Annual Report
2021

REPUBLIC OF KENYA

MINISTRY OF HEALTH

NATIONAL TUBERCULOSIS, LEPROSY AND LUNG DISEASE PROGRAM

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AND LUNG DISEASE PROGRAM


RIFIDE
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ACRONYMS

ACF	Active Case Finding
aDSM	Active Tuberculosis Drug-safety Monitoring and Management
BMI	Basal Metabolic Index
BSCs	Bio-safety Cabinets
CAPA	Corrective Action Preventive Action
CDC	Centers for Disease Control and Prevention
CHAI	Clinton Health Access Initiative
CHS	Center for Health Solutions
CHVs	Community Health Volunteers
CMEs	Continuous Medical Education
CNR	Case Notification Rate
COE	Committee of Experts
COVID-19	Corona Virus Disease, 2019
DM	Diabetes
DQA	Data Quality Assessment
DRTB	Drug-Resistant Tuberculosis
DST	Drug-Susceptibility Testing
DSTB	Drug-Sensitive Tuberculosis
ECHO	Extension for Community Healthcare Outcomes
EPI	Epidemiological Review
EQA	External Quality Assessment
FM	Fluorescent Microscopy
HCWs	Health Care Workers
IFR	Injection-free Regimen
IGRA	Interferon Gamma Release Assay
KCCB Komesha TB	Kenya Conference of Catholic Bishops-Komesha TB
KEMRI	Kenya Medical Research Institute
KIC-TB	Kenya Innovation Challenge TB Fund
KII	Key Informant Interviews
LF-LAM	Lateral Flow Lipoarabinomannan
LPA	Line Probe Assay
LTFU	Loss To Follow Up
M&E	Monitoring and Evaluation
MCH	Maternal and Child Health
MTB	Mycobacterium Tuberculosis
NSP	National Strategic Plan
NTRL	National Tuberculosis Reference Laboratory
PPEs	Personal Protective Equipment
PT	Panel Testing
PV	Pharmacovigilance
RR	Rifampicin Resistant
SDP	Service Delivery Point
SI	Strategic Initiatives
SLA	Service Level Agreement
TB	Tuberculosis
TB ARC II	TB Accelerated Response and Care II
TPT	Tuberculosis Preventive Therapy
TSR	Treatment Success Rate
UHC	Universal Health Care
UNHLM	UN High-Level Meeting
USAID	United States Agency for International Development
WHO	World Health Organization
ZN	Ziehl Neelsen

ACKNOWLEDGEMENT

Division of National Tuberculosis, Leprosy and Lung Disease Program would like to thank the Ministry leadership for enabling stewardship during the year.

We are also grateful to our partners; USAID, CHS, AMREF Health Africa in Kenya, CHAI, KCCB, Stop TB Kenya and county governments for their continued collaboration that is reflected on the achievements as outlined in the report.

The program officers led by the M&E team are appreciated for the efforts that went into the production of the annual report.

Finally, we acknowledge USAID TB ARC II for providing financial support for the production of this report.

EXECUTIVE SUMMARY

Kenya continues to make progress towards achieving end TB targets of elimination of Tuberculosis, reduction of mortality and catastrophic costs to patient who fall ill due to the epidemic.

The efforts saw the country surpass the **2020** milestones for the global targets

32%
Percentage Tuberculosis incidence rate reduction, against a target of **20%**

38%
Percentage mortality rate reduction, against a target of **35%**

These achievements have been made possible by concerted efforts of development partners, civil society organizations and communities in combating the disease.

In spite of these achievements, the country still faces high burden of Tuberculosis, HIV and TB/HIV.

426 per 100,000 population
TB prevalence in Kenya according to TB prevalence survey (2015/2016)

60 per 100,000 population
Mortality rate. In terms of absolute numbers, this means about **140,000** people fall ill due to TB out of which an estimated **32,000** succumb to the disease

Even though WHO excluded Kenya among high burden countries for DR TB, drug resistance for both first line and second line remains a public health concern.

2,500
Estimated number of people who acquire drug-resistant Tuberculosis annually.

COVID-19 continued to pose challenges in 2021 that would occasion containment measures with effects on service delivery including health system. Most of the resources continued to be channeled towards COVID-19 mitigation measures including awareness creation to create demand for service utilization by the population. As a result, service disruption in 2021 were minimized and normally returned that saw hospital attendants almost normalized.

