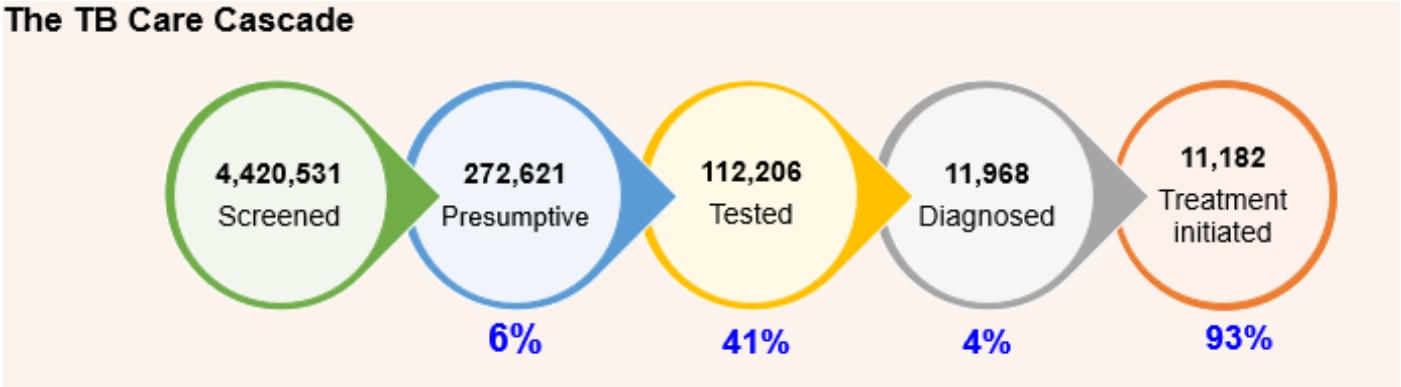


Figure 24.2: TB Care Cascade

HOSTING OF SYMPOSIUM DURING THE ANNUAL SCIENTIFIC CONFERENCE OF THE PROFESSIONAL ASSOCIATIONS

Amref Health Africa in Kenya, Global Fund TB Grant, in collaboration with the program, engaged the professional associations by hosting a TB symposium during the annual scientific conferences. In the year 3 symposiums were supported during the annual scientific conference of Kenya Clinical Officers Association (KCOA), the Kenya Pediatric Association (KPA), and the National Nurses Association of Kenya. During the symposium, the members of the professional Associations were sensitized on TB, engaged on key case finding strategies and called to action to take the following measures;

- Health education and awareness creation
- Active TB screening and appropriate diagnosis
- TB treatment and management
- Contact Management
- Infection Prevention and Control
- TB Preventive Therapy
- Accurate recording, reporting and use of data for decision making

Figure 25: NTP representative during a scientific conference

CHS - USAID TB ARC II PPM REPORT

USAID-TB ARC II supported the efforts of the NTLD-P in rolling out the national workplace policy on TB in Kenya. This was in working through and with both public and private workplaces, and institutions of higher learning in a bid to find the missing individuals, particularly males with TB, through the TB Public-Private Mix (PPM) workplace model engagement. This initiative was rolled out in the 11 priority counties, namely Nairobi, Mombasa, Kilifi, Machakos, Kajiado, Nakuru, Kericho, Meru, Laikipia, Kisumu, and Nyamira, within formal and informal setups.

During Year 5 of the USAID-supported TB ARC II implementation, there was scaled up support for facilitating the multisectoral approach in TB response. This was done by bringing together the Departments of Health in the respective counties, to engage with key PPM stakeholders, the learning institutions, and the private workplaces, both formal and informal, that were involved in PPM implementation.

As a result, new workplaces were identified and engaged, and the respective management representatives and healthcare workers received TB sensitization through collaboration between NTLD-P and County Departments of Health. This is for the purposes of adopting the national workplace policy on TB as well as upskilling the workforce for sustained integration of TB interventions and services in the various workplace health programs. Targeted outreaches in workplaces, with a focus on reaching men, were conducted in each region. Additionally, together with the respective county departments of health, quarterly PPM COE forums and experience-sharing forums for engaged workplaces were supported.

USAID-TB ARC II supported the development and distribution of TB PPM workplace promotional information, education, and communication (IEC) materials, for enhanced awareness among target populations and for uptake of TB services. Bi-annual data quality audits were also conducted in the 11 counties to ensure proper documentation of TB PPM workplace data.

Following continued engagement with the workplace, below is the ACF cascade table:

TB Active Case Finding at Workplace –Cascade	
Workload	452,519
Screened	206,892
Done X-Ray	3,747
Presumed to have TB Symptoms	7,822
Sputum Collected and Tested	5,376
Bacteriologically Confirmed TB	176
Clinically Diagnosed	167
Total Diagnosed with TB	343
Children Diagnosed	15
Started on TB Treatment	336
Number of TB Diagnosed Persons Notified	336

80 companies engaged in 11 Counties engaged

64% Men were diagnosed with TB

Figure 26: TB Active Case Finding Workplace Cascade

KENYA CONFERENCE OF CATHOLIC BISHOPS (KCCB)–KOMESHA TB PROGRAM

USAID's Komesha TB Program implementation in 2023 continued to build up on the success of intensified TB response gained over the last three years. The program intensified strategies for program implementation: service delivery at the health facility, use of religious platforms, use of faith-based platforms, and use of media for advocacy. The program expanded its scope to include Nyamira County, where 15 health facilities were mapped and engaged, in addition to an accelerated response in faith based and private health facilities supported in the last three years; Bungoma, Busia, Homa Bay, Kakamega, Kisii, Kisumu, Migori, and Vihiga. Contribution to the national TB program was through participation in various COEs, including PPM, MDR, PQE, and TB diagnostics. As a result, 3422 patients were notified, an increase of 41% compared to 2434 patients notified in 2022, pediatric TB notification was 411 (12%). PQE mentorship of health care workers contributed to treatment success of 89% , mortality rate of 5%, a demonstration of the continuous program commitment to end TB. Overall, PPM performance in the region of support was 24%.

The program prioritized training for HCWs based on the knowledge gap revealed by the training needs assessment conducted in quarter two of 2023. A total of 544 HCWs were trained, among whom 101 laboratory technologists were sensitized on AFB microscopy; 222 clinical officers and nurses were sensitized on childhood TB management. In addition, a total of 221 nurses, clinical officers, and TB focal persons from FBOa and private health facilities were trained on the integrated TB and lung health curriculum. Continuous medical education on TPT, pharmacovigilance, ACF, and childhood TB was conducted for clinical officers, nurses, and medical officers to fill knowledge gaps occasioned by high staff turnover at FBO and private facilities.

ADVANCING ALTERNATIVE PPM MODEL

Finding missing TB patients goes beyond intensive routine case finding at the facility to include case finding through other PPM models that include chemist, workplace, and pediatric TB models to optimize opportunities to find TB. In 2023, the program engaged a total of five chemists located in Kakamega and Siaya counties, and a total of 8 pharmaceutical technologists were sensitized on symptoms that suggest TB and documentation in the TB presumptive register. Efforts resulted in referral of 47 presumed patients; there was no yield from the patients referred. The program continues to build the capacity of staff at chemists engaged to increase their index of suspicion

3 DIAGNOSTIC CAPACITY AND SURVEILLANCE OF TB

Introduction

The Division of National Tuberculosis, Leprosy, and Lung Diseases Program (DNTLD-P) and the National Tuberculosis Reference Laboratory (NTRL) collaborated to enhance access of TB diagnostic services in the country as per the 2019-2023 NSP priorities. This was done by supporting, introducing, and scaling up WHO-approved rapid diagnostic tests (Truenat, GeneXpert MTB/RIF Ultra, and TB LAMP). Efforts towards revamping the surveillance systems for culture and drug susceptibility testing (DST) were prioritized. Aligned to the DNTLD-P Strategic Plan 2023/2024-2027/2028, the goal is to diagnose and treat at least 417,918 TB patients by 2028. Collaborating with all 47 county governments, there was a focus on improving case notification through various initiatives. These include healthcare worker training, integrated specimen referral systems, equipment maintenance through service level agreements, and the introduction of new tools project (iNTP). The key priorities for the TB diagnostic network included expanding safe and quality-assured testing and surveillance across all healthcare levels, decentralizing services to point-of-care facilities, and supporting laboratory workforce capacity.

DIAGNOSTIC NETWORK ASSESSMENT (DNA)

In 2023, the DNTLD-P through USAID IDDS project and partners spearheaded the first TB diagnostic network Assessment (DNA) in Kenya. The diagnostic network assessment aimed to evaluate current practices, policies, guidelines and algorithms, identify challenges, and propose evidence-based interventions to enhance TB and MDR-TB detection. Key findings from the diagnostic network assessment highlighted challenges like limited availability of policies, suboptimal performance on Biosafety (26%) as key core element, regular stockout of laboratory commodities, shortage/high turnover of laboratory and clinical staff affecting TB services. The diagnostic network assessment highlighted key recommendations to enhance TB diagnostic services. These include strengthening the capacity of the NTRL, expanding access towards prompt TB detection, improving specimen referral systems, ensuring a steady supply laboratory of consumables, implementing integrated electronic data systems, development/monitoring of TB specific Biosafety manual and dissemination to counties, collaboration with county government to ensure adequate human resource (HRH), and ensuring safe working conditions. These measures aim to address challenges and improve the effectiveness of TB diagnosis in the country.

Note: For more details refer to the final DNA report 2023.

THE DIAGNOSTIC NETWORK OPTIMIZATION

In collaboration with USAID TB ARC II through funding from FIND, the DNTLD-P facilitated meetings in late 2022 to drive the TB diagnostic network's optimization, involving various disease programs and partners. Following baseline scenario presentations on December 6, 2022, collaborative efforts continued to refine data inputs, conduct site-level testing, estimate demand, and plan scenarios. Subsequent workshops and virtual meetings culminated in a final workshop in June 2023, where OptiDx analysis by FIND experts provided insights for optimizing diagnostic platforms and guiding NSP development and grant writing.

Key recommendations;

Increase 10 color Genexpert machines to 52 to reduce the average service distance for XDR to <50km incl in hard-to-reach areas.

With these 52, the 10 color locations coverage of >99% in 70 km distance could be achieved.

Note: For more details refer to the final DNO report 2023.

Increasing TB diagnostic access

Aligning with NSP 2019-2023 priorities to enhance TB testing accessibility, the DNTLD-P scaled-up TB diagnostic and screening services nationwide by strategically deploying mWRD tools following spatial analysis. The scale-up was made possible through the introducing New Tools Project (iNTP) funded by USAID/Stop TB partnership global. The key diagnostic tools included Truenat MTB/RIF assay, Chest X-ray/CAD for TB, Quantiferon test for latent TB diagnosis. Other diagnostic tools scale-up included LPA, LF LAM, TB-LAMP, use of stool for Xpert testing for under-fives as illustrated in the map below.The placement of the machines in the TB diagnostic network is tiered as per the figure below;

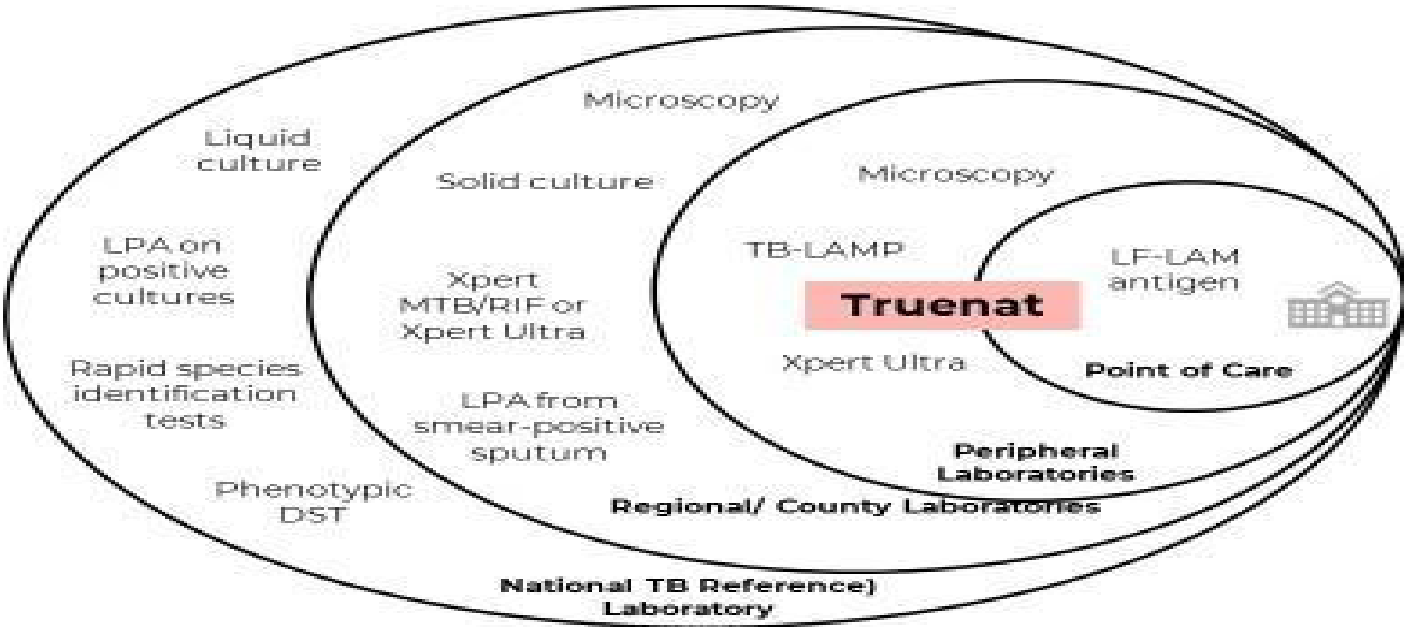


Figure 27: TB diagnostic network

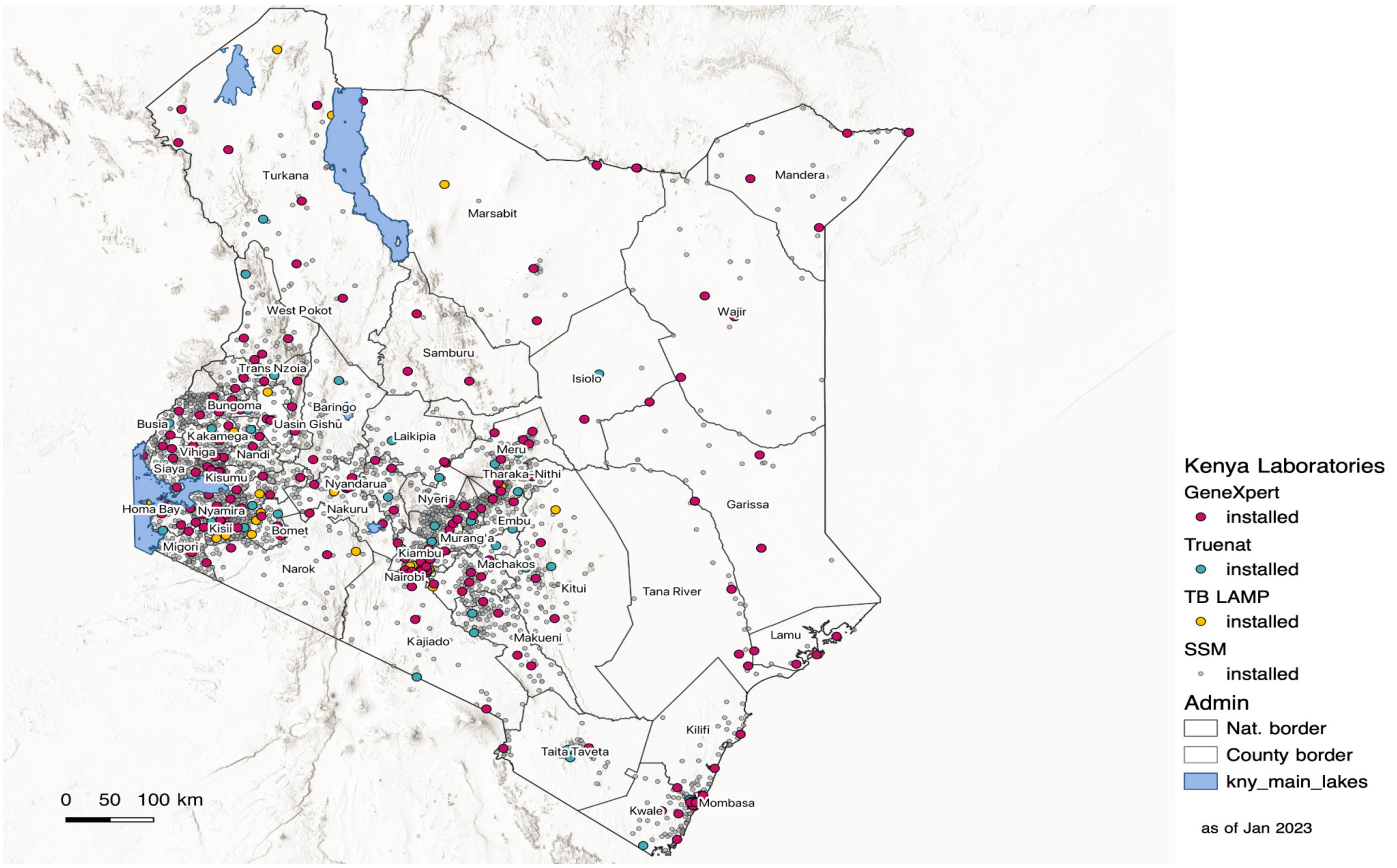


Figure 28: Diagnostic Sites in Kenya

INTEGRATED LABORATORY SPECIMEN REFERRAL SYSTEMS (ISRS)

In 2023, the DNTLD-P continued using the existing ISRS for the referral of TB samples to support transportation of specimens to diagnostic facilities both at the mWRDs and national reference laboratory. This process involved coordination across counties, inter-county regions, and the National Tuberculosis Reference Laboratory (NTRL), utilizing various means such as motor riders, couriers, and healthcare workers. At the county level, respective implementing partners supported the ISRS, while movement of samples to NTRL, KEMRI TB Lab Kisian, and the new LPA facilities for Culture and DST was facilitated through courier services supported through USAID TB ARC II activity.

In an effort to build capacity on SRS, a dissemination of Integrated Specimen Referral Systems (ISRS) guideline through support from USAID TB ARC II targeted Kilifi, Mombasa, Uasin Gishu, and Nyandarua counties. This initiative aimed to enhance the efficiency and effectiveness of TB sample referrals, ensuring timely and accurate diagnosis across the counties.

REMOTE LOGGING

NTRL, in partnership with AMREF, introduced TB culture sample remote login services across 17 counties and 64 facilities, including (Meru, Embu, Kiambu, Kirinyaga, Murang'a, Nyeri, Laikipia, Isiolo, Machakos, Kitui, Mombasa, Kilifi, West Pokot, Transnzoia, Kericho, Nakuru and Nairobi). This initiative aimed to provide healthcare workers with real-time access to the labware system, enabling them to track sample progress instantly and eliminating transcription errors. Using spatial analysis, sites with GeneXpert/ Truenat platforms and high workloads were selected for installation, with a goal of reaching 100 sites by 2024. As of now, 64 sites have already implemented this web-based installation process.

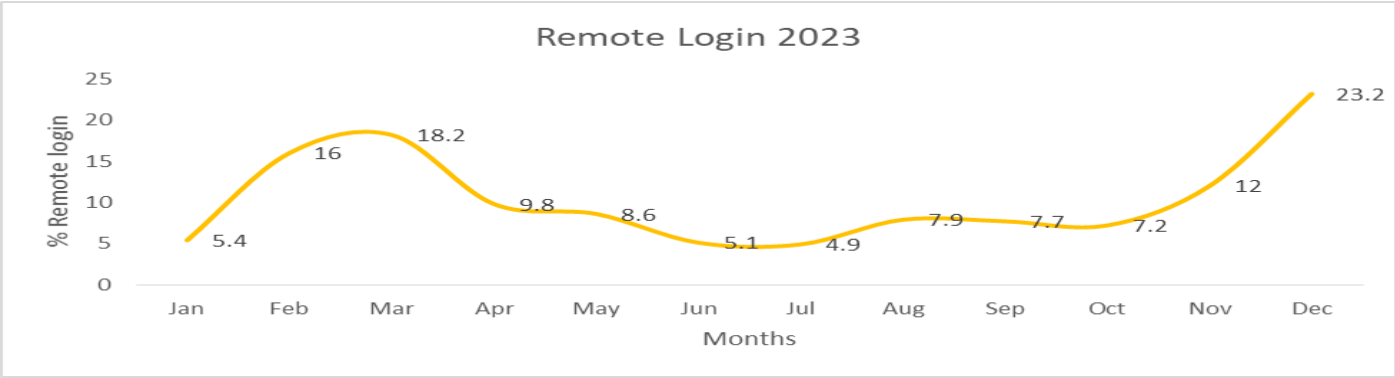


Figure 29: The proportion of samples remotely logged in 2023

TUBERCULOSIS TESTING MENU

The current molecular diagnostic techniques in line with the Kenya TB screening and diagnostic algorithm include; molecular WHO Rapid Diagnostic platforms (GeneXpert MTB/RIF ULTRA, Truenat MTB/RIF, TB LAMP) and LF LAM as primary diagnostic tests; all presumptive cases should access it, followed by phenotypic Liquid and solid culture and drug susceptibility testing (DST), Line probe assays (LPA), and smear microscope for treatment follow-ups.

GeneXpert

Through the support of USAID TB ARC II, a total of 208 GeneXpert sites with 219 machines were bundled on a monthly basis. This facilitated the electronic transmission of results (SMS and EMAIL) from these machines to clinicians to ensure prompt initiation to treatment.

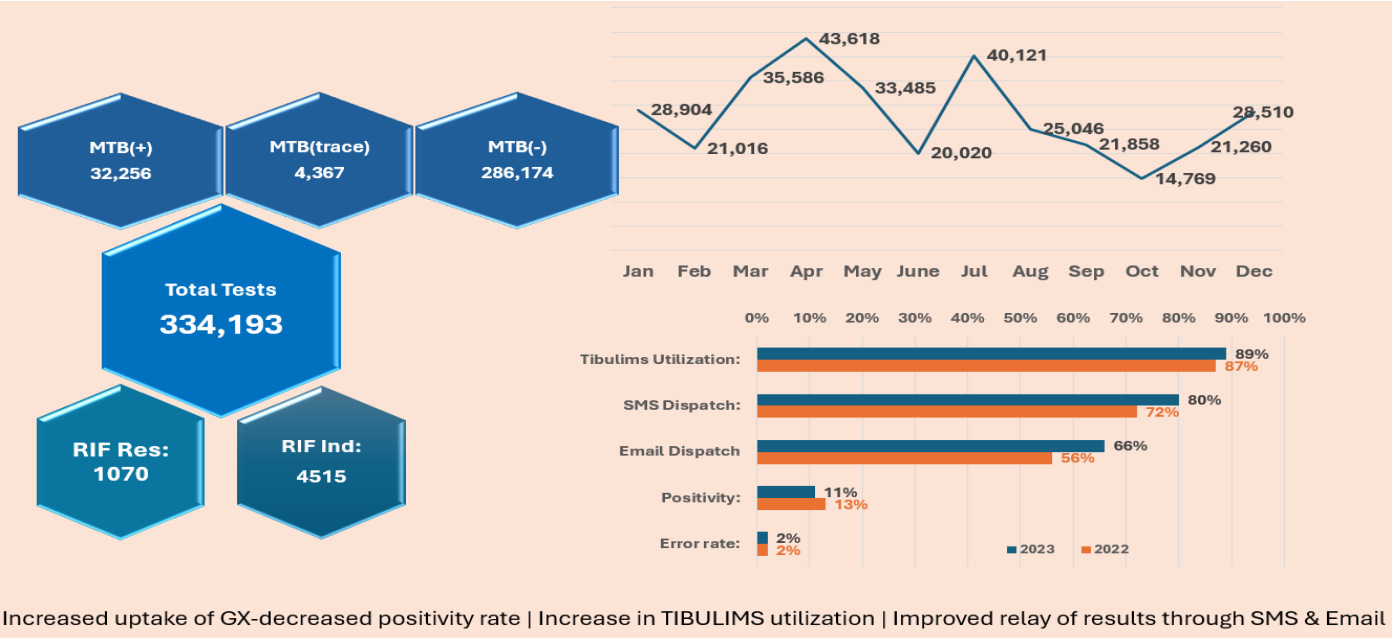


Figure 30: GeneXpert testing Indicators, 2023

The NTLD-P continued to support the GeneXpert Service Level Agreement (SLA) signed with Cepheid International for the maintenance of all GeneXpert equipment countrywide. The program is monitoring the KPIs (Refer table on the right) to assess performance of the cepheid during this period of implementation.

Component	Duration	N	Freq.	Percent
Module replacement	< 5days	11	7	64%
	> 5 days		4	36%
Hardware component	<15 days	9	8	89%
	>15 days		1	11%
Errors	< 5days	37	20	54%
	> 5 days		17	46%
Software component	<15 days	12	10	83%
	>15 days		2	17%
Others	< 5days	27	17	63%
	> 5 days		10	37%

Service Level Agreement (SLA) implementation

TB LAM

TB LAM use was recommended for use by the WHO in 2015. In 2017, Kenya adopted the use of TB-LAM to aid in the diagnosis of TB among eligible PLHIV. Through USAID TB ARC II support a pilot was carried out in 12 high-burden TB/HIV Counties (Homa Bay, Siaya, Kisumu, Busia, Kisii, Kakamega, Uasin Gishu, Nyandarua, Nairobi, Nakuru, Mombasa and Kiambu). In 2023 the TB LAM testing was scaled-up to all 47 counties.

Truenat

In 2022, Truenat MTB/RIF assay was introduced in Kenya through the introducing new TB diagnostic tools Project (iNTP).

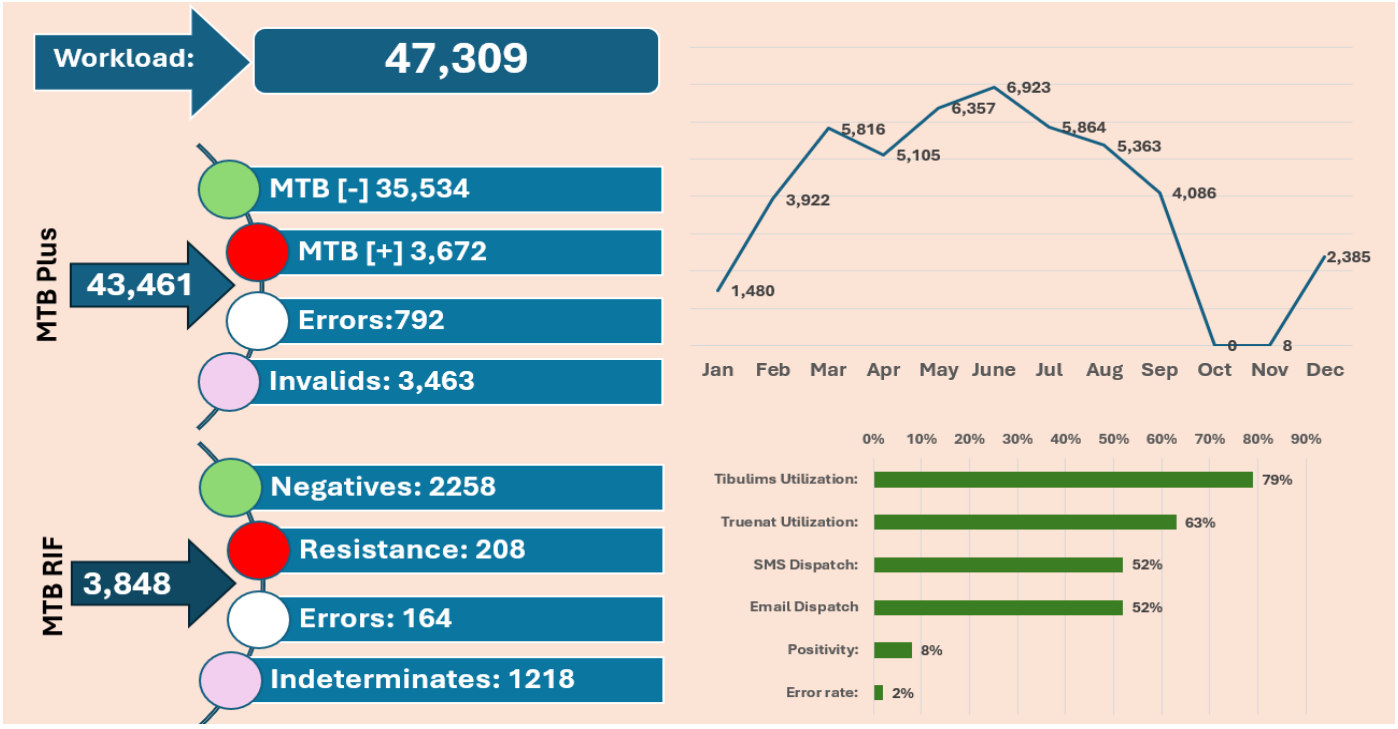


Figure 31: TrueNat Data, 2023

As part of expansion plan for Truenat MTB/RIF assay in Kenya, the Global Fund facilitated the procurement of an additional 40 Truenat machines. The implementation process for the new machines was informed by the lessons learned through the iNTP funded through the USAID/STOP-TB partnership. Spatial analysis previously conducted during the iNTP informed the candidate health facilities for machine installation. The diagram below shows the performance of the existing 38 devices already installed and in use for the period 2023.

Tuberculosis Loop-Mediated Isothermal Amplification (TB LAMP)

In 2022, Kenya introduced TB LAMP diagnosis, procuring 26 machines funded by GoK and distributing them to 26 facilities across 18 countries. Additionally, 4 machines were installed during the pilot phase, totaling 30 machines nationwide. The rollout included facility identification, end-user training, and commodity distribution. TB LAMP offers a rapid and accurate alternative to smear microscopy for TB diagnosis. In 2023, 9,150 tests were conducted, resulting in 845 (9.2%) positive cases.

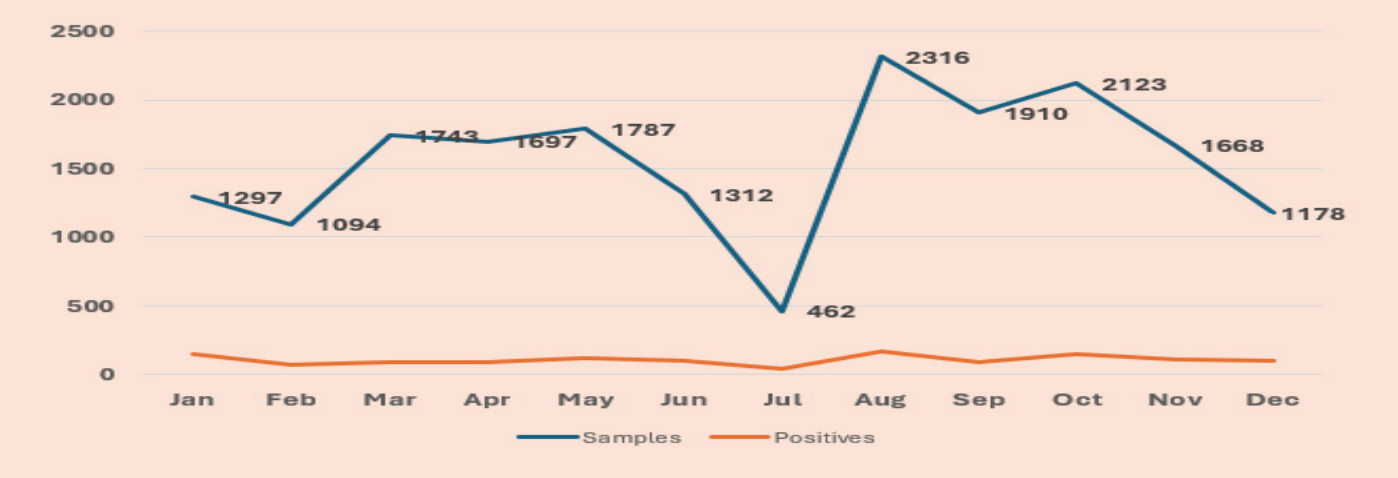


Figure 32: TB-LAMP Data, 2023

Smear Microscopy

AFB smear microscopy remains a key diagnostic tool in the identification of TB patients and monitoring of treatment for drug-sensitive TB patients and Drug-resistant TB.

Capacity building for laboratory officers across the country was conducted by the National TB Program through the support of Global Fund, Centre for Health Solutions TB ARC II and other implementing partners. The participants were selected using objective methods, especially EQA workbook performance, technical visit reports, and new equipment placement. The numbers reached were however low and there is a need for continuous capacity building for AFB microscopy training and refresher training. This calls for support from all TB implementing partners to prioritize AFB training based on the training needs assessment records.

Analysis of the AFB microscopy diagnostic data indicates the commitment of various facilities towards TB diagnosis regardless of affiliation.

Online EQA reporting

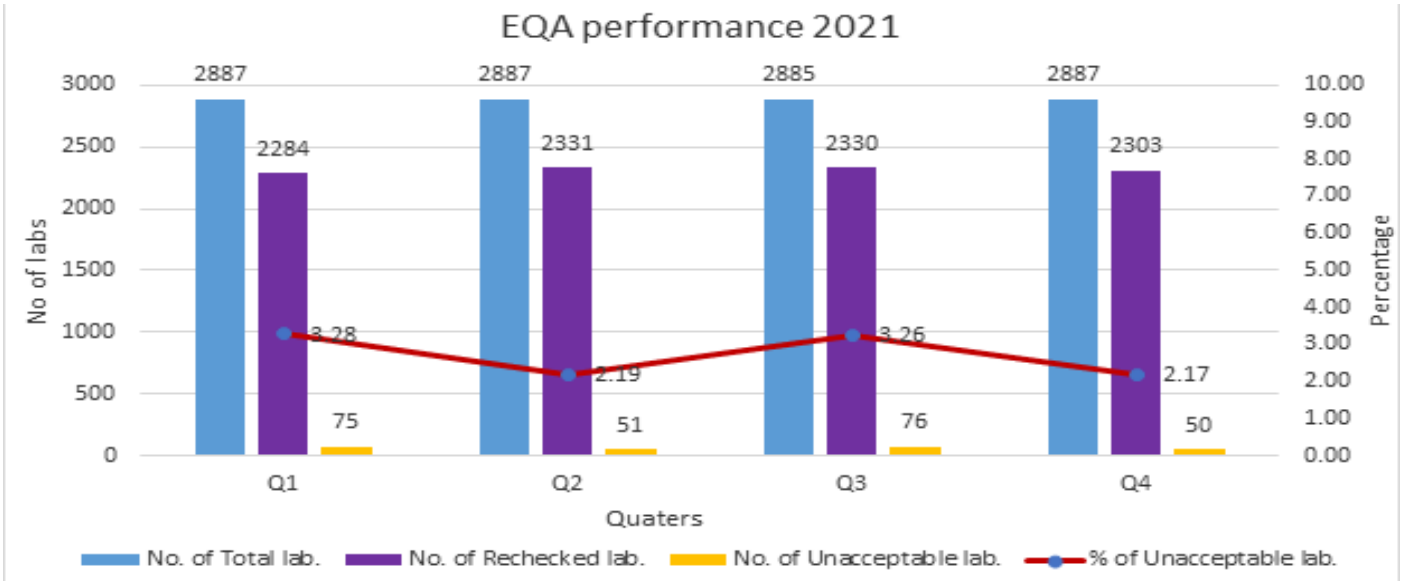
Implementation of electronic EQA reporting received a boost from 19 to 23 counties. This is after four more counties were trained with the support of Center for Health Solutions. The County participation

rate in the reporting period under review was 100% in all quarters whereas the facility participation was 84% (Q1 2023), 82% (Q2 2023), 80% (Q3 2023), and 68% (Q4 2023). The steady decrease in EQA participation is due to the closure of laboratories in the Counties.

Microscopy Blinded Rechecking External Quality Assurance (EQA) Performance

External quality Assessment forms an integral part of the quality management system and allows for objectively assessing the performance of the laboratories. Microscopy blinded rechecking has proven to be a useful tool for checking laboratory operations with support from USAID CHS TB ARC II for all 47 counties. Reword, to read " Blinded rechecking was conducted in 2331 of 2887 laboratories making for a coverage of 81% The average error rate remained below 5%, and corrective action was taken for labs with errors.

There was an increase in the number of laboratories that participated in blinded rechecking from 2284 in Q1 2023 to 2331 in Q2 2023, followed by a slight decrease to 2330 and 2303 in Q3 2023 and Q4 2023 respectively. The reduction in participation was a result of staff turnover and the closure of laboratories.



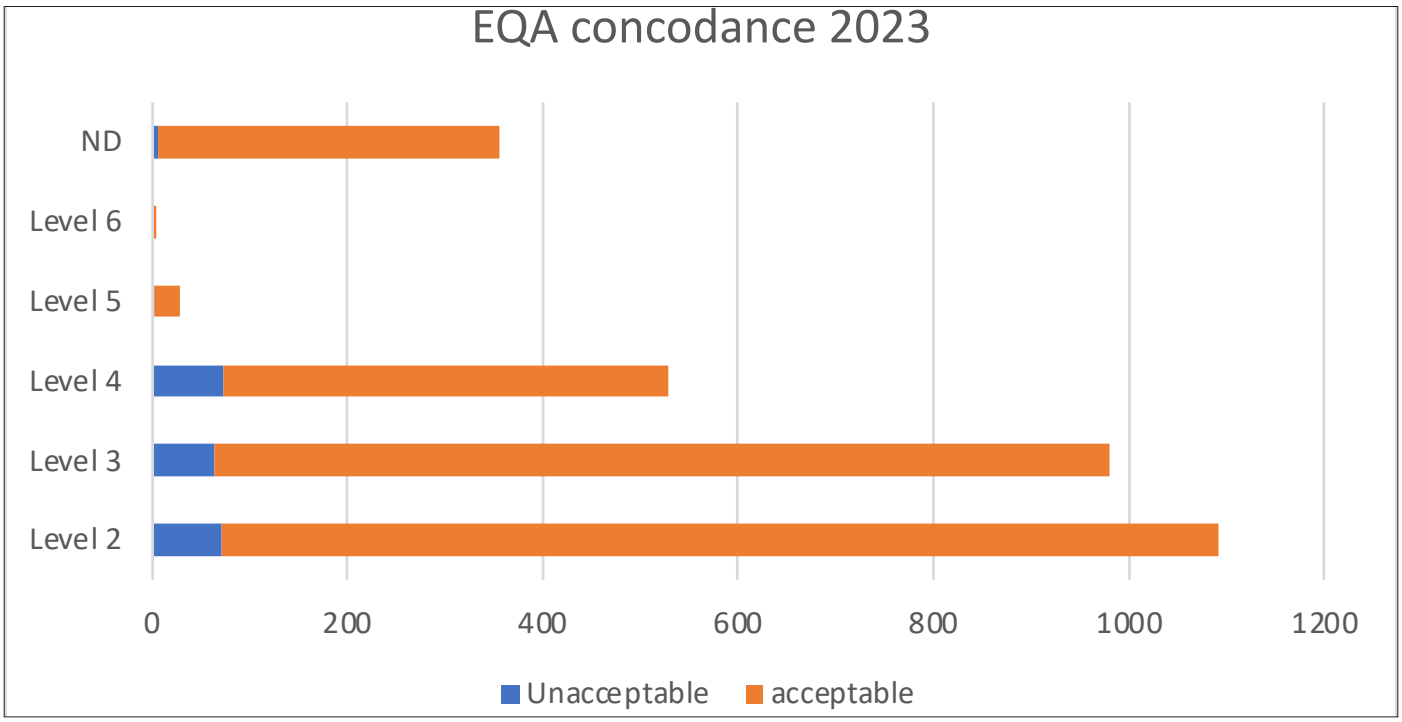


Figure 31: EQA 2021 performance and Concodance 2023

EQA concordance was at 93% with tiered performance as follows: level 2 (93%), level 3 (94%), level 4 (86%), level 5 (93%), level 6 (100%), No MFL code (98%). The concordance by affiliation was; Faith Based Organization (90%), MOH (92%), NGO (96%), Private (93%), Not documented (98%). The performance rate calls for an urgent need to capacity-build laboratory officers in health facilities irrespective of affiliation and level on AFB microscopy to avert the major errors realized and improve on quality.