77,854
People diagnosed with drug-susceptible Tuberculosis and started on treatment in 2021. This was a **7%** increase compared to **72,943** notified in 2020

Lab services at all levels experienced logistical issues with widespread stock out of cartridges in the field that saw bacteriological diagnosis go down from above 60% to about 53%. The central reference lab also reported stock out of commodities that hindered TB surveillance activities.

7,491

Children notified with Tuberculosis which was **32%** increase compared to the previous year

Childhood TB diagnosis remains a challenge among health care workers but the program continued with capacity building activities. Stock out of child friendly formulation in a few counties could have also contributed to under reporting among this group.

TB/HIV programming and collaboration with partners continues to be strengthen both at national and county levels. Supportive supervisions were carried out jointly in a number of counties and facilities with steady supply of commodities throughout the year. TB/HIV performance indicators were maintained compared to the previous year

97%

HIV testing rate in 2020

97%

ART initiation among HIV positive patients

1%

Percentage reduction in co infection rate declined from **24%** in 2020 to **23%**. This is indicative of progress being made in prevention of TB among people living with HIV.

1%

Percentage reduction in treatment success rate for all forms of TB (new and relapse) decline from **85%** to **84%** compared to 2020. This could be attributed to an increase in case fatality ratio from **6%** to **7%.**

12%

Average deaths among TB/HIV patients, which remains worryingly high.

Malnutrition among TB patients is high, and is one of the factors that undermines good treatment outcomes.

49%

Malnutrition rate among TB patients

16%

Percentage decline in DR TB notification which went down from **961** in 2020 to **804** in 2021.

The main challenge during the period was sub optimal DR TB surveillance occasioned by shortages of lab commodities including GeneXpert cartridges.

Shortages of lab commodities also hampered access to drug susceptible tests as adopted by the country where all TB patients are eligible for a DST test. During the year about DST access among all forms of TB went down from **70%** in 2020 to **63%**. That is also reflected on the proportion of patients who were bacteriologically-confirmed declined below **60%** to **57%**.

The country continued providing social support including cash transfers to TB patients during the year where in collaboration with AMREF and Global Fund.

6,000

Monthly cash transfers amount received by ptients with any form of Drug-Resistant (DR) TB as support to reduce out-of -pocket expenditure on non-medical costs such as food and transport to the facility.

KES 500

Monthly NHIF cover each drtb patient receives for a period of two years to ensure patients don't incur catastrophic costs as they seek medical care.

In terms of program coordination, performance review meeting targeting counties was organized during the year. TB health sector working group and COE meetings were held every quarter. The country also developed a multi sectoral accountability framework in order to meet part of the UNHML political commitments. The process was led by the ministry of health and brought together various stakeholders in TB control. The framework is expected before the next UN high level meeting later in 2022.

Data quality assessment was conducted in 6 counties namely; Bomet, Isiolo, Kisumu, Migori, Nyandarua and Trans Nzoia. The general finding was that the level of agreement between the facility registers and TIBU (87%) seems to be on the decline. It was then recommended that the next DQA targets the same counties to check if the recommendations made on steps to improve data quality have been implemented. TB surveillance system was also assessed through the support of the WHO with key strengths and areas of improvement exhaustively outlined in the EPI report 2021.

With two years remaining to the end of the current national strategic plan (2019-2023), the program together with stakeholders in TB control had planned to carry out Mid-term Review Mid last year, but because of COVID-19, it was decided that the process be postponed to a later date and tentatively changed it to an end term review. A committee was set up comprising of Ministry through the program, WHO, Center for Health Solutions (CHS), AMREF Health Africa, CDC, USAID, CHAI, TB champions and representation from other civil society organizations was set up to plan the review.

Finally, the country through KCM signed grant agreement with The Global Fund worth USD68M with implementation starting in July 2021 and expected to end in June 2024. The program also continued to resource mobilize for TB control by carrying out joint work planning with partners including USAID, CHS, KCCB, Health IT and CHAI. This initiative made additional resources to strengthen implementation of the TB strategic plan 2019-2023.


QMS-EX-067
Bright-field (Z-N)
Fluorescence (Auramine O)
Jasho jingi usiku? Kohozi lolote!
Uchovu mwilini? Ato jingi mwilini?
Kupungukiwa na pumzi?
Kupoteza uzito haraka?
Lala ni TB!
Tembelea kituo cha afya upimwe
Pimwa TB, Tibiwa, Ishi poa
USAID
TB ARC II
PEPFAR

1 EPIDEMIOLOGY OF TUBERCULOSIS AND LEPROSY IN KENYA

1.1 Drug-Sensitive Tuberculosis

1.1.1 TB Case Finding

In 2021, Kenya reported a total of 77,854 drug-sensitive Tuberculosis (DSTB) cases. This represented a 6.7% increase compared to 2020 when the Country notified 72,943 DSTB cases. The incidence of TB in the country was estimated at 140,000 in 2021, indicating that at least 44% of incident TB cases were either missed or not notified in the year.