Quantiferon Test for Latent TB Diagnosis (IGRA)

The rollout of IGRA in Kenya took place in July 2022 and was anchored in the introducing New Tools Project (iNTP). Interferon Gamma Release Assays (IGRAs) are blood-based TB infection tests that measure the immune sensitization to mycobacterial protein antigens that occur following infection by the TB bacterium. Unlike the tuberculin-based Mantoux skin test, IGRAs are not affected by prior BCG (bacille Calmette-Guérin) vaccination. Under the iNTP, Kenya piloted the use of IGRA for LTBI targeting TB bacteriologically positive contact, prisoners, HCWs and other risk groups. To be able to scale up IGRA in the country the TB program was able to factor in new automated machines and commodities this will help address the gaps encountered in the pilot testing where manual Eliza technology was used.

Culture and drug susceptibility testing (CDST)

Kenya's National tuberculosis surveillance workload rose by nearly 20%, up from 23,420 in 2022, attributed to the decentralization of TB surveillance services to regional labs. In 2023, 27,408 samples were received for testing. Among these, 27,122 (98%) underwent culture, 6,081 (22%) tested forline probe assay (LPA), a decrease from the previous year due to commodity stock-outs, 1,138 (4.2%) was testedsecond-line LPA, 2,759 (10%) underwent 1st line phenotypic DST, while 152 (0.6%) underwent 2nd line DST. Additionally, 296 (1.2%) samples were rejected.

Efforts to improve the relay of results back to clinicians include strengthened systems to meet test turnaround time (TAT) targets of 48 hours for microscopy, 7 days for LPA, and 65 days for culture and DST (from sample reception at the lab to release of results).

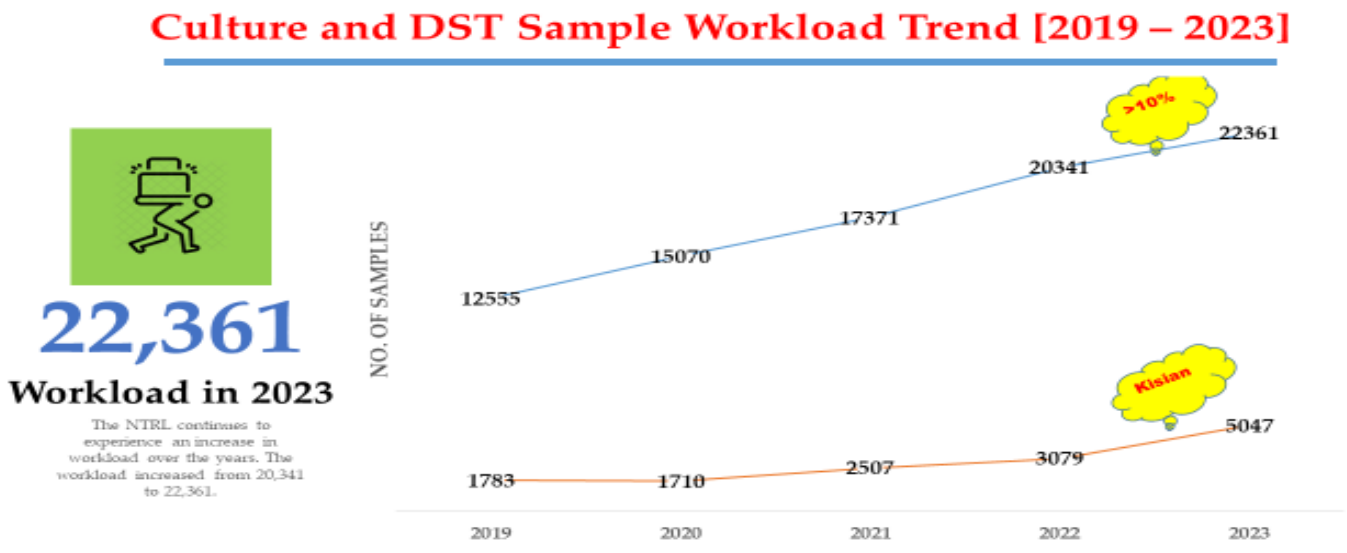


Figure 31: Culture and DST Sample Workload Trend

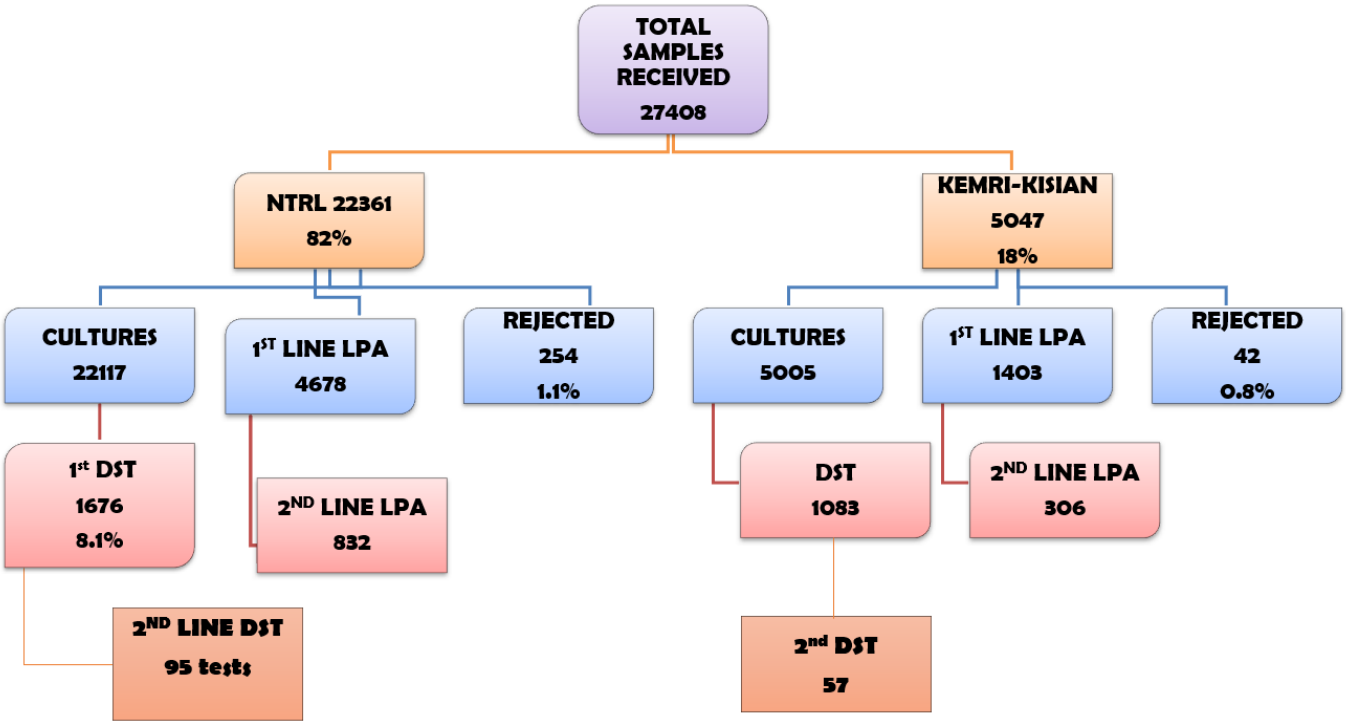


Figure 32: No. of samples received

DECENTRALIZED LPA SITES TECHNICAL ASSISTANCE

In,2023, the National TB Reference Laboratory (NTRL) supported by the USAID TB ARC II project, provided technical assistance, Corrective Action Preventive Actions (CAPA) and on-the-job mentorship to all four regional laboratories. These labs also received supplies for first- and second-line genotypic testing (LPA), with all equipment covered under service contracts. The goal was to bring first and second-line services closer to patients, create demand and advocate for sample referral to the testing sites, and increase utilization of the instruments while improving test turnaround time (TAT) aligning with universal healthcare coverage.

EXTERNAL QUALITY ASSURANCE/PROFICIENCY TESTING

The National TB Laboratory developed a national quality management framework for TB diagnostics laboratories, guided by having quality assurance for all TB diagnostic processes to ensure quality services regarding Universal Health care.Feedback reporting, data analysis and management is done on an online system. Annually NTRL conducts CAPA review, mentorship and site supervision, in addition to integrated PT review meetings with stakeholders on PT services.

DIGITAL CHEST X-RAY

In 2023, the eight (8) portable digital X-ray machines rolled out in 2022 through the introducing New Tools Project (iNTP) by Kenya National Tuberculosis, Leprosy and Lung Disease Program (NTLD-Program) in collaboration with the Stop TB Partnership, the United States Agency for International Development (USAID) and USAID-funded Tuberculosis Accelerated Response and Care (TB ARC II) were used for screening both at facility level and during community outreaches. 40,630 individuals were screened and of the 3399 (8%) who had suggestive chest X-rays (CAD Score of 60 and above, 78% were documented as having had a follow-on diagnostic test resulting in a 31% yield.

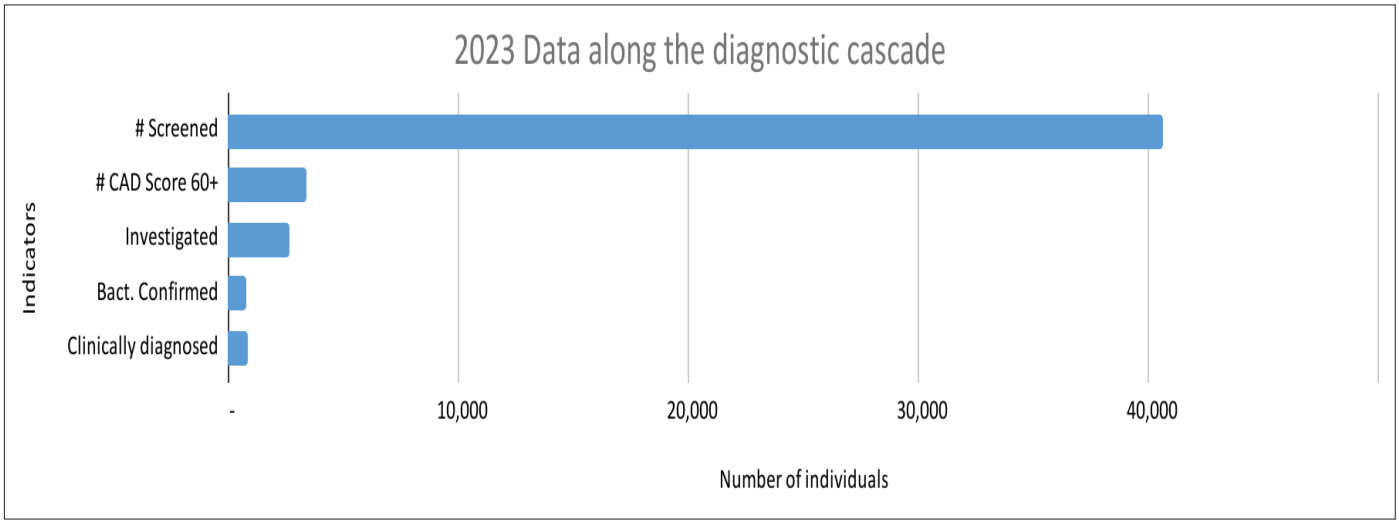


Figure 33: Data along Diagnostic Cascade

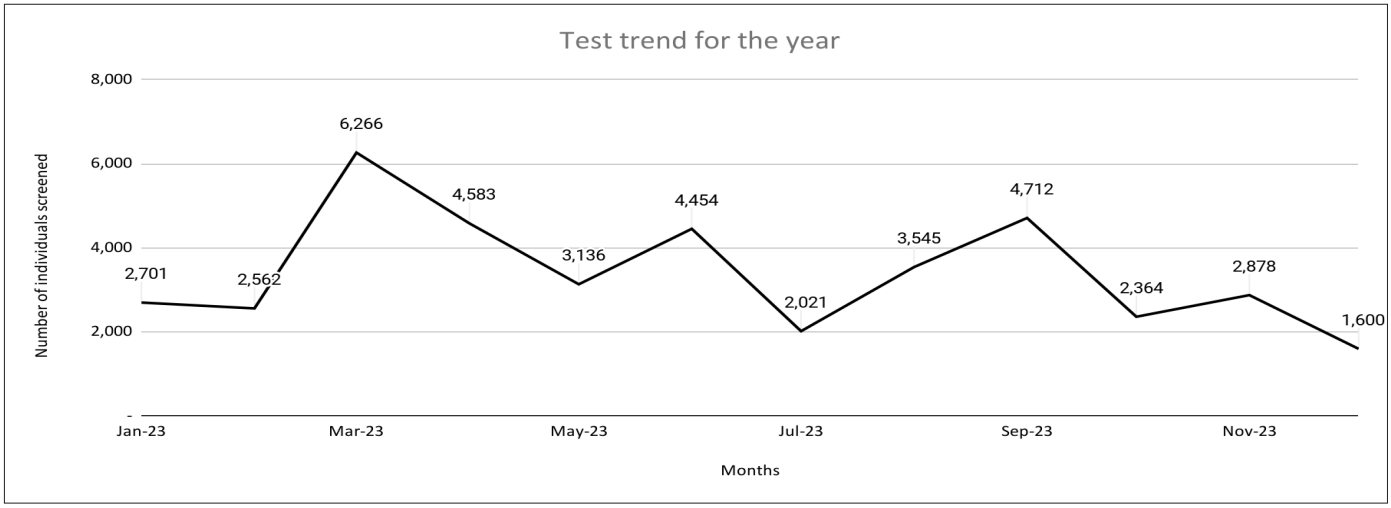
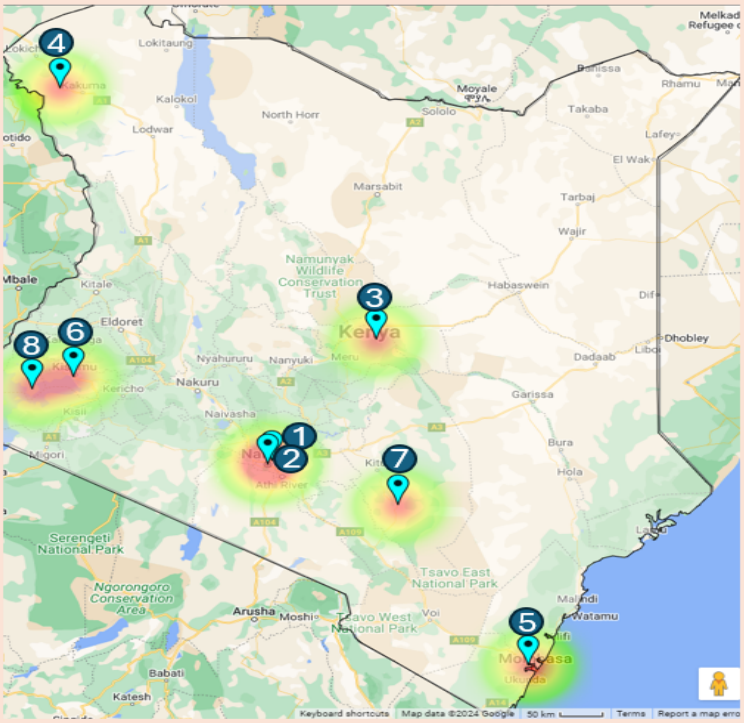


Figure 34: Test Trend

In the same period,reporting period, CHS through iNTP and later through USAID TB ARC II provided technical and logistical support towards:

- Implementation review
- Procurement and distribution of mobile lead shields and detector stands.
- On-job training of 14 county radiographers.
- Training of radiologists on use of the CXR reporting module in TIBULIMS.
- Engagement and bundling of radiologists for reading and reporting of images with CAD scores above 40.
- Radiation safety assessment of the 8 sites and renewal of the 8 operating licenses.
- Monthly dosimeter reading for monitoring of radiation exposure.
- Technical assistance to implementing sites.
- Replacement of faulty CXR machine parts.



CAD4TB Sites

1. Mathare North Health Centre. [Nairobi County]
2. Rhodes Chest Clinic. [Nairobi County]
3. Mutuati Sub-County Hospital. [Meru County]
4. Natukobenyo Health Centre. [Turkana County]
5. Jomvu Model Health Centre. [Mombasa County]
6. Pand Pieri Community Dispensary. [Kisumu County]
7. Mutomo Sub County Hospital [Kitui County]
8. Madiany Sub County Hospital [Siaya County]

Figure 35: CAD4TB Sites

Items	Achievements/Successes	Challenges	Way forward
Chest X-ray	• Commencement of radiologists reporting for QC and identification of non-TB findings with a turnaround time of < 1 hour • Renewal of operating licenses • Capacity building of radiographers within the implementing counties.	• the bulky mobile lead shield results to challenges moving to location of outreach • Service interruption occasioned by the breakdown of parts requiring replacement. • Long turnaround time for shipping replacement parts.	• Conduct country-wide CXR needs assessment to inform investments for scale-up. • Review the diagnostic algorithm and guidelines to include screening using CXR. • Regular sensitization of clinicians on the CAD software outputs and the related TIBULIMS modules.
mWRDs	• Successful transition of support for Truenat MTB/ RIF assay through iNTP to mainstream programming. • Trained end users, superusers, clinicians, and other program managers on mWRDS. • Renewal of GeneXpert SLA for 2023.	• Stock out of GeneXpert and Truenat cartridges affecting TB testing across the country. • Incomplete county reports for appropriate commodity Forecasting and quantification (F&Q). • Procurement and distribution delays of mWRDs leading to stockouts. • Inadequate resources/funds for staff capacity building. • Low yield of MTB from tested samples	• Strengthen procurement procedures. • Ensure adequate reporting for effective F & Q • Avail adequate resources for capacity building. • More sensitization for the HCW on TB screening
Culture, DST, and Genome Sequencing	• Sending samples to SRL for interlaboratory comparison • Scale-up of specimen referral systems in private hospitals for transportation of TB sputum samples. through the public-private mix (PPM) for surveillance. • Conducted a Diagnostic Network Assessment and Diagnostic Network Optimization to enhance efficiency.	• Expiry of contracts for 11 partner-supported staff • Frequent stock-outs of Genotypic and phenotypic commodities in the country • Inadequate resources for staff capacity building • Lack of a platform to link LPA reporting from the decentralized labs to NTRL. • Delayed commencement for NTRL's infrastructure renovation	• The MOH to ensure adequate staffing for the TB laboratory. • Allocation of adequate funds for culture and DST commodities. • Come up with a dashboard to monitor commodities. • Source for funds from implementing partners to support capacity building. • TB program and NTRL to ensure data linkage.

	• Increased culture labs from 2 to 3 (enrolled the KEMRI Walter Reed to support MOH work (Culture /DST)	• Inadequate support for genome sequencing for programmatic management of TB • Lack of support for operational research • Lack of a rapid testing platform for second-line DST at the point of care • Lack of a dashboard to monitor the progress of testing at culture and DST laboratories by the counties.	• Amref Kenya to fix NTRL infrastructural needs. • NTP to source funds for implementation of genome sequencing in programmatic management • Source for support through partners. • Consider expanding the 2nd line DST through the placement of GeneXpert 10 color machines. • Come up with a dashboard to monitor the sample processing and reports.
AFB Smear micros-copy	• Increase in AFB sites rechecked for EQA from 2,245 in 2022 to 2330 in 2023 • Continued support supervision • Staff capacity building • Scale-up of EQA online reporting from 19 counties to 23.	• Closure of laboratories due to staff turnover • Untimely EQA report submissions from the counties. • Not all counties are reporting EQA online.	• Counties to lobby for more medical laboratory staff • Enhance support supervision by CMLCs. • All counties are to be supported to report the EQA online.
LPA	• Continuous training and mentorship of site staff on LPA testing.	• Insufficient, erratic supplies leading to massive stockouts of commodities. • Inadequate staffing • Inadequate resources to support the training of new county employees. • No system linkage for results relay (LIMS) to NTRL. • No Mapping of laboratories supported by decentralized LPA sites.	• NTP to ensure enough stocks including buffer stocks of 3 months. • County to employ more staff to support diagnosis. • NTP/NTRL to ensure newly employed staff are trained and assessed for competency. • NTRL/NPHL to establish a system for reporting LPA results to NTRL. • NTP to facilitate mapping of counties to be supported by regional LPA laboratories.

EQA and PT	• NTRL maintained the accreditation status of ISO 17043 standards. • Scale-up of Smear microscopy PT from 101 to 460 facilities. • Blinded rechecking for microscopy performed by 80% of all diagnostic facilities. • SCMLCs supported to conduct of EQA processes in their regions.	• Inadequate financial support for PT production. • NTRL urgently needs additional financial support to cater. • for Human resources and PT supplies/ consumables. • Knowledge gap on digital results submission. • Delay in results submission from participants hence interfered with TAT.	• Support NTRL to expand the PT program to new TB diagnostic platforms. • Training on digital submission for PT results • Enroll all facilities into EQA and PT programs. • Training of EQA 1st and 2nd controllers on AFB Microscopy
	• Xpert PT conducted in 100% public facilities. • All Truenat testing labs were enrolled in the PT program with an average performance of 80% and above • Conducted a pilot on LF LAM and TrueNAT for external quality assurance	• Non-adherence to the SOP and panel processing procedures. • Wrong panel delivery by courier services hence loss or delay results submission by testing facility. • Stockout of Xpert cartridges affecting PT testing • Due to the staff turnover most 1st and 2nd controllers are not trained. • Not all facilities are enrolled for the microscopy EQA.	• Scale up microscopy PT sites to All County Referral Hospital and competency testing of 1st and 2nd controller.
Sample referral systems (SRS)	• SRS for Xpert testing in counties supported by Local IPs • Referrals for culture/ DST samples supported by USAID TB ARC II countrywide. • There was effective and efficient support for couriers through both G4s and EMS companies. • Integrated sample referral supported by AMREF in 9 Counties.	• Lack of a national SRS digital system for data capture and reporting • Inadequate support for training (SRS, guidelines, policies) • SRS not fully optimized in all counties. • Inadequate triple packaging materials for sample referrals	• Review 2018 integrated sample referral guideline to include a factor multi-disease approach. • Disseminate integrated guidelines for SRS to all stakeholders including sample riders. • Digitize SRS tracking mechanisms. • Seek support to provide packaging materials.

LAUNCH OF DIAGNOSTIC NETWORK ASSESSMENT (DNA) IN KENYA 7TH MAY 2023

The USAID Infectious Disease Detection and Surveillance (IDDS), in collaboration with the MOH-DNTLD-P, and other partners participated in a one-day workshop to launch the DNA process in Kenya. The DNA was launched by key Ministry of Health Officials in Movenpick Hotel Nairobi. The workshop was attended by MoH officials from DNTLD-P, NPHLS, PEPFAR (CDC, USAID, DOD, USAID TB ARC II), and implementing partners. The main objective of the workshop was to officially launch the DNA process, and provide the stepwise guide on how the activity was to be conducted.

Figure 36: The official launch of the Diagnostic Network Assessment in Movenpick Hotel Wetlands, Nairobi on 7th May 2023

Diagnostic Network Assessment (DNA) in Nyeri County, Kenya 8th -13th May 2023

The official launch of DNA was followed by county assessment on human resource and infrastructure guided by TB net tool. A total of 13 counties were assessed

Activity name	Objective	Number of Counties supported / Participants reached
Development of National Quality Management Framework for TB laboratories	The NTRL through USAID TB ARC II support spearheaded development of Quality Management Framework (NQMF) for TB diagnostic labs, ensuring adherence to national policy.	19
Development of NTRL Operational Plan	The NTRL through CDC AMREF and USAID TB ARC II supported development of NTRL operational plan. The operational plan is a crucial document aiming to enhance TB diagnostic network efficiency and aligning with the NTP priorities.	40
Refresher training on AFB/GeneXpert testing	The DNLTD-P and NTRL collaborated to conduct refresher training aiming to enhance quality of follow-up smears at facility level. The trainings were supported by different partners including GF MoH, USAID TB ARC II, and USAID Komesha TB.	239

Dissemination of Integrated SRS guidelines	The DNTLD-P supported by CHS TB ARC II conducted an SRS dissemination workshop targeting Kilifi, Mombasa, Uasin Gishu, and Nyandarua counties to build capacity on SRS operational plans development to ensure an efficient SRS system.	30
Technical assistance mission by NTRL to decentralized Line Probe Assay sites	The NTRL through support by USAID TB ARC II conducted a five-day mentorship at decentralized LPA facilities: Malindi County Referral Hospital, Machakos Level V, Kisumu TB Lab, and Kitale County Referral Hospital, aiming to support LPA testing implementation uptake.	4
Technical assistance mission to Truenat MTB/RIF assay Health facilities	USAID's CHS TB ARC II collaborated with NTLD-P on a Truenat Technical Assistance (TA) mission at 33 facilities. The TA aimed to standardize practices and improve data reporting, supported by CHS TB ARC II funds.	33
Laboratory user manual and tools review workshop	The USAID CHS TB ARC II collaborated with NTLD-P to review and update laboratory tools, aiming to standardize testing procedures for quality assurance across the network, supported by CHS TB ARC II funds. Two workshops were done to ensure the manuals and tools are finalized.	45
Diagnostic Network Assessment (DNA) self-assessment and (DNA) report compilation, Staging, and Scoring	USAID IDDS in collaboration with DNTLD-P and other partners conducted series of activities to operationalize DNA including: Launch of DNA, DNA self-assessment, site assessment (external assessors), and staging and scoring to inform the final report.	244
Diagnostic Network Assessment	USAID IDDS, DNTLD-P, and partners organized a workshop to compile DNA reports, attended by stakeholders, aimed at finalizing country-level findings and recommendations.	45
Diagnostic Network Optimization data visualization workshop	The USAID TB ARC II and DNTLD-P conducted a workshop to analyze DNO findings, select priority recommendations, and draft an implementation plan, with follow-up supported by funding from FIND.	47
Electronic EQA workbook training	USAID TB ARC II and DNTLD-P conducted an electronic AFB EQA online training in Nakuru, Kenya, to enhance TB microscopy EQA skills among Sub County Medical Laboratory Coordinators.	24
GeneXpert technical assistance mission to Counties	The DNTLD-P through USAID TB ARC II support conducted an assessment of mWRDs facilities across the 22 counties to identify renovation needs and strengthen TB diagnostic systems.	22
Data linkage	This was supported by several partners to link data between LMIS, Tibulims and TIBU	

4

SOCIAL SUPPORT, NUTRITION HUMAN RIGHTS AND GENDER

SOCIAL SUPPORT FOR PATIENTS WITH DRUG RESISTANT TUBERCULOSIS (DR TB)

The Catastrophic Costs Survey (2017) showed that people with DR TB experience significantly higher catastrophic costs compared to those with Drug Susceptible TB. With the available resources, the country prioritized monthly cash transfers to all DR TB patients on treatment, as part of social protection supported through Global Fund grant. The funds were disbursed by Amref on behalf of the National TB Program, directly to the beneficiaries or their trusted nominees. Further, healthcare workers who were engaged in providing directly observed therapy (DOT) services to patients on the community based model of care received transport reimbursement for daily visits to the community.

In 2023, a total of 1,307 (89%) patients and 1,060 DOT workers were supported, with an average of 656 patients and 516 DOT workers reached per month, respectively. The country is anticipated to reach at least 918 patients monthly in 2023, with 50% on community based model of care on a community based model of care. However, the number of people supported decreased progressively through the year due to reduced DR TB case finding in the country. Further, the proportion of patients on community based models of care ranged between 75% and 85%, leading to the over achievement in support to DOT providers. The graph below shows the trends of patients and DOT workers supported monthly from 2021 to 2023 on average.

Total Support in 2023

1,307 (89%)
Patients supported

1,060
DOT workers supported

Proportion of patients on community-based care ranged between **75%** and **85%.**

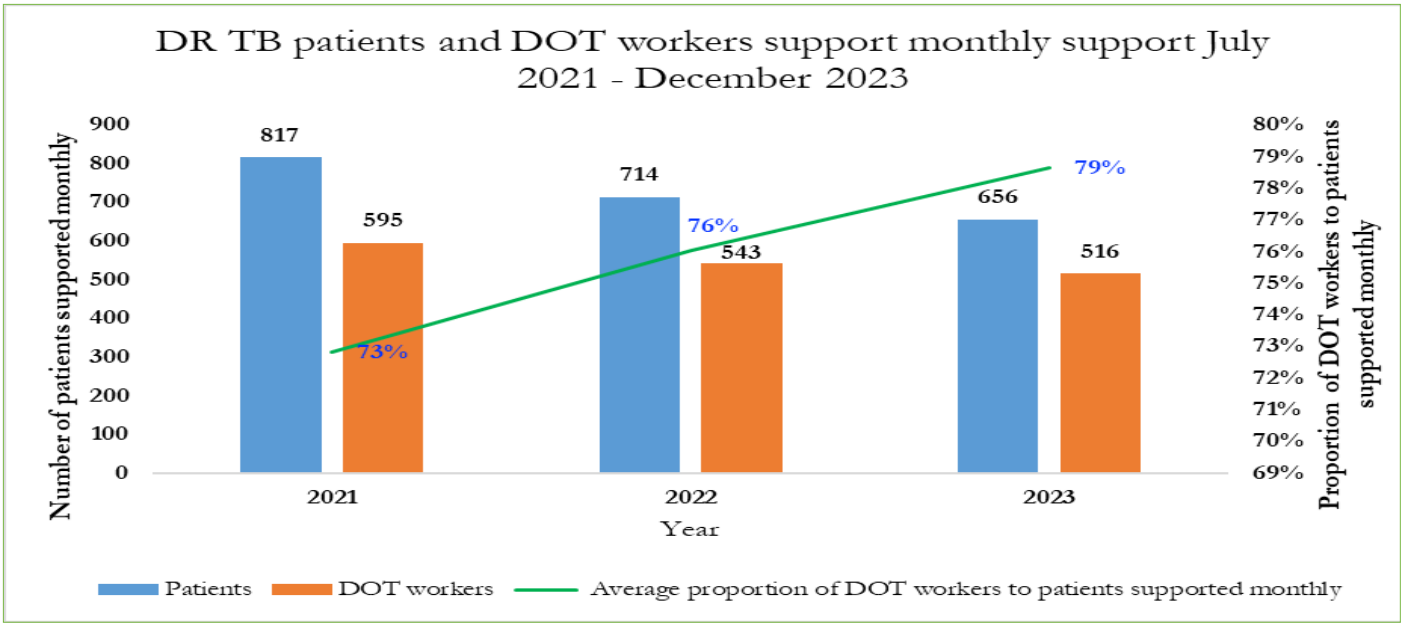


Figure 37 : DRTB Patients and DOT Workers Monthly Support, July 2021 to December 2023

The National TB Program supported the Drug Resistant TB patients to enroll in NHIF from August to December 2023. As the country transitions from NHIF to Social Health Authority(SHA), some of the challenges that will need to be addressed include lack of identity cards for TB patients, issue of street families and access to care for the prisoners who may require specialized treatment. These factors have affected many counties who have notified DRTB patients but are not able to submit their details for support as shown in the figure below.

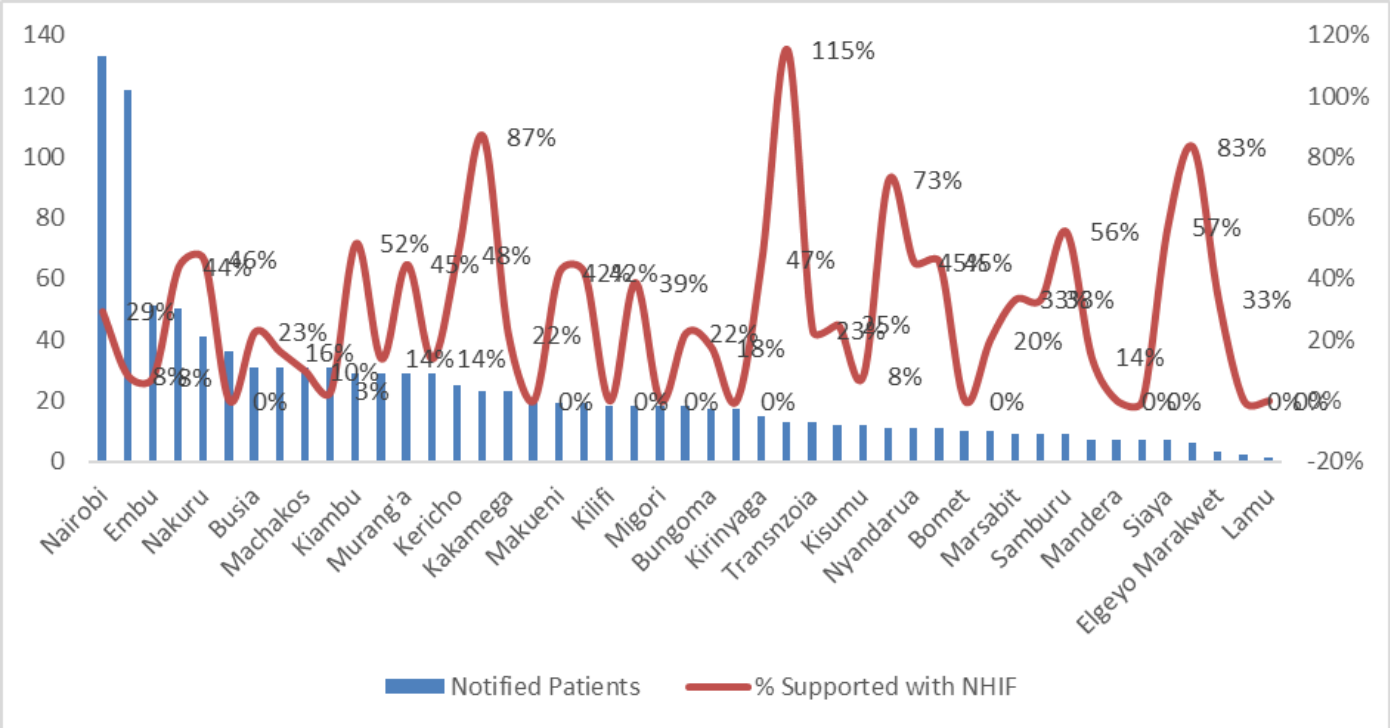


Figure38: Patients on NHIF support vs notified DRTB patients in counties

NUTRITION

Nutrition is a key determinant of health and treatment especially within communities with TB burden and underlying undernutrition. It forms a key component in TB control and has a direct impact on treatment outcomes and the long-term outlook of the patient.

In 2023, 47.1% of the 97,126 notified TB cases were undernourished with 18.4% (18,342) having Severe Acute Malnutrition (SAM) and 28.7% (27,934) having Moderate Acute Malnutrition (MAM). About 69% of the 705 drug-resistant TB cases were also reported to be undernourished at the time of diagnosis (25% SAM and 44%MAM). Among the 12,884 pediatrics notified, 50.1% were undernourished with 28.3% having SAM and 21.8% having MAM.

Nutrition Assessment	Nutrition Support	Proportion Nutrition support
SAM	18.8	45%
MAM	28.7	30%
NORMAL	38.9	n/a
OVERWEIGHT	5.6	n/a
OBESE	1.7	n/a

NUTRITION ASSESSMENT AND SUPPORT

The NTP recognizes good nutrition as an essential element promoting health and quality of life of patients. In respect to this, all TB patients benefit from nutrition assessment, counseling and support. Ready to Use Therapeutic Food (RUTF) is used to manage patients with SAM while Fortified Blended Flour (FBF) is used to manage patients with MAM.

In 2023, the program procured and distributed both therapeutic and supplementary feeds and 45% and 30% DSTB and 20% and 34% DRTB patients were put on therapeutic and supplementary feeding respectively.

CAPACITY BUILDING

On Job Training (OJT) and mentorship are among the strategies that the National TB Program has put in place to ensure that the capacity of Health Care Workers on nutrition care is standardized at all levels. The aim is to;

1. Assess nutrition management of patients with Tuberculosis, Leprosy & Lung disease.
2. Guide the health workers through explanation and demonstration in the work-place in order to address gaps identified.

In 2023, OJT/mentorship on nutrition management for TB patients was conducted in 24 out of 47 countries with 51 % coverage as shown in the table below:

County	No. of Facilities	County	No. of Facilities
Kakamega	6	Trans Nzoia	5
Kilifi	5	Elgeyo Marakwet	5
Taita Taveta	6	Baringo	6
Garissa	5	Laikipia	6
Isiolo	6	Nakuru	6
Machakos	7	Narok	5
Kitui	6	Kajiado	6
Nyeri	6	Kakamega	5
Kirinyaga	6	Bungoma	6
Kiambu	5	Busia	5
Samburu	6	Siaya	6
Migori		Nyamira	5

Key Findings

- Facilities had functional anthropometric equipment and patients were regularly assessed for nutritional status.
- key finding with, "Knowledge gap among HCWs on nutrition knowledge gap among HCWs on nutrition management in tuberculosis, and though RUTF and FBF were available, they were most often wrongly dispensed
- Vitamin A and RUTF were co administered to patients with SAM which may cause Vitamin A overload since Vitamin A is also in RUTF in large quantities
- Administration of RUTF to patients whose Random Blood Sugar was not done yet RUTF is a sugar dense feed

Continuous OJT/mentorship to HCWs is therefore highly recommended

As an effort to prevent and manage malnutrition beyond therapeutic feeding and supplementation, the program supported by AMREF developed a Nutrition Information Package to be used by communities and counseling cards on nutrition management to be used by HCWs.