The top 5 counties which notified an increase in TB cases of above 15% were: Siaya (34%), Busia (29%), Elgeyo Marakwet (26%), Vihiga (20%), and Lamu (18%).

The top 10 counties with the highest number of DSTB cases in 2021 were; Nairobi, Meru, Kiambu, Mombasa, Siaya, Nakuru, Turkana, Kitui, Homa Bay, and Machakos. Those with the lowest number of TB cases included; Lamu, Tana River, Wajir, Taita Taveta, Elgeyo Marakwet, Marsabit, Isiolo, Mandera, Nyandarua, and Samburu.

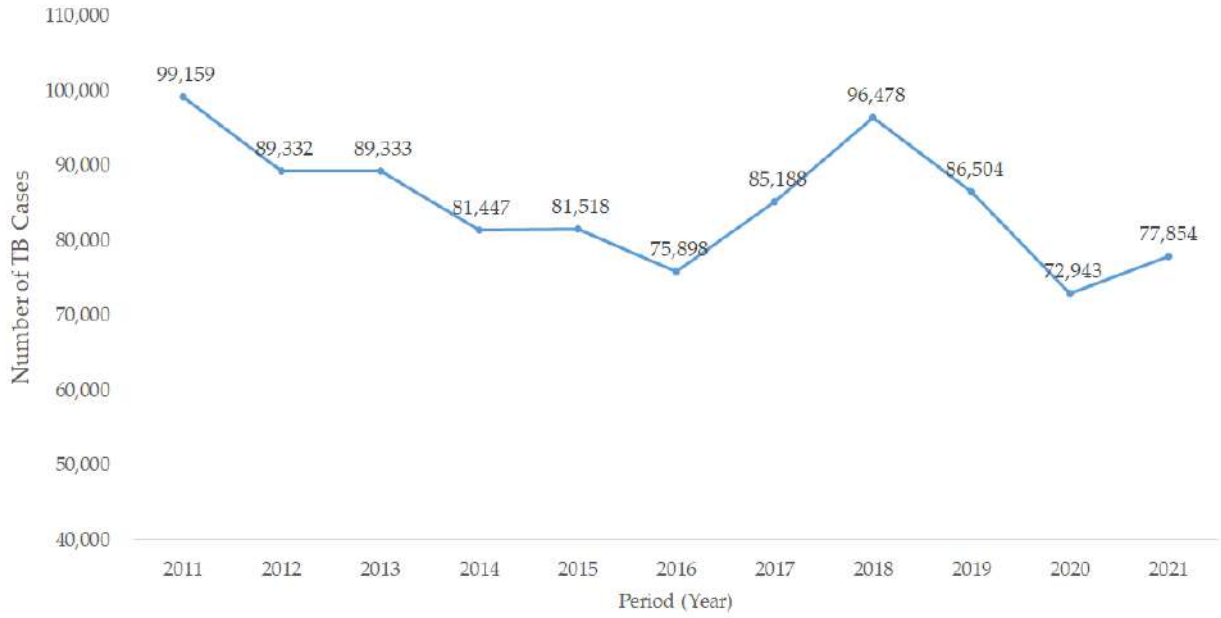


Figure 1.1: Tuberculosis Case Finding in in Kenya (2011 – 2021)

1.1.2 Case Notification Rates

Kenya's TB incidence rate has reduced over the last few years. In 2021, the WHO estimated an incidence rate of 261 per 100,000 populations, a decline from 283 per 100,000 populations in 2020. In the same period, the NTLD-P reported a case notification rate of 164 per 100,000 populations, indicating a case detection gap of 48%. This decline in case detection is mostly attributed to the effects of the COVID-19 pandemic (reduced access to health services, stigma among patients with respiratory symptoms, and reluctance by health workers to attend to patients with respiratory symptoms for fear of COVID-19 infection). Additionally, the mitigation measures implemented by the MoH (movement restrictions, re-allocation of health resources to COVID-19 response, and closure of some health facilities due to outbreaks of COVID-19) also had an adverse impact. The NTLD-P has outlined clear catch-up strategies to increase TB case finding, including introducing a program quality and efficiency approach to Active

TB Case Finding, engagement of all relevant sectors through a multi-sectoral approach, and bi-directional TB/COVID-19 screening.

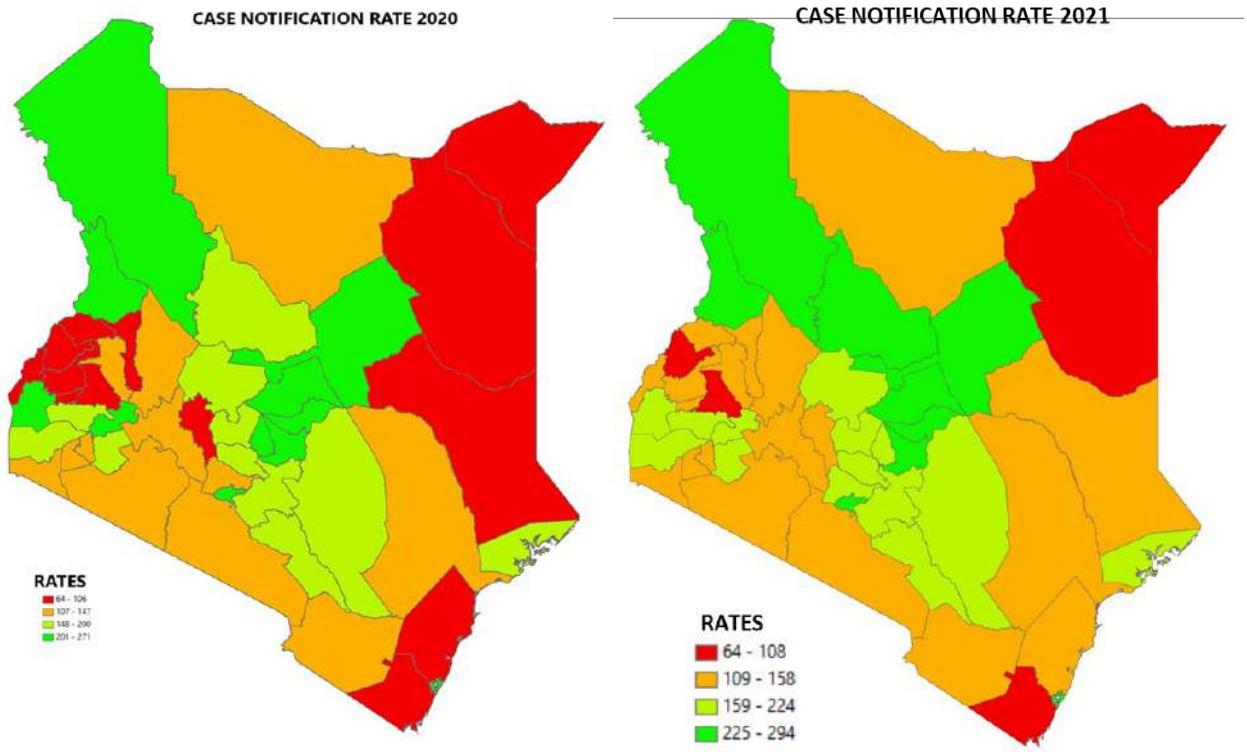


Figure 1.2: Distribution in Case Finding per County by Rates, 2020 and 2021

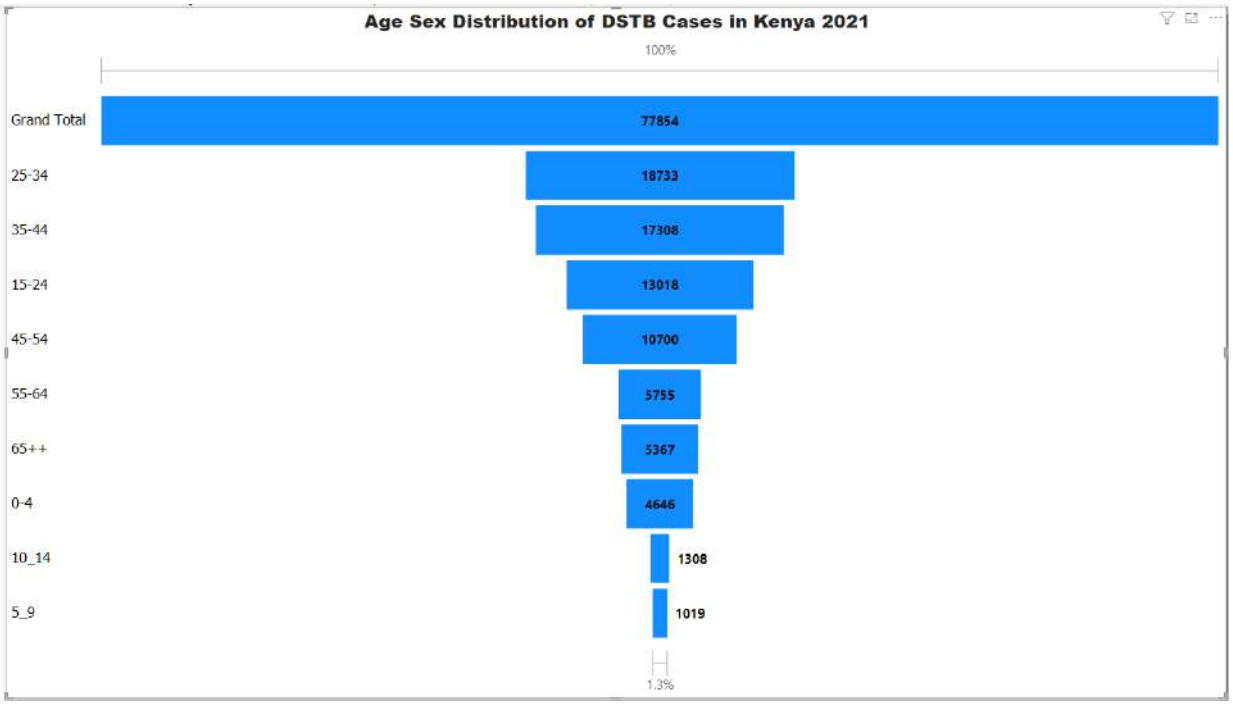


Figure 1.3: Age-sex Distribution of the DSTB Cases in Kenya, 2021