EMPOWERING HEALTH, UPHOLDING RIGHTS AND GENDERED TB RESPONSE

The National TB Program continued to demonstrate a steadfast commitment not only to eradicating the TB disease, but also to upholding the rights of those affected by it. This brief encapsulates Kenya's endeavors in empowering health and championing the rights of TB patients, as highlighted in this 2023 annual report. The commitment to empowering health and upholding rights in its TB response is evident in both its actions and outcomes.

COMMUNITY RIGHTS AND GENDER ASSESSMENT:

Kenya recognizes the pivotal role that community engagement plays in combating TB. As part of its

comprehensive approach, a thorough community rights and gender assessment was conducted. This assessment aimed to understand the unique challenges faced by TB patients within diverse communities and to ensure that responses were tailored to meet their specific needs. By actively and meaningfully involving communities and addressing gender disparities, Kenya underscores its commitment to inclusivity and equality in its TB response efforts.

INCORPORATING RIGHTS INTO THE STRATEGIC PLAN:

To institutionalize the protection of TB patients' rights, Kenya has enshrined these principles within its strategic plan. By integrating a rights-based approach into policy frameworks, Kenya ensures that every aspect of its TB response is guided by the principles of dignity, equity, and respect for human rights. This strategic alignment underscores Kenya's dedication to not only treating TB but also to fostering an environment where patients are empowered and their rights are upheld.

Key Achievements:

Accessible Healthcare Services: In 2023, the NTP worked tirelessly to improve access to TB diagnosis and treatment services, particularly in marginalized and underserved communities. By decentralizing services and expanding outreach programs, more individuals have been able to receive timely and quality care.

Stigma Reduction Initiatives: Recognizing the detrimental impact of stigma on TB patients, Kenya has implemented targeted stigma reduction campaigns. Through education and awareness-raising activities, myths regarding tuberculosis were dispelled, creating a more accepting and inclusive atmosphere for individuals impacted by the illness. These activities were supported by the National Syndemic Diseases Control Council (NSDCC) within the education, law enforcement, and informal private sectors.

Advocacy for Policy Reform: The CSOs working closely with the NTP were at the forefront of advocating for policy reforms that prioritize the rights of TB patients. By engaging with policymakers and stakeholders, significant strides have been made in shaping policies that promote patient-centered care and uphold the rights of individuals throughout their TB journey.

The Kenya Legal & Ethical Issues Network on HIV and AIDS (KELIN) and Stop TB Partnership-Kenya continued to support the NTP to implement initiatives to combat TB-related stigma, discrimination,

and access barriers. KELIN, supported by the Stop TB Partnership through the Challenge Facility for Civil Society (CFCS), trained 32 TB Champions from 8 counties on community-led monitoring for social accountability in TB. Subsequently, these Champions utilized the One Impact Platform to undertake Community-Led Monitoring in their respective Counties. Building on this success, there was expansion to reach an additional 39 Counties by training 39 TB Champions, who will likewise engage in Community-Led Monitoring activities. Through these initiatives, KELIN documented human rights violations faced by TB patients in accessing affordable and quality healthcare. Leveraging on both technology and community networks, they implemented real-time data collection, facilitating prompt responses to TB cases and enhancing treatment outcomes. These efforts underscore the indispensable role of community empowerment and accountability in TB programming. By championing a rights-based approach, we strive to bridge the gap between policy and practice in TB control. Strengthening community-led monitoring, combating stigma, and ensuring comprehensive healthcare services represent critical steps toward achieving health rights for all Kenyans.

5

SUPPLY CHAIN MANAGEMENT, PHARMACOVIGILANCE AND ADSM

INTRODUCTION

Timely medical commodities availability and accessibility are crucial to healthcare service delivery. Health Facilities need data integrity and distribution network efficiency to access tuberculosis commodities NTP tracks inventories and alerts of supply chain shortfalls or surpluses to prevent treatment disruptions and ensure health facilities are consistently supplied with the required commodities.

The following management structures supervise the TB commodity supply chain:

1. The Commodities Security Committee
2. The National Order Management Team
3. The Procurement, Forecasting, and Quantification Team
4. The Pharmacovigilance and ADSM (Active Drug Safety Monitoring and Management Team)

SUPPLY CHAIN MANAGEMENT

TB COMMODITY ORDER MANAGEMENT

In 2023, there were sufficient quantities of commodities except adult TB patient packs which resulted from the contracted vendor's inability to supply the full contracted amounts of the patients packs. There were sufficient quantities of the adult TB patient packs up to June, but then a major disruption in the supply chain led to a gradual decrease until the country was completely stocked out in October.

Efforts by the NTP ensured minimal disruption in the supply of these medicines. This included:

- Redistribution of adult TB patient packs supported by the USAID TB ARC II project, which ensured uninterrupted patient care
- Repurposing slow-moving pyrazinamide and ethambutol meant for DR TB management and combining with the excess adult RH 75/150 tablets to maintain DS TB treatment protocols.
- Advisory to the counties to reconstitute the loose adult medicines broken up in the supply box.

- The NTP put measures in place to prevent this from recurring. These include:
    - Regular monthly monitoring of the TB commodities pipeline.
    - Linking of case notification with the resupply process, guaranteeing the availability of medications as new cases arise.
    - Deployment of an additional two staff to the NTP to assist in supply chain management.
    - Engagement of a Procurement Supply Chain Management (PSM) consultant to capacity-build the NTP staff.
    - Reprogramming of funds allocated to procure additional TB patient packs

TB COMMODITIES REPORTING RATES

In 2023, TB Commodity reporting rates averaged 95%, between 93% and 97%. The reporting rate on time was 100%, and orders serviced were 100%, from 93% to 97%.

TB COMMODITIES REPORTING QUALITY AND RELIABILITY

The TB allocation tool for tracer commodities monitored TB commodity data quality and reliability, with reported closing balances for TB commodities compared to the subsequent month's opening balances for concordance. TB patient packs were 89.5% (87%-94%), R/H/Z 75/50/150 mg tablets were 92.5% (92% - 93%), and R/H 75/50 mg tablets were 86.7% (76%-92%). This indicated an inaccurate portrayal of the available TB commodities at health facilities and resulted in incorrect quantities being resupplied to facilities monthly,

DISTRIBUTION OF TRACER DS TB MEDICINES

To maintain commodity security, the program distributed 12,845 packs pf Ethambutal 100mg tablets, 70,090 packs of pyridoxine 50mg Tablets, 85,556 TB patient packs, 45,122 packs of RH 75/50 mg Tablets, 17,000 packs of RHZ 75/50/150 mg Tablets, 3,036 packs of RHZE 150/75/400/275 mg Tablets (equivalent to 12,144 patient doses), and 70,090 packs of pyridoxine 50mg Tablets.

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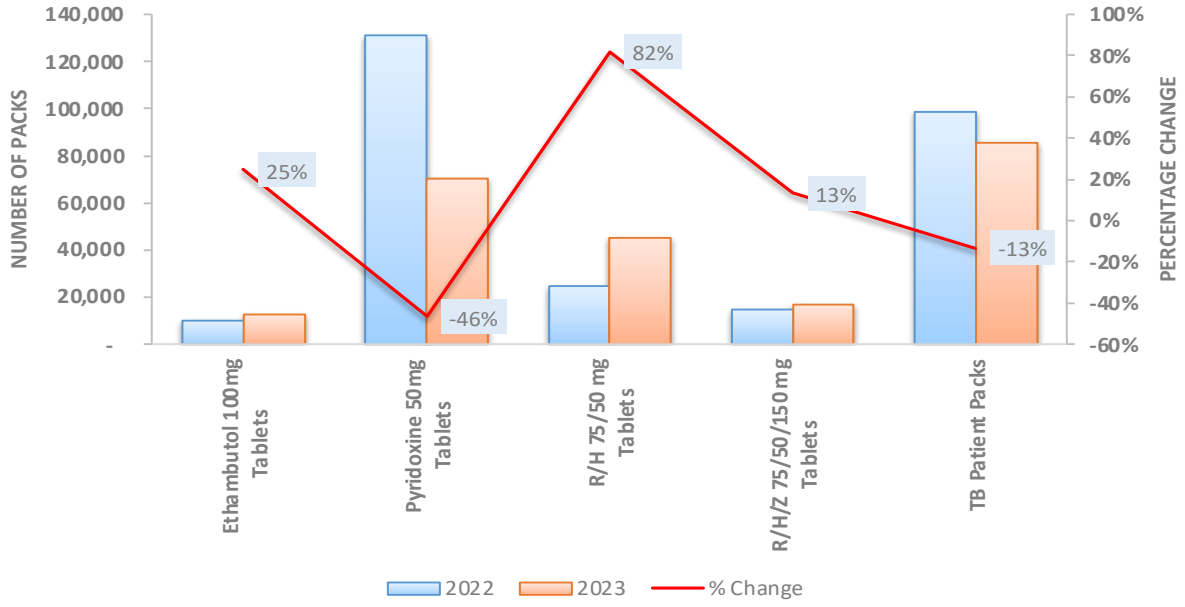


Figure 39: TB medicines distributed in 2022 and 2023

There was an increase in the number of ethambutol 100mg tablets (25%), R/H 75/50 tablets (82%), and RHZ 75/50/150 tablets (13%) packs and a decrease in pyridoxine tablets (-46%) and TB patient packs (-13%) from the previous year. The increase in R/H 75/50 mg could be due to an increased number of clients on TPT and pediatric treatment. The decrease in pyridoxine distribution could be due to parallel distribution of pyridoxine by TB/HIV programs and integrated management of TB/HIV patients.

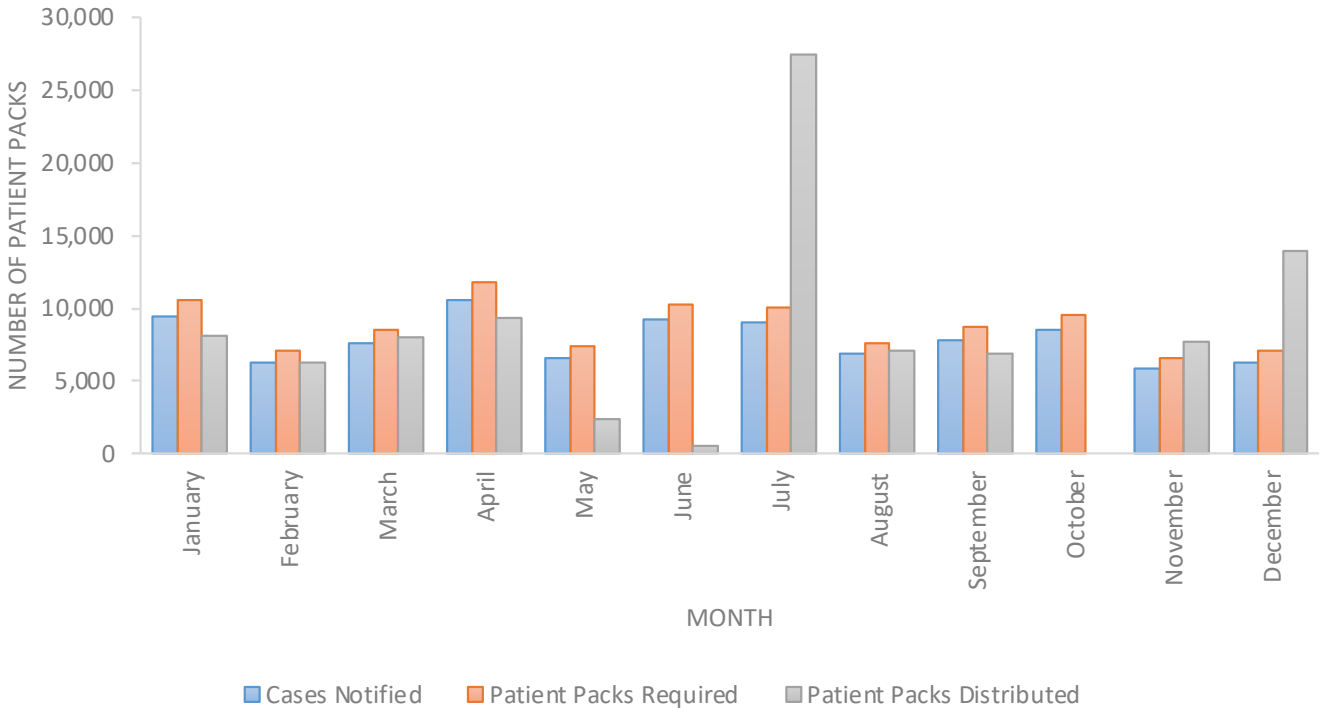


Figure 40: Monthly Adult DS-TB cases notified compared to patient packs required and distributed

Based on the cases notified, the distributed patient packs comprised 92.9% of the packs required. The lowest order fill rate was in October (0%), corresponding to when there was a complete stock out of adult patient packs, and the highest in July (272.4%). Laikipia County had the highest fill rate (134.5%) and Mombasa the least (74.3%). Twenty-two counties had a fill rate of 100% or more.

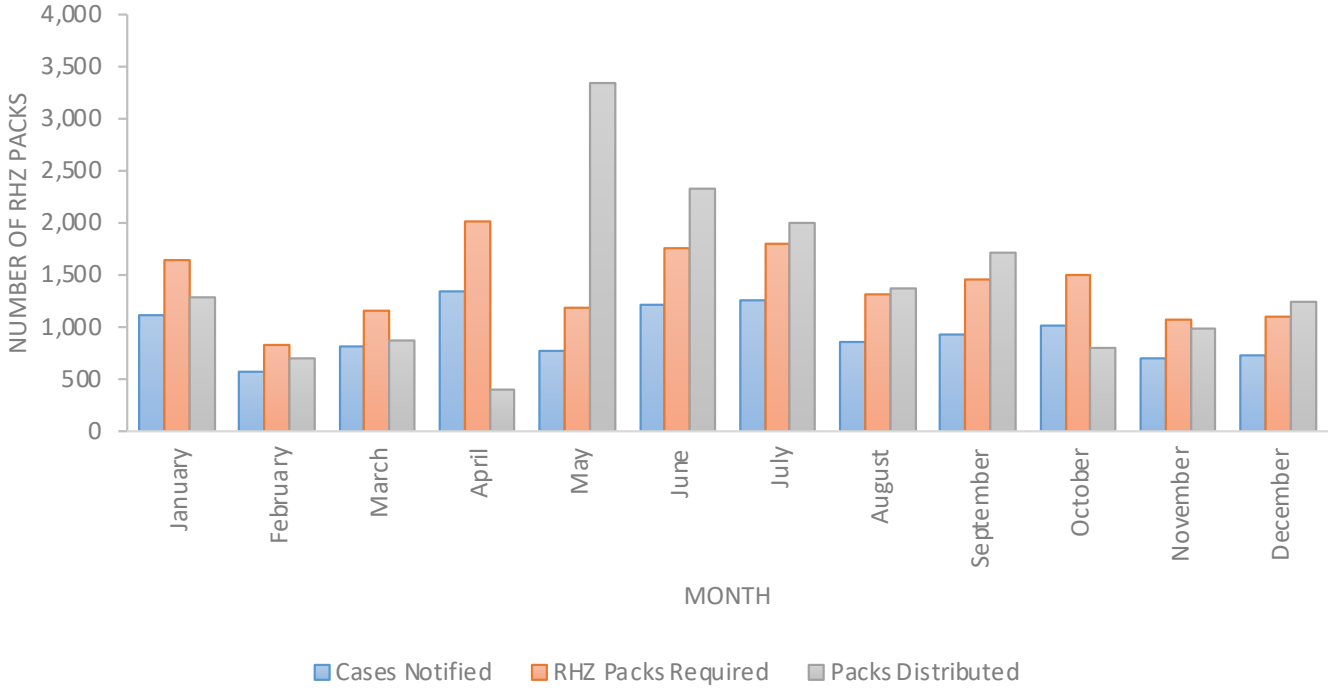


Figure 41: Pediatric DS-TB cases notified compared to RHZ packs required and distributed

The distributed pediatric RHZ packs made up 101.3% of the required packs. The lowest order fill rate was in April (19.4%), and the highest was in May (283.5%). Nandi County had the highest fill rate (240.6%), and Baringo County had the lowest (65.9%). Twenty-one counties had a fill rate of 100% or more.

DISTRIBUTION OF DR TB TRACER MEDICINES

In 2023, second-line line TB commodities were sufficient and distributed on request through the TB Allocation tool to the respective counties, with the expected turnaround time (TAT) of 48 hours not achieved due to distributor challenges to the health facilities

COMMODITY EXPIRIES

DRTB medicines comprised the majority of commodities that expired at the central stores in KEMSA due to change in regimen or slow movement. Expired medicines included; Moxifloxacin 400mg tablets (970), Ethambutal 400mg tablets (18Clofazimine 100mg capsules (4), Delaminid 50mg tablets (30), Pretomanid 200mg tablets (176), and Rifampicin 150mg tablets (870).

ANNUAL FORECASTING AND QUANTIFICATION

The annual forecasting and quantification exercise was carried out in July 2023 with the support of USAID TB ARC II. The activity reviewed the previous F & Q report, TB commodities stock status, and assumptions for TB commodities. The assumptions considered the proposed guideline changes, including adopting the 6-month BPaL(M) and child-friendly second-line medicines for the treatment of DR TB. The F & Q report was to support the procurement of commodities used in TB control. However, the biannual review of the F & Q was not conducted. This exercise played a crucial role in ensuring commodity security in the country.

PRODUCT AND PATIENT SAFETY

PHARMACOVIGILANCE

In health facilities throughout Kenya, the National Tuberculosis and Leprosy Control Programme (NTLDP) continued in its initiatives to oversee and enhance the safety of tuberculosis (TB) treatments In 2023, the Program reported Adverse Drug reactions (ADRs) from health facilities through TIBU, with 274 reports from 39 counties a 31% decrease from 2022, with the majority coming from Nyamira (27.7%), Kiambu (9.4%), and Meru (6.5%). The age group most affected was between 30 and 39 (29.5%), with males accounting for 64.2% of cases reported. The majority of adverse reactions reported (84.6%) occurred during the intensive phase of treatment, with the severity reported as mild (46.7%), moderate (35.7%), severe (16.4%), and fatal (4%),

The PPB also reported on TB-related ADRs, with 260 reports from 32 counties;

POST-MARKET SURVEILLANCE (PMS)

Post-market surveillance (PMS) activities for TB commodities were conducted in November 2023, with 26 samples taken from 19 counties. All 26 samples were tested at the National Quality Control Laboratory,

and all were found to comply with the tests' specifications. In 2023, one TB product quality complaint was lodged with the Pharmacy and Poisons Board. This was for a TB patient pack batch supplied to Likoni Catholic Hospital, and the complaint was with regard to the deterioration of the physical characteristics of some of the tablets. An investigation determined that this was isolated to the reporting facility and was most probably a storage issue.The NTP carried out sensitization on the integrated TB/COVID-19 commodity reporting tool across 13 counties, supported by the Global Fund (GF) and the Clinton Health Access Initiative (CHAI).