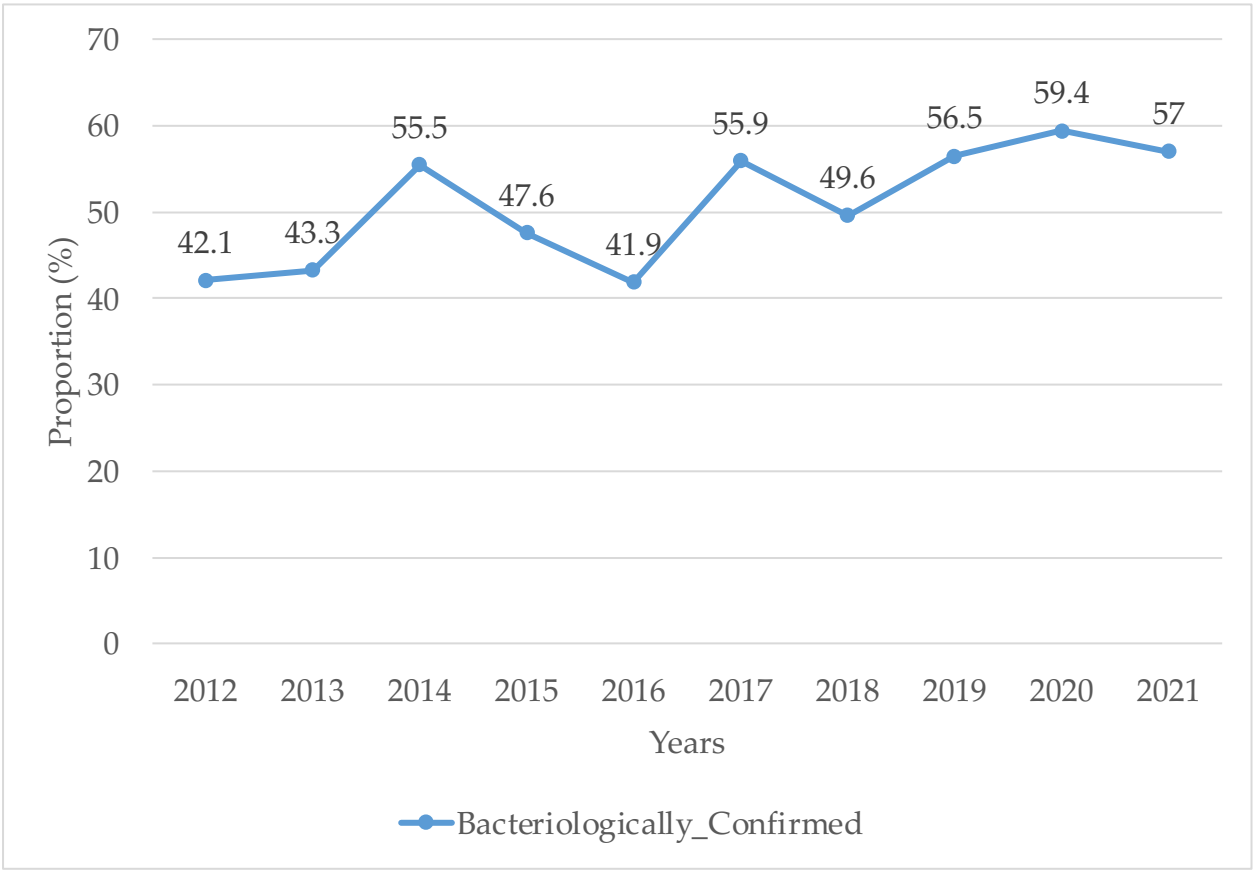


Figure 1.4: Bacteriologically-Confirmed Case Notifications, 2012- 2021

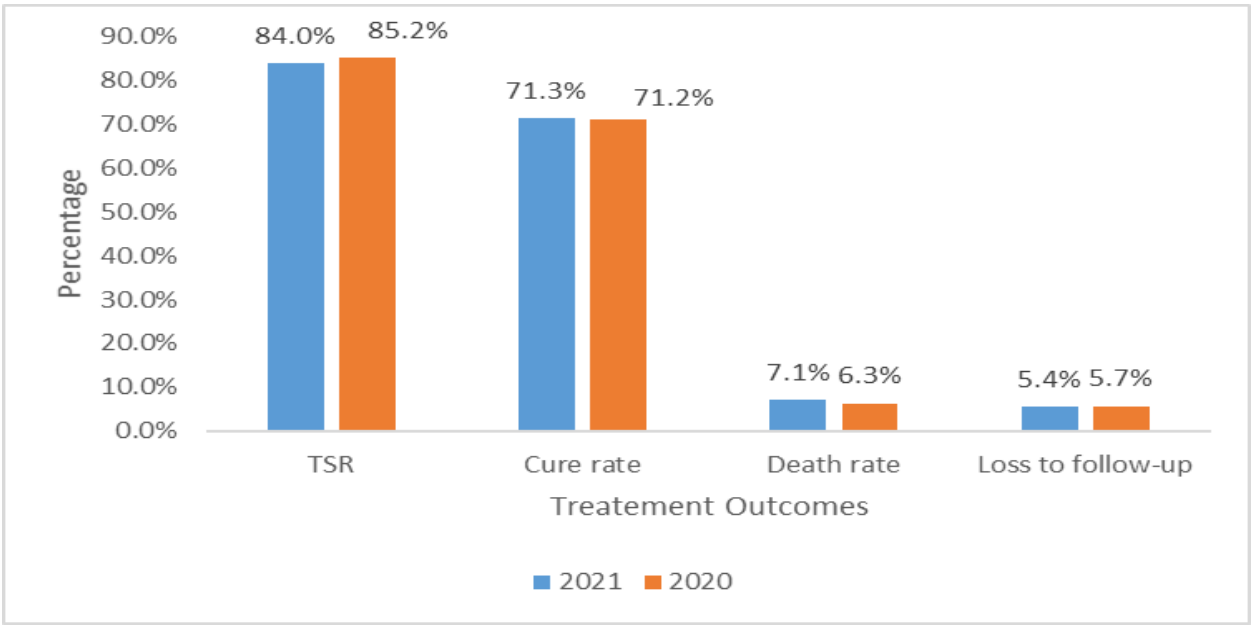


Figure 1.5: Treatment Outcomes among Drug-Susceptible TB Cases in Kenya

Treatment success rate (TSR) for all forms of TB was 84% (2020 cohort). This rate was a 1.2% decline compared with the previous year. This decline is attributed to the effects of the COVID-19 pandemic, which was at its peak in 2020.

Despite this, six Counties achieved a TSR above the national target of 90%. These counties are Nyamira (90.8%), Laikipia (92%), Migori (92.1%), Mandera (92.8%), Kisii (93.1%), and Homa Bay (93.2%). The cure rate for bacteriologically-confirmed pulmonary TB patients was 71.3%, similar to the previous year. This rate shows a need for strengthening the quality of care measures. Only 3 counties achieved the national cure rate target of 90%. These are Laikipia (90.4%), Nyamira 92.3%) and Kisii (93%). At the same time, five Counties had a cure rate below 60%. These are Turkana, Baringo, Trans Nzoia, West Pokot and Elgeyo Marakwet. The overall death rate was at 7.1%, increasing from 6.3% in the previous cohort and still higher than the national target of < 5%. However, 8 Counties achieved the national target. These were Garissa, Wajir, Marsabit, Turkana, Isiolo, Pokot, Kisii and Narok. Counties with death rates above 10% included; Vihiga, Kwale, Nyeri, Bungoma, Siaya, Kakamega, Kilifi, and Nyandarua.

The average national loss to follow-up rate (LTFU) was 5.4%, similar to the previous year. However, 5 Counties achieved the national LTFU target of < 5%. These are Homa Bay (0.5%), Wajir (0.6%), Mandera (1.3%), Tharaka Nithi (1.8%) and Laikipia (1.8%). 3 Counties had a LTFU rate of above 10%. These were Pokot, Trans Nzoia and Turkana.

Death and loss to follow-up remain the most significant challenges to attaining the target TSR pointing to the need to focus on the quality of care and patient linkage and retention mechanisms. The NTLD-P has institutionalized mortality audits for all TB deaths (including among PLHIV), intending to reduce deaths due to TB in line with End TB strategy targets.

1.1.3 Differentiated approaches to TB care and prevention

In the year, the NTLD-P, with support from USAID through the TB ARC II activity, developed a differentiated care model for TB care and prevention. This model is based on the national strategic plan's focus on differentiated, patient-centered approaches to improve the quality of TB care in Kenya. This model was integrated into the TB guidelines (2021) and disseminated to national program officers, County/ Sub-County TB TOTs, and frontline health workers alongside the integrated guidelines.

1.2 Childhood TB

1.2.1 Pediatric Case -Finding

7,491 childhood TB cases were notified to the National TB Program in 2021. This achievement represented 9.6% of all notified cases against the 10 – 15% national target. This rate was a massive improvement compared to 2020, as the Country witnessed a 32.2% increase. The increase can be attributed to a drop in COVID-19 cases and the normalization of services in the health facilities. However, the over 40% missed cases among all forms indicates a detection gap in pediatric TB. The reasons for this gap included challenges with specimen collection and bacteriological confirmation of TB in young children, due to the paucibacillary nature of TB disease in this age group.

Adolescents are a significant group that needs special consideration in TB care being that they are a transition age group with many social vulnerabilities including HIV. The older adolescents (15-19 yrs.) notified were 4706 (6%). The proportion of bacteriologically confirmed in the same age group was at 68%, while that of 0 – 14 years was at 43%.

The NTLD-P, through support from EGPAF (UNITAID Cap-TB) project, implemented interventions to address low pediatric TB case finding in Homa Bay and Turkana Counties. The project developed and implemented innovative models of care to improve case detection in children with TB. These strategies included advanced sputum sample collection aids such as nasopharyngeal aspiration and sputum induction devices. In addition, 311 health care workers were trained on these procedures.