STRENGTHENING OF PROCUREMENT AND SUPPLY CHAIN MANAGEMENT PROCESSES

The Stop TB Partnership's Global Drug Facility (GDF) conducted a mission to support the program in procurement and supply chain management (PSM) in 2023. Part of the mission involved sensitizing the NTP PSM staff on Quan TB, which was used to forecast and quantify TB commodities.The recommendations from the mission will be used to develop an implementation plan to strengthen the internal PSM processes.

6

PREVENTION, HEALTH PROMOTION AND COMMUNITY ENGAGEMENT

INTRODUCTION

In the year 2023, various activities on the multisectoral approach, community engagement, TB prevention, and health promotion in general were carried out. The report highlights the impact that has been realized through advocacy and on the meaningful engagement of Communities.

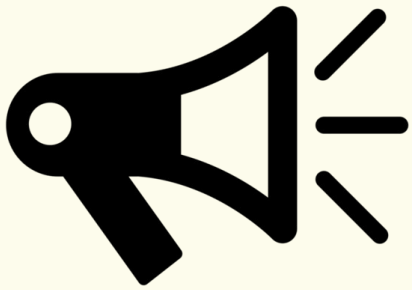
ADVOCACY

BUILDING COLLABORATIONS FOR TB RESPONSE

The National TB Programme launched its multisectoral accountability framework for Ending TB by 2030 during the World TB Day Celebrations. This marked a shift towards societal responsiveness, and responsibility in tackling the TB epidemic. The framework acknowledges the unique opportunities each sector offers in the fight against TB, aiming to collectively accelerate its elimination by 2035. (Fig below)

ADVOCACY THROUGH PARLIAMENTARY TB CAUCUS

The second African Parliamentary TB Summit, organized by the Stop TB Partnership-Kenya in collaboration with the African Parliamentary TB Caucus, brought together 33 members of Parliament from the African region. The MPs committed to advocating for the rapid adoption of WHO guidelines, increased financing, policy improvements, and collaboration with Civil Society Organizations and International partners. They also pledged to support the Global Fund to Fight HIV/AIDS, Tuberculosis, and Malaria and act as liaisons between parliament and TB-affected communities to reduce barriers to TB services.



2023 KEY HIGHLIGHTS

- Multisectoral approach initiatives.
- Community engagement programs.
- TB prevention and health promotion activities.

Figure 42: Hon. Mule Co-chair African Parliamentary TB Caucus reads out the Nairobi Political declaration as other Members of Parliament look on. This was after showcasing TB services at Mbagathi . UK parliamentarians were also hosted in August

ADVOCACY FOR DOMESTIC RESOURCE MOBILIZATION AND MAF TB TOWARDS ENDING TB IN KENYA

The collaboration between NTP and USAID TB ARC II focused on engaging key stakeholders to advocate for the Kenya Multi-Sectoral Accountability Framework (MAF) for TB activities across high-burden counties in Kenya. This involved key stakeholders namely Stop TB Partnership-Kenya, Council of Governors and political representatives at both national and county levels. The activities included dialogues with national and county governance during the 2023 Devolution Conference, securing commitments for domestic resource prioritization, and advocating for TB funding within health budgeting processes.

COMMUNITY ENGAGEMENT

National TB Programme recorded community TB activities that impacted on TB response through TB contact tracing and linkage for investigation, tracing of TB treatment interrupters, targeted TB screening outreaches, awareness creation on TB in institutions of learning, community awareness on TPT, capacity building of TB champions, and support to TB patients for adherence to optimize treatment outcomes.

CONTACT TRACING IN THE COMMUNITY

CHPs were involved at community level to trace contact of 34,970 persons identified with TB from January to December 2023. Out of this, 117,023 household contacts were reached, 20,732 (95%) were identified as symptomatic and 19,765 were referred for investigation. Among them 96,291 were asymptomatic out of which 68,150 (71%) were also referred for further medical investigation. This resulted in the identification of 1,743 persons with TB, while a total of 30,853 were initiated on TPT.

COMMUNITY TB ACTIVE CASE FINDING THROUGH TARGETED OUTREACHES

Active TB case finding targeting communities was aimed at optimizing TB services access to the unreached and underserved populations in the country. This targeted people living in informal settlements, hard-to-reach areas, prisons, street families, and school-going children among others. During the outreaches, the targeted population was mobilized, provided with health education, screened for TB, and presumptive referred for investigations. Those diagnosed with TB were promptly linked to treatment.

Summary of targeted community outreaches conducted

Through the support of the Global Funds, a total of 108 (47%) targeted outreaches were conducted in 2023 as summarized below. From the data below- a cascade of care, out of the 74,890 people screened, 28,754 (38%) were presumptive, 10,636 (37%) tested for TB, 1,533 diagnosed with TB, and 1,502 (98%) started on treatment. The detailed breakdown per county and target population reached is in the Annex section. Below is the summary of communities reached, counties, and the respective data on the TB Active case finding cascade.

Diversity of Communities reached With Targeted TB outreaches

Target Key Population	No. of outreaches conducted	Counties Reached	No. of TB cases identified	Number initiated on treatment
Hard-to-reach areas	21	Baringo, Elgeyo Marakwet, Isiolo, Kajiado, Kwale, Mandera, Marsabit, Samburu, Tana River, Wajir, West Pokot,	391	385
Beach Community	3	Homabay Kisumu and Nakuru	47	47
Drug dens	5	Kisii, Kilifi, Laikipia, Migori and Nairobi	59	58
Informal urban settlements	20	Kakamega, Kisumu, Meru, Nairobi, Nakuru and Uasin Gishu.	393	389
Other hot spot areas such as markets	35	Embu, Homabay, Kitui, Narok, Nyeri, Taita Taveta, Trans Nzoia,Bungoma,Busia,Embu,Kericho,Kilifi,Kisii,Kitui,Kwale,Laikipia,Machakos,Makueni,Nandi,Narok,Nyamira,Nyandarua,Nyeri,Taita Taveta, Tharaka Nithi and Vihiga	493	482
Police stations	1	Nairobi	8	8

Prisons	35	Embu, Kitui, Machakos, Nairobi, Tharaka Nithi	158	158
Schools	11	Embu, Kilifi, Kisii, Kisumu, Nakuru, Nandi, Nyeri, Turkana and Vihiga	77	77
Selected workplaces e.g. Gold mines, slaughterhouses	6	Busia, Embu, Homabay, Kakamega, Kisii, Kwale, Makueni, Nakuru, Taita Taveta and Vihiga	89	87
Street families	3	Kisumu, Kitui and Nakuru	32	32

Lessons learnt during Community Targeted TB Outreaches

Adequate coordination, early planning and forecasting through a collaborative approach were essential components in ensuring successful creation of TB awareness and demand, while promoting access for TB services to populations at risk of TB.

Best practices from the Community Targeted Outreaches

- Joint planning with the county teams led to better collaboration and success in carrying out the activity.
- Enhanced community support in sample referral to genexpert testing sites and supporting the laboratory technicians at the hubs reduced the turnaround time for results.
- The use of digital X-ray machines coupled with symptomatic screening helped to optimize the identification of people presumed to have TB and reduced the number of cartridges consumed.
- Taking services to the populations at risk of TB led to increased access to health care thus, early detection of TB and initiation of treatment.
- Intensified mobilization of the target populations in good time using different implementing partners systems and Community Health Providers (CHPs) led to good turnout and increased yield.

CIVIL SOCIETY AND TB AFFECTED COMMUNITY ENGAGEMENT.

The Ministry of Health through the National TB Programme Kenya continues to engage civil society Organizations (CSOs), TB-affected and infected communities, in TB prevention and control activities. The National TB Champions Network in Kenya were involved in issuing a Call to Action to demand social justice and awaken a transformative response to Tuberculosis (TB) at UNHLM 2023 and contributed towards development of the document for pandemic preparedness action plan "The Deadly Divide". Continued meaningful engagement of TB champions contributed towards the TB NSP's agenda on a person-centred approach to TB response.

HEALTH EDUCATION AND PROMOTION IN LEARNING INSTITUTIONS.

The National TB program collaborated with the line-Ministries and learning institutions in Kenya to mainstream TB messages in co-curricular annual drama and music festivals 2023 event. This aimed at ensuring educational and social inclusion of children and youth, and especially those with disabilities. The engagement saw capacity building for adjudicators from the Ministry of Education and leadership of the Kenya Music Festivals on TB content for inclusion in the content.

ADVANCING COMMUNITY TB-RELATED SOCIAL AND BEHAVIOUR CHANGE AND COMMUNICATION (SBCC): POLICIES, GUIDELINES, AND OPERATIONAL MANUALS DEVELOPMENT

The National TB Programme developed the TB screening policy for institutions of learning, as well as the standard operational manual for conducting TB screening outreaches through a multisectoral engagement, to aid in promoting social and behaviour change and communication (SBCC) approach. This will enhance future evidence-informed consultative processes to bring about positive change in TB knowledge or awareness, operational norms, motivation, and the ability to act to change behavior.

STRENGTHENING TB RESPONSE THROUGH PRIMARY CARE NETWORKS (PCN)- PATIENT SUPPORT THROUGH COMMUNITY ENGAGEMENT

Through the country-wide Primary Care Networks (PCN) services, access to TB services was enhanced and CHPs and TB advocates were engaged on human rights agenda, to combat stigma, to promote access to health services, while sustaining TB health education at the household level. This contributed to strengthened referral by TB Community Health Actors, advocacy for TB resources in county forums, while supporting patients for better adherence.

COMMUNITY SYSTEMS STRENGTHENING: COMMUNITY-LED ADVOCACY IN TB RESPONSE

In July 2023, a national forum on Community Systems Strengthening took place, focusing on the theme of "Communities as agents of change in improving health outcomes." The forum aimed to achieve two key objectives: disseminating best practices and lessons learned in community system strengthening and providing communities with a platform to learn from their peers.

COMMUNICATION

In 2023, the National TB Program (NTP) collaborated with counties and other stakeholders to raise awareness and increase demand for TB services and treatment completion across the country. The following milestones were achieved:

MASS MEDIA CAMPAIGN:

In March 2023, NTP conducted a mass media campaign to raise public awareness about TB and promote demand for TB services. This campaign coincided with World TB Day and ran for four weeks on five (5) TV stations and fifteen (15) radio stations.(Table below)

List of TV and Radio Stations - March 2023 – April 2023

Number of Stations	Total Estimated Reach	Total Ad spots
TV - 5	5,265,000	687
Radio - 15	5,034,500	1,439

Citizen TV, KTN TV, NTV, K24, KBC TV, Classic FM, Egesa Fm, Hope Fm, Angaaf Fm, Musyi Fm, Inooro fm, Kass Fm, Kaya Fm, Radio Maisha, Maiyan Fm, Mulembe Fm, Muuga Fm, Radio Citizen, Radio Ramogi, Radio Jambo collectively featured 2126 spots.Under USAID TB ARC II, the program ran a two week's campaign on Citizen TV reaching an estimated viewership of 3,000,000.

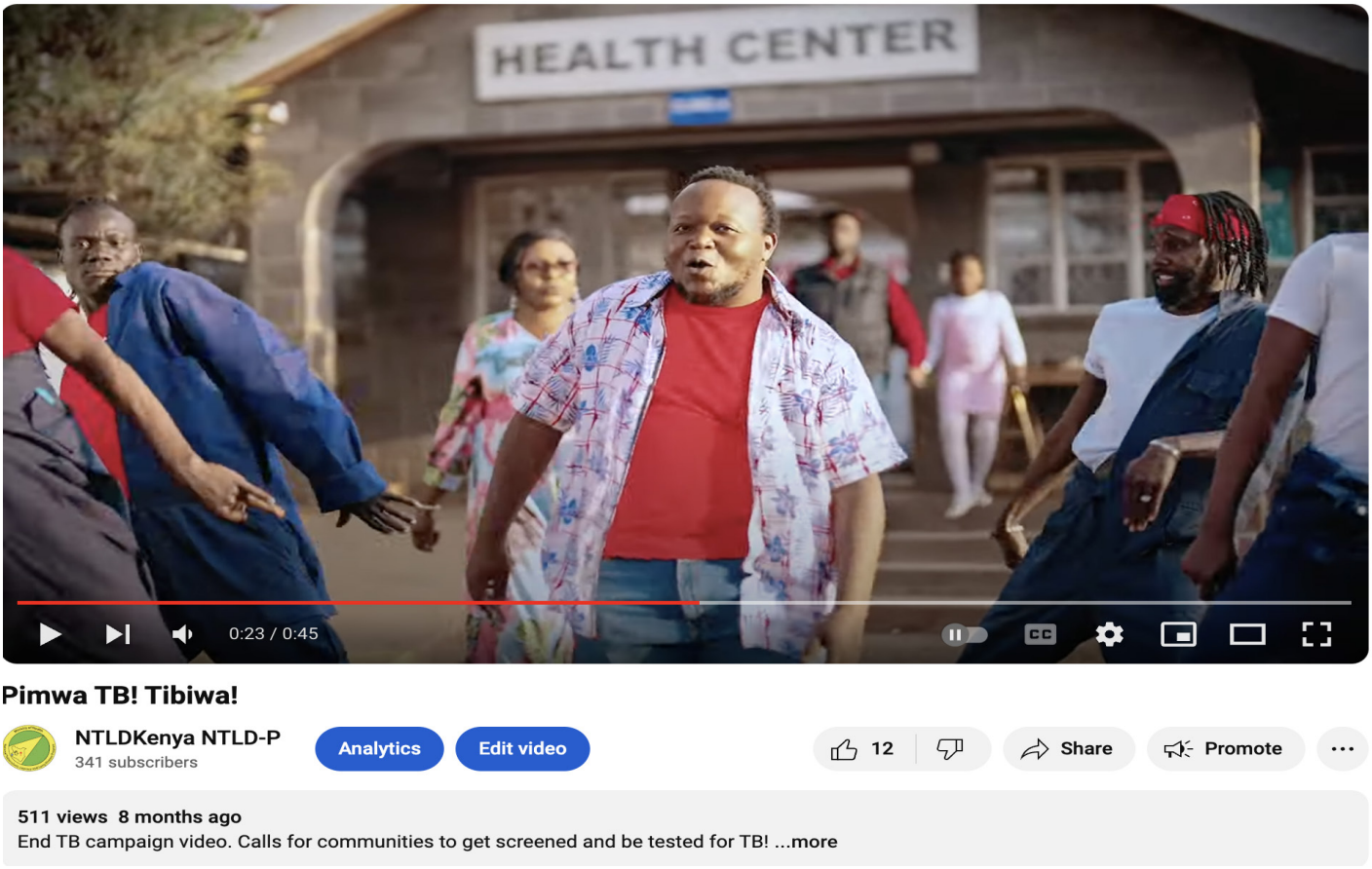


Fig 43: A screenshot of a section of the TB infomercial aired on TV and radio stations in 2023

DOCUMENTATION AND DISSEMINATION OF BEST PRACTICES AND FEATURE STORIES STORIES:

The National TB Program in collaboration with USAID TB ARC II documented and disseminated TB best practices and impact stories through various national and local media stations. The documentation engaged health journalists from select TV and Radio stations to publish feature stories from selected counties. (Table below)

Feature Stories in 2023

Platform	Date	Reach
Daily Nation	21/03/2023	2,500,000
Citizen Radio	24/03/2023	3,200,000
Standard Newspaper	30/03/2023	1,800,000
Citizen TV English version	29/04/2023	3,000,000
Citizen TV Swahili version	29/04/2023	

IMPLEMENTATION OF TB SOCIAL AND DIGITAL MEDIA CAMPAIGN:

Engagement of Content Creators: In collaboration with USAID TB ARC II, NTP engaged six (6) creative content creators with a wide target audience reach, in co-creation and running a TB campaign on TB prevention, diagnosis, treatment, adherence, stigma and myths. The content creators shared the messages via their social media platforms; Facebook, Twitter, YouTube, Tik Tok and Instagram. The messages were also reshared on NTP social media accounts.

Engagement of Content Creators

Content Creator	Content Created
Flaqo Raz	https://fb.watch/jZ1aR83BNl/
Shix Kapienga	https://www.instagram.com/reel/Cq2UY82NIK0/?utm_source=ig_web_copy_link
Jackline Awinja	https://www.youtube.com/watch?v=Mq8jsXUHAZ0&t=182s
Abel Mutua	https://www.youtube.com/watch?v=uPFRMFI2I28
Jayme Ule Msee	https://www.youtube.com/watch?v=16Dy_BQPCDA&t=109s
Eddie Butita	https://web.facebook.com/eddiebutita/videos/325792793251687

Content Creator	YouTube	Twitter	Facebook	Instagram	TikTok	Total Estimated Reach
FlaQo	-	184,400	215,700	119,300	234,000	753,400
Shix Kapyienga	-	826	10,442	32,262	-	43,530
Jackie Awinja	-	-	677,083	158,833	-	853,916
Abel Mutua	537,200	-	3,600	26,100	-	566,900
Jaymoh Ule Msee	20,000	-	1,780,000	31,806	-	1,831,806
Eddie Butita	-	-	83,700	141,000	-	224,700

Implementation of TB Digital Media Campaigns: The National TB Program in collaboration with USAID TB ARC II ran a digital media campaign in the month of March 2023. Royal Media, which has a wide reach of audiences, was engaged to disseminate TB messages through its Citizen digital media platforms - Website, Facebook, and Twitter accounts. The messages were shared on NTP and partners' social media platforms. The estimated reach of the digital media campaign was 2,904,652 million social media users in Kenya.

Citizen Digital Campaign March 2023 Report

Platform	Facebook	Twitter	Roadblock Banner Performance	Website Banner Performance	Article on Website Performance	Total
Reach	1,078,838	556,864	315,823	938,525	14,602	2,904,652

Figure 44: Screenshots of sponsored tweets by the Royal Media Group - Citizen digital

The NTP website only reached a total of 11493 in 2023 thus the need for aggressive campaign. Majority of those who accessed the website visited the guidelines and reports pages.In March, NTP ran a campaign on its Facebook page reaching a total of 175,700 people, which is a drop of 44.1% compared to 2022. There is a need for regular campaigns on our social media platforms. The campaign however, did not run on X premium which requires subscription.

PUBLISHING OF TIBA NEWSLETTER

With support from USAID TB ARC II, the Program published three (3) quarterly editions of TiBa newsletter and supported in the design and laying out of information, education and communication materials including policy documents.

2023 WORLD TB DAY

The program in collaboration with key stakeholders including USAID TB ARC II organized the National World TB Day commemoration held in Eldoret Town - Uasin Gishu County. The national event brought together key delegates including the Chief Guest, Prime Cabinet Secretary Musalia Mudavadi, Cabinet Secretary Ministry of Health, WHO country representative, development partners including USAID, key high level political leaders namely the Governor of Uasin Gishu, representatives from the private sector, Civil Society, affected communities and media among others.

ANNUAL PERFORMANCE REVIEW MEETING SUPPORT

The NTP communication team in collaboration with USAID HealthIT project supported the planning of PRM. The aim was to create awareness on the best performing counties and key strategies used included social media campaigns, live streaming and development of IEC materials. Certification and awards for the PRM was supported by USAID -Komesha TB program.

AWARENESS CREATION IN SCHOOLS THROUGH KENYA MUSIC FESTIVALS

The National TB Program collaborated with the Ministry of Education to raise awareness about TB through choral verses and musical compositions, with support from the Amref Health Africa – Global Fund Project. A total of 28 primary and 15 secondary schools took part in TB awareness sessions during the national event held in Nyeri County. Among the 684 students who participated, 66 were boys and 618 were girls. However, there is a recognized necessity to involve more boys' schools in future awareness campaigns.