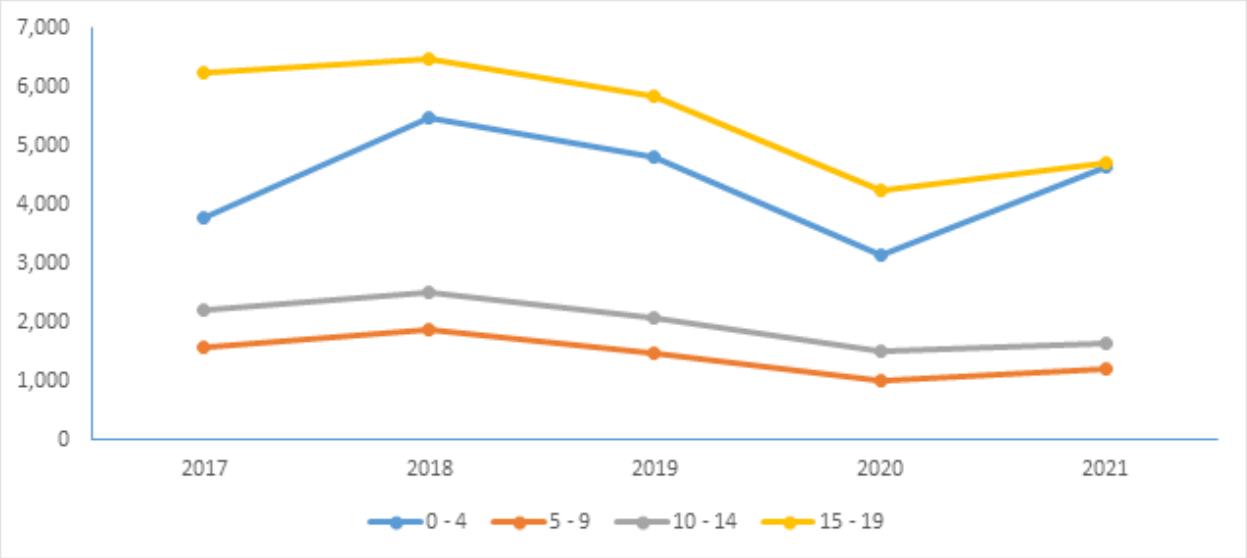


Figure 1.6: Age distribution of the Childhood TB cases in Kenya, 2017- 2021

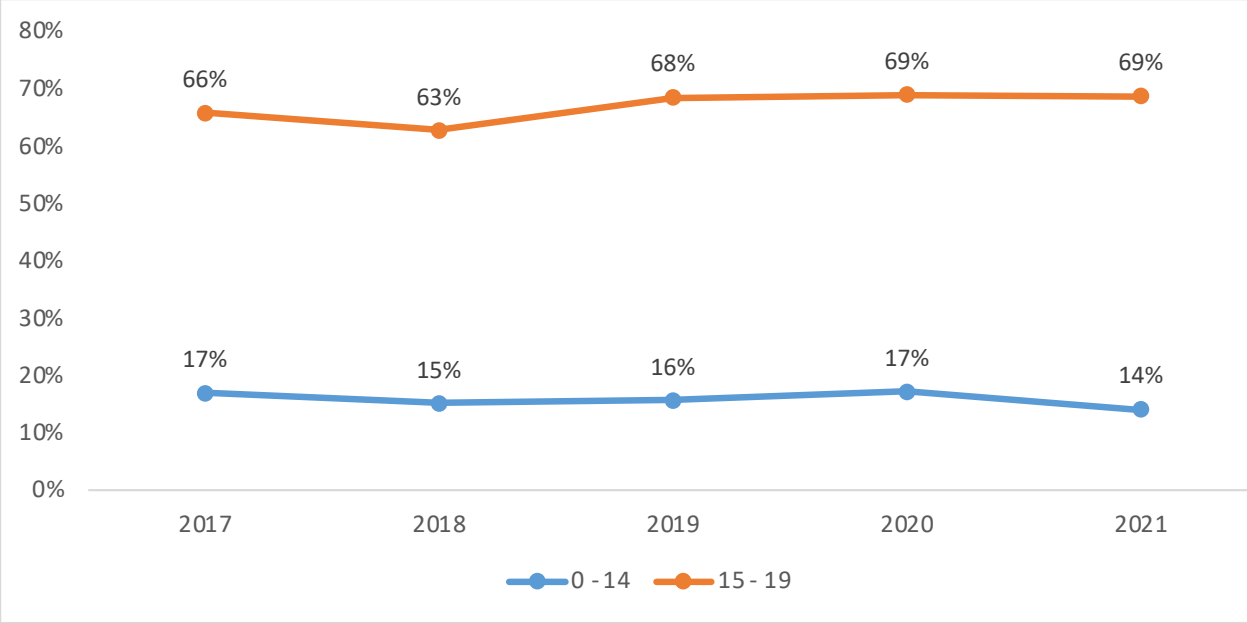


Figure 1.7: Proportion of bacteriologically confirmed among the 0 – 14 years and 15 – 19 years TB cases

Table 1.1: Results of Chest X-Ray for Childhood diagnosis (0 – 4 years)

Year	Done X-Ray	Abnormal suggestive	Not done	Total
2019	66.4%	63.8%	33.6%	4,794
2020	66%	63.3%	34%	3,150
2021	74.5%	70.2%	25.5%	4,646

Majority of the children under five years of age diagnosed with TB had a chest X-ray done on them with more than 60% being reported as abnormal and suggestive of TB. This achievement highlights the importance of chest X-rays in screening and diagnosing TB in children.

1.2.2 Treatment outcomes among childhood TB cases

The treatment success rate among children 0 – 14 years was 87.4% for the 2020 cohort, slightly above that of the 2019 cohort, 86.6%. Cure rates among this age group remain low at 72.1% because of the low coverage