Summary of the estimated reach during the Kenya Music Festival:

Level	Schools	Students	Teachers/Trainers	Adjudicators	Committee Members and Officials
National	6,894	150,422	7,028	100	700
Regional		2,964,000	n/a	n/a	n/a
County(Estimated Reach)	705,000		n/a	n/a	n/a
Sub-County		942,000	n/a	n/a	n/a

UPDATE OF NTP WEBSITE

The National TB Program updated the revamped NTP website with a data dashboard which captures current data from the 47 counties. The update is crucial for improving user experience, disseminating accurate information, raising awareness, engaging stakeholders, facilitating collaboration, collecting data, and advocating for TB control efforts. This was supported by USAID HealthIT.

Design and Printing of TB Information, Education, and Communication (IEC) Materials:

A variety of IEC materials for various target audiences were developed, printed and disseminated by the program in collaboration with the partners.

MONITORING, EVALUATION AND RESEARCH

7

INTRODUCTION

The Monitoring Evaluation and Research (MER) section is tasked with establishing a robust monitoring and evaluation (M&E) system aimed at supporting evidence-based decision-making for effective TB, Leprosy, and Lung disease initiatives. It ensures the smooth flow of strategic information regarding implementation, tracks the performance of key activities outlined in strategic plans, and monitors relevant TB indicators to enhance service delivery, identify areas for enhancement, and implement necessary corrective measures in TB programming in the Country. Additionally, it focuses on enhancing the collection and utilization of data pertaining to TB, Leprosy, and Lung Disease programs by conducting routine data quality assessments, improving data quality at sub-national levels, and organizing performance review meetings. Moreover, the section is responsible for leading the development, dissemination, and updating of recording and reporting tools in alignment with prevailing guidelines. An integral aspect of its role involves coordinating surveys, program evaluations, and impact assessments to enhance the effectiveness of TB, Leprosy, and Lung disease initiatives.

SUPPORT EVIDENCE-BASED DECISIONS THROUGH

- Provision of strategic information on implementation.
- Tracking performance of key activities in strategic plans.
- Monitoring relevant TB indicators to enhance service delivery.

PERFORMANCE REVIEW MEETING

The National Tuberculosis Program (NTP) plays a pivotal role in combating the spread and management of tuberculosis (TB). Regular performance data review meetings are crucial to assess the effectiveness of interventions, identify areas of improvement, and ensure the program's alignment with national health objectives. The 2023 performance review monitoring appears to have been a

The MER section ensures effective program implementation and continuous improvement to combat TB and related diseases in Kenya

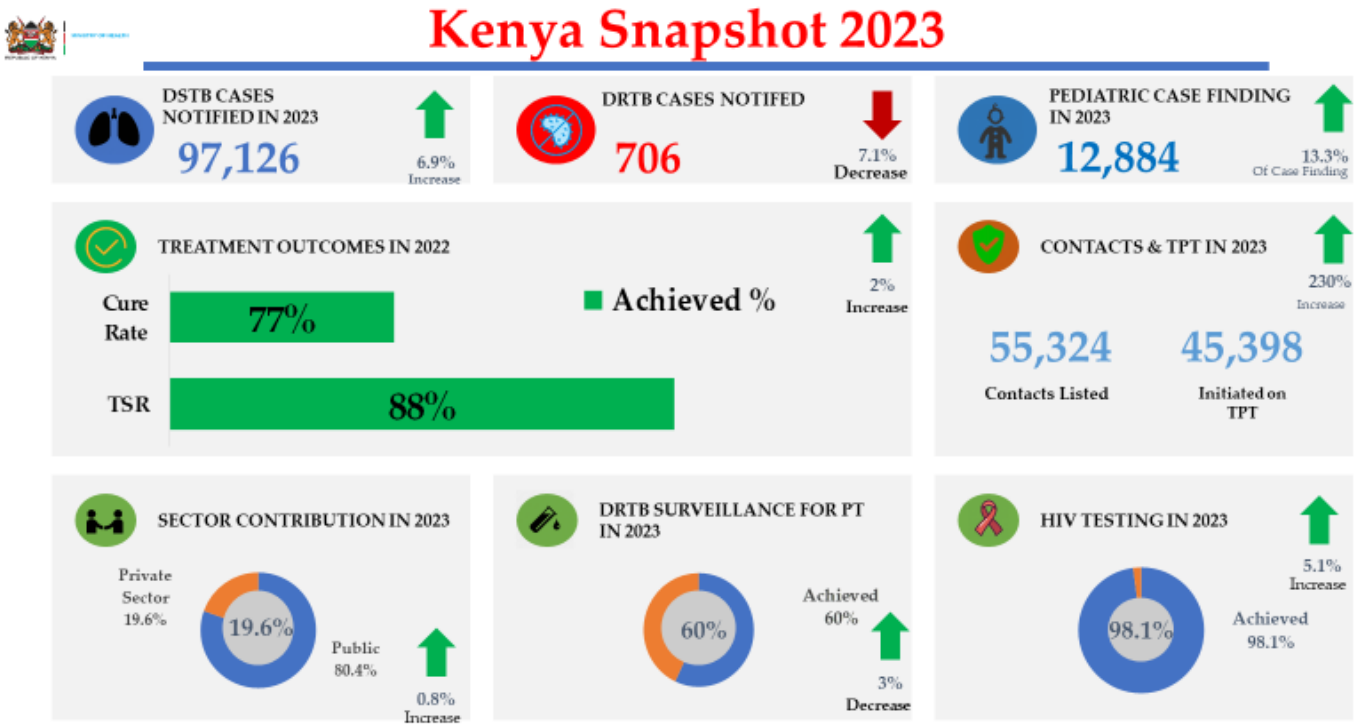
crucial step in evaluating the effectiveness of TB interventions and identifying areas for improvement. By reviewing key TB indicators for the previous year (2022), stakeholders gained insights into the program's strengths and areas needing attention. The identification of gaps and challenges would have informed the development of evidence-based and data-driven action plans tailored to each county's needs. This approach ensures that strategies for reducing TB incidence are grounded in real-world data and are more likely to yield meaningful results. It's a systematic way to drive progress and accountability within the National TB Program.

USAID supported the meeting through the USAID HealthIT project which provided communication, logistical and technical support to the Performance Review Meeting held between 26th February to 1st March 2023 in Nakuru County. The meeting was attended by County TB Coordinators, County Pharmacists, County Medical Laboratory coordinators, County Directors for Health, TB implementing partners and D-NTLP program officers. The performance review meetings' theme for 2023 was "Data For Action! Yes, we can end TB in Kenya". The theme aims to engage all stakeholders both in public and private sectors in the fight for TB control as multisectoral engagements.

The main objectives of the performance review meeting were:

- Review annual TB program performance against targets for 2022
- Develop action plans for correcting shortcomings during the period under review
- Provide stakeholders consultative forum in TB control
- Share lessons learnt during the implementation period
- Share the TB program updates and developments
- Recognize and award counties with outstanding performance

A SNAPSHOT OF THE COUNTRY PERFORMANCE IN 2023



The country experienced an overall 6.9% increase in case finding for the year 2023, and an 13.3% increase in pediatric case finding compared to 2022 with a 7.1% decrease in Drug Resistance Tuberculosis case notification. There is an impressive improvement in contact listed and TB preventive Therapy compared with 2022.

COUNTY PERFORMANCE SCORECARD

Developing an innovative and objective scorecard jointly by the DNTLD-P M&E officers to rank county performance across various indicators is a smart approach to assessing progress and identifying areas for improvement. The range of indicators included, quality of care, availability of gene xpert cartridges, commodity reporting, TPT data, sample rejection rates from NTRL, and data completeness, reflecting a comprehensive evaluation of TB control efforts.

Recognizing Homabay County as the best-performing county with a score of 69.4%, followed by Nyamira and Mandera counties as the 2nd and 3rd runners-up, highlights successful strategies and initiatives implemented in those regions. Additionally, acknowledging Bomachoge Borabu Sub County in Kisii County as the best-performing sub-county, with Makueni and Kitutu Chache North as runners-up, emphasizes the importance of local-level interventions and tailored approaches to TB control.

This transparent and data-driven ranking system provides valuable insights into the strengths and weaknesses of different regions, facilitating targeted support and resource allocation where needed most. It also incentivizes continuous improvement and fosters healthy competition among counties and sub-counties, ultimately contributing to better TB control outcomes in the Country.

ANNUAL DATA QUALITY IMPROVEMENT FORUMS

Conducting annual Data Quality Improvement Forums is an approach for the National TB Program to enhance data accuracy and reliability. Clustering counties based on epidemiological zones and considering their strengths and challenges ensures targeted interventions and tailored support. The effective processes like data cleaning, validation, and sharing best practices in patient management can significantly contribute to better data quality. It's a proactive strategy that fosters collaboration, learning, and continuous improvement across all levels of the program. The activity is important because it serves as a platform to review individual performance, provide solutions and benchmarking between Counties as well as provide quarterly national Program level updates. The desired impact of Data quality forums is Provision of timely TB-specific information on key TB indicators which guide and inform TB leaders and innovators in the development of future TB interventions and programs which will ultimately lead to decreasing the burden of TB in the country as a whole.

It's commendable that the indicators used for performance review not only assess the effectiveness of interventions but also serve as markers for successful public health efforts. By identifying areas needing further attention and support within the TB care spectrum, stakeholders can prioritize resources and efforts where they are most needed. Additionally, acknowledging limitations in current data, such as incomplete or time-lagged information, is crucial for ensuring the accuracy and reliability of future assessments.

The collaboration between the National TB Program and implementing partners to conduct annual data quality improvement forums for 37 counties demonstrates a commitment to addressing data-related

issues comprehensively. Deliberating on challenges ranging from data cleaning and validation to performance indicators allows for a holistic understanding of the data landscape. Developing action plans targeted at areas with identified gaps ensures that efforts are focused and impactful. This proactive approach to data quality enhancement is essential for strengthening the overall TB control efforts and ultimately improving health outcomes.

SURVEYS

1. ANTI-TUBERCULOSIS DRUG RESISTANCE SURVEY 2023/2024

The survey will provide updated data on the prevalence and patterns of first and second-line anti-TB drug resistance among new and previously treated bacteriologically confirmed pulmonary TB, with and without HIV infection and is envisaged to inform drug-resistant TB programming in the country. The design and implementation of this survey are guided by 2021, WHO guidelines for conducting drug resistance surveys. Below see the survey objectives and progress status.

Overall goal	To estimate the national prevalence of anti-TB drug resistance in Kenya
Objectives	1. To determine the prevalence of first- and second-line anti-TB drug resistance among new and previously treated bacteriologically confirmed pulmonary TB patients in Kenya 2. To compare the performance between phenotypic and genotypic resistance testing approaches. 3. To describe the genetic characteristics of circulating strains of M. TB among bacteriologically confirmed cases 4. To investigate associations between clinical and sociodemographic characteristics and drug-resistant TB 5. To measure the prevalence of anti-TB drug resistance among HIV co-infected bacteriologically confirmed pulmonary TB patients in the Nairobi metropolitan area.
Study design	A cross-sectional survey design. The target population are the pulmonary bacteriological confirmed individuals.
Progress status	On-going data collection

2. ASSESSMENT OF TUBERCULOSIS BURDEN AMONG WORKERS IN KENYAN HEALTH FACILITIES, 2024

Healthcare workers (HCWs) are at higher risk of tuberculosis transmission due to frequent interactions with patients, with an annual risk ranging from 3.9% to 14.3% in low- and middle income countries. In comparison to the general population, HCWs face a 1.9–5.7 times higher risk of developing active TB, and a six-fold higher risk of hospitalization with multidrug-resistant TB. Below is the survey objectives and progress status.

Overall goal	To determine the burden of TB among healthcare workers working in health facilities in terms of proportions and the associated factors, knowledge, attitudes and practices
Objectives	1. To determine the prevalence of healthcare workers with TB in Kenya 2. To identify TB risk factors and practices associated with tuberculosis transmission among healthcare workers in Kenya
Study design	Cross Sectional study design. Target population were Health care workers
Progress status	On-going data collection

Assessment of Tuberculosis Knowledge, Attitude and Practices (KAP) in Kenya, 2024

In 2022, about 30% of people with TB in Kenya were not diagnosed. According to the prevalence survey of 2016, only 65% of prevalent cases with any TB related symptom had sought any health care. Lack of knowledge, poor attitude, and poor practices pose serious barriers to access TB services and hence hinder the program from achieving its targets. The primary goal is to identify gaps and barriers in TB awareness, care-seeking behavior, treatment adherence, stigma and discrimination, and social support in the general population. Below see the survey objectives and progress status.

Overall goal	To assess the knowledge, attitude and practices for Tuberculosis among the general population in Kenya
Objectives	1. Determine the level of TB knowledge among the general population in Kenya regarding TB transmission, symptoms, risk factors, and treatment 2. Investigate the perceptions, beliefs, and attitudes regarding TB among the general population in Kenya. 3. Evaluate the behaviors and practices related to TB within the general population in Kenya. 4. Provide evidence-based insights on TB to guide advocacy and communication strategies for promoting awareness about TB prevention, diagnosis, and treatment in Kenya
Study design	A cross-sectional household-based survey using a mixed-method design that entails both qualitative and quantitative methods. The target population was the general population
Progress status	On-going data collection on-going

TRAININGS

TIBU SYSTEM TRAININGS

The TIBU system is in use in all counties in the country where CTLCs, SCTLCs and Community Health Volunteers report on various TB metrics regularly. USAID HealthIT project continued to support sensitization and capacity strengthening of the county and sub-county TB and lung disease coordinators across the country to ensure maximum utilization of the TIBU system. In FY23, the activity supported training workshops for Kisii, Migori, Garissa, Wajir, Mandera, Narok, Kericho and Bomet counties. The

training covered ACF, Pharmacovigilance, Contact Management, and facility-based modules of TIBU. The t-bu lite mobile application was also piloted during the training. A total of 59 TB coordinators were trained. The overall objectives of the activity were to train CTLCs and SCTLCs on new & updated TIBU modules, to orient CTLCs and SCTLCs on the t-bu lite mobile application and TIBU-KHIS integration & KHIS data use.

D4D TRAINING

The TB Program's implementation of Data for Decision Making (D4D) training in 2023 represents an important effort in enhancing the data management skills of healthcare workers (HCWs) within the program. The training sessions were structured around three primary objectives: Understanding TB Data and Preparation, Familiarization with Key Indicators and Data Quality Monitoring, and Data Analysis and Data-Driven Decision Making. Through these objectives, participants were equipped with the tools and knowledge necessary to navigate TB data effectively. In 2023, a total of 45 participants benefited from two comprehensive D4D training sessions conducted by the TB Program. These sessions provided a platform for HCWs to delve into the intricacies of TB data management, ensuring they understood the processes involved in data collection, organization, and cleaning. Moreover, participants were introduced to key indicators critical for TB analysis, such as case detection rates and treatment success rates, and were trained to monitor data quality at both County and Sub-county levels.The overarching goal of the D4D training was to empower HCWs to make data-driven decisions that positively impact TB prevention and management efforts. By enhancing their skills in data analysis and interpretation, participants were better equipped to assess TB trends, identify areas for improvement, and implement targeted interventions. Through this initiative, the TB Program aimed to strengthen the overall effectiveness of TB control strategies and ultimately contribute to reducing the burden of TB in the community.

ANNUAL JOINT WORK PLANNING

The annual joint work planning meeting is a key activity by the DNTLD-P to develop a Joint TB work-plan for the subsequent financial year. It Involves the TB Program, development partners, and TB/HIV implementing partners in the country. The objective of the workshop was to review and discuss the implementation of the FY 2022/23 work plan and co-create costed interventions/ activities for FY 2023/24, aligned with the GoK financial year and the USG financial year. All activities were aligned to the DNTLD-P strategy and focus areas, promoted a patient patient-centred approach, integrated UHC and primary health care approaches, fostered multi-sectoral engagements and adhered to Gender and Human rights principles. The impact of this collaborative work planning is significant, as it enables the DNTLD-P to coordinate and streamline TB interventions, improving efficiency and sustainability of the national TB program. However, to fully realize the goals set forth in the work plan, additional resource mobilization is needed. The USAID TB ARC II project continues to provide crucial support in this activity, implementation and monitoring of the national TB work plan.

RECORDING AND REPORTING

Effective data capture and reporting through standardized recording and reporting tools is crucial for tuberculosis (TB) surveillance and program management. These tools allow health workers to systematically document and track TB cases, monitor patient progress, and generate reports for higher levels. Regular data quality audits are important to assess the completeness, accuracy, and timeliness of the data recorded in these tools. Addressing issues identified through audits helps to improve the reliability and usefulness of the data for decision-making. This year data quality audit was not conducted

and its a critical process to inform data quality and availability of recording and reporting tools. The previous DQA reports have shown that the data quality has not met the desired standard in terms of completeness, accuracy, integrity, consistency, timeliness and validity thus the need to make it a routine activity.

USAID TB ARC II provided technical support to the DNTLD-P in the review of all TB recording and reporting tools. This was necessitated by the review of TB guidelines in the year. A workshop to review the tools and proposed changes to TIBU was conducted in the year. DNTLD-P aimed to review and update all drug-susceptible TB, drug-resistant TB, Laboratory request forms and sample transport tools, Leprosy, Commodity reporting and request tools and Community TB reporting tools. Additionally, in conformity with ISO standards, the DNTLD-P consolidated the specifications for each of the tools including serialization for version control. Maintaining an adequate supply of TB recording and reporting tools at all health facilities is essential to ensure continuous data collection and reporting. Stock-outs or shortages of these tools can compromise data quality and lead to incomplete or inaccurate reporting. USAID TB ARC II supported printing and distribution of tools to all Counties as shown in the table below.

M&E Tool	Quantity Printed	M&E Tool	Quantity Printed
TB patient record card	30,000	ACF dep. summary tool	1,000
TB patient appointment card	30,000	ACF summary tool	1,000
TPT Record cards	10,000	DSTB patient referral form	1,000
TPT Appointment cards	10,000	TB lab register	1,000
TB4 register	3,000	DRTB logbook	500
Lab request form	2,300	DRTB appointment card	500
Presumptive register	2,000	DRTB lab monitoring form	500
TPT/CMR Registers	1,000	Mortality audit booklet	500

EZESHA 99 DOTS - DIGITAL ADHERENCE TECHNOLOGY (DAT)

USAID TB ARC II in collaboration with the National TB Program implemented an innovative digital health approach to improve adherence to TB treatment in line with the End TB strategy in Nairobi and Mombasa Counties. The overall goal of DAT was to improve adherence to DSTB treatment, adopt a more patient centered approach to quality of DSTB care and improve treatment outcomes. This was achieved through deployment of customized medication sleeves with USSD codes and a technology module that was integrated into T-bu lite. T-bu lite acts as a data collection tool from the health facilities that feeds data into the National Tuberculosis Surveillance System (TIBU). For the year 2023, a total of 4007 DS TB patients were enrolled in DAT, achieving 80% of the 5000 target. Nairobi county enrolled 2983 and Mombasa county 1024 with 64% being male and 36% being female. An external technical assistance

was conducted by KNCV global task force whose main objective was to assess implementation of DAT in the country, sharing of best practices, lessons learned and exploring feasibility of using other DATs.

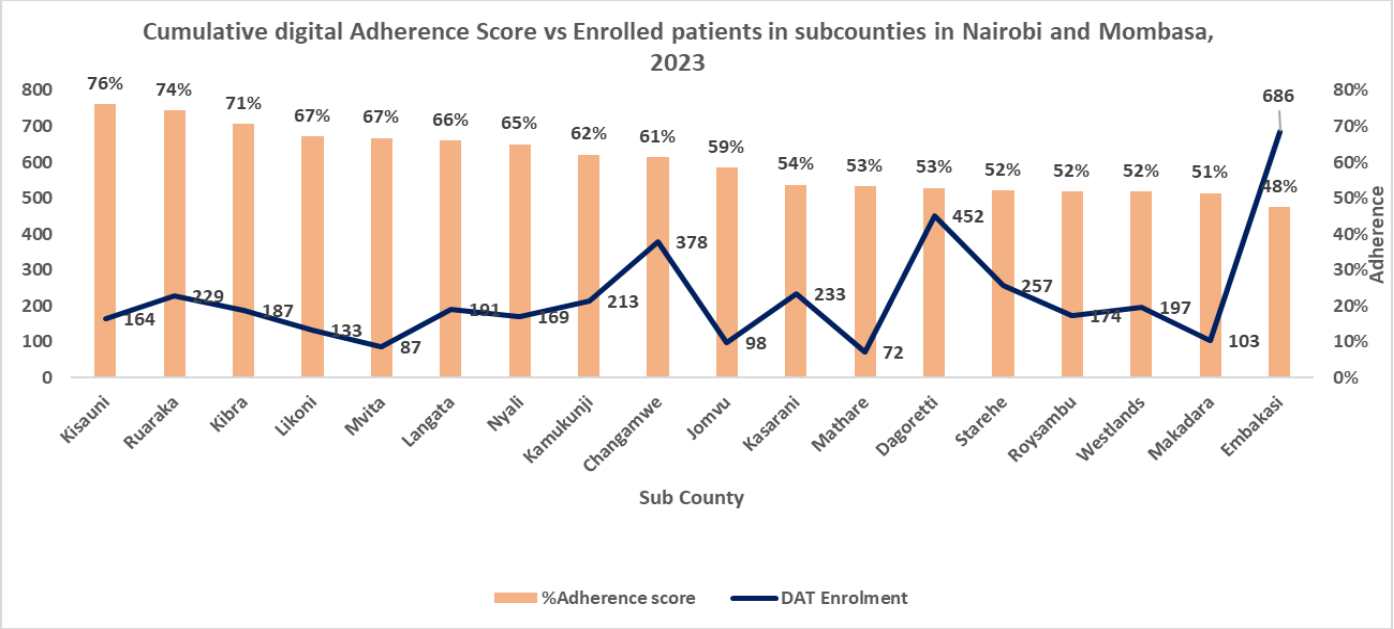


Figure 45: Cumulative digital Adherence

The figure above shows the impact of DAT on the treatment outcomes for 2023 while comparing to 2022 outcomes. Despite the Treatment Success rate being Constant at 88%, the cure rate improved by 3%,the Lost to follow reduced by 1% as well as the death rate.

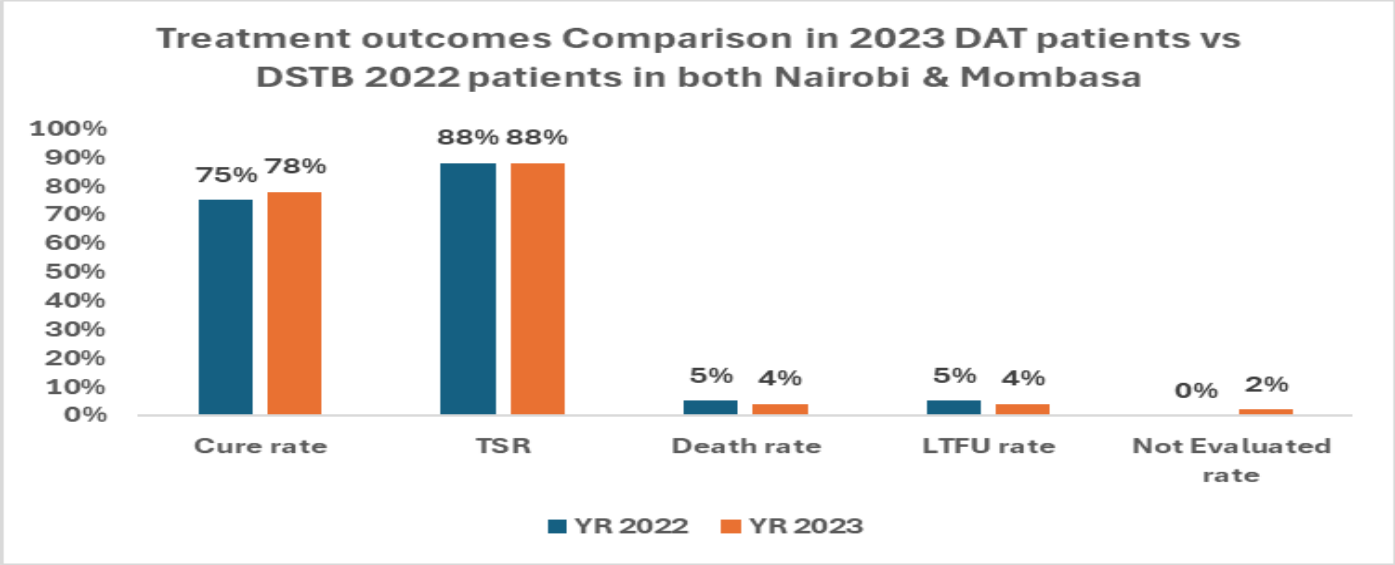


Figure 46: Treatment outcomes Comparison (DAT vs DSTB)

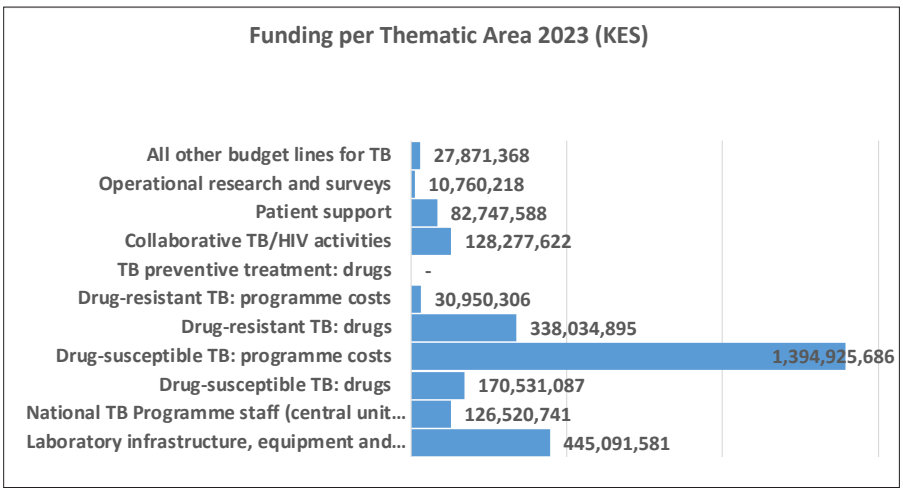
The figure above shows the cumulative digital adherence score for all the patients enrolled in DAT in sub counties. The highest score being at 76% and the lowest at 48% with a mean of 58% for all the sub counties. Score was calculated based on the pill calendar marking by the patient and healthcare worker against the expected adherence marking at a particular point in time.

8

FINANCE ADMINISTRATION AND RESOURCE MOBILIZATION

FUNDING SUMMARY AND PERFORMANCE

During the year 2023, the estimated funding received was KES 2.7 (37.5%) billion for implementation of TB control activities against the costed NSP country requirement of KES 7.2 billion. The received funding was from the Government of Kenya contribution, Global Fund, USAID, Clinton Health Access Initiative and CDC. This funding was utilized for various thematic areas as illustrated below.



Funding Received 2023 – By source	Amount (KES)	Percentage
GOK	272,761,980	10%
Global Fund	1,761,682,643	64%
USAID	693,395,101	25%
CHAI	27,871,368	1%
Total	2,755,711,092	100%

Total Estimated Funding Received: **KES 2.7 Billion (37.5%)**

Against NSP Requirement: **KES 7.2 Billion**

The funding has been crucial in advancing TB control activities despite the shortfall from the NSP requirement.

2024 OUTLOOK

The program commenced implementation of the National Strategic Plan 2023/24-2027/28 with an estimated resource requirement of KES 93 billion in order to achieve strategic objectives for the five-year strategic plan period. The country receives funding from the Government of Kenya and through partnership with Multilateral, bilateral and international donor organizations through on-budget and off-budget funding mechanisms.

The first year of the NSP projects the country's total resource requirement to be KES 21 billion, while the expected funding forecasted is KES 4.6 billion representing 22% funding leaving a funding gap of KES 16.5 billion representing 78% gap.

Below are the resources requirements in the NSP verse the expected funding for 2024

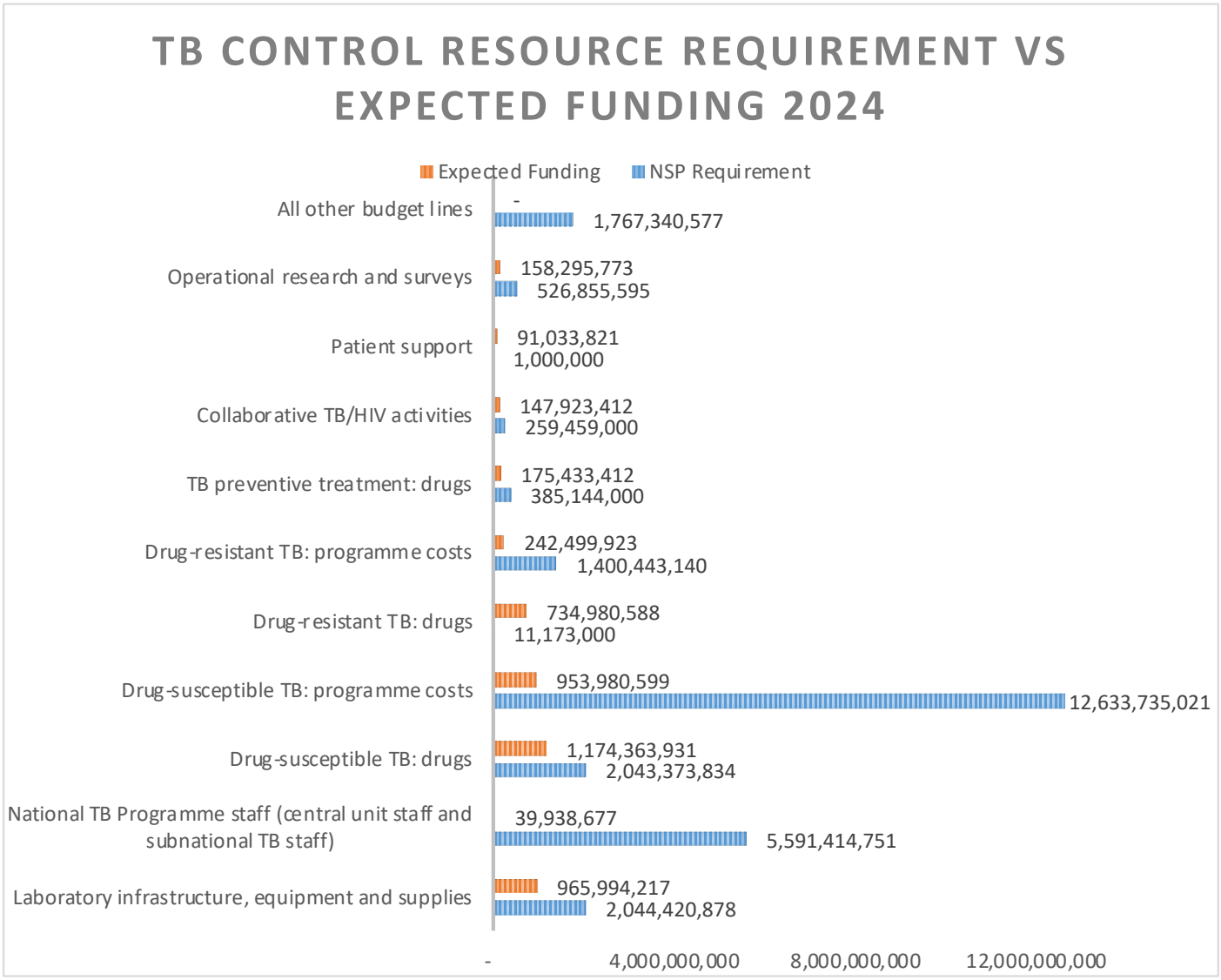


Figure 47: TB Control Resources Requirements

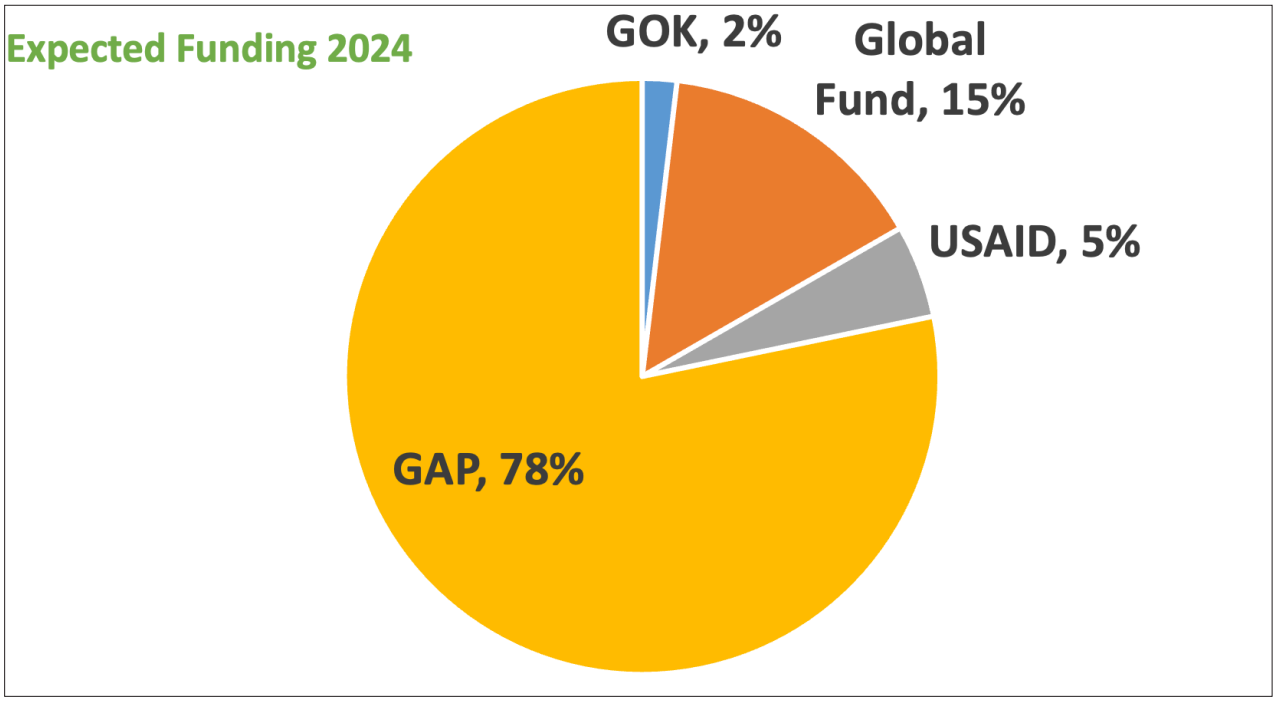


Figure 48: Expected Funding

RESOURCE MOBILIZATION

The program is working with Counties to strengthen and prioritize funding for TB control within the County budgets. This is done through engagement of the County Annual Work Planning and MTEF process

HUMAN RESOURCES AND ADMINISTRATION

The staff establishment requirement for the National Tuberculosis program for the Year 2023 stood at 95 personnel, where the filled positions were 53 leaving unfilled positions at 42. The filled positions consisted of 31 officers supported under GoK, 6 PMU and 11 Laboratory technologist -GFATM supported, 8 FELPT, 11 volunteers/Interns, 3 seconded by USAID and 2 by CDC.

To optimize on quality service delivery, it will be necessary to fill in the vacant gaps, the most affected department being NTRL, followed by Care, Commodity, Laboratory and M&E.

In addition, the GFATM TB grant continued to support a total of 99 Clinical officers and Laboratory Technologist based in the counties.

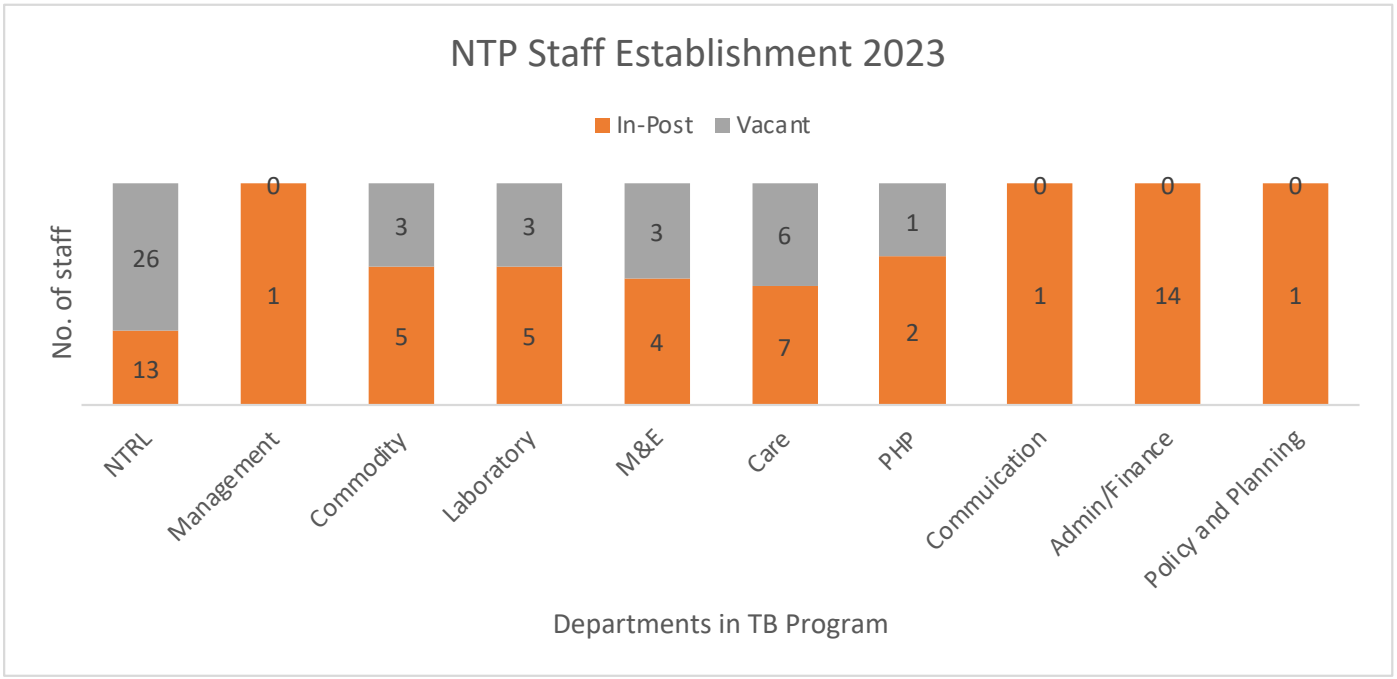


Figure 49: National TB Program Staff Distribution per Department

NATIONAL TUBERCULOSIS, LEPROSY
AND LUNG DISEASE PROGRAM

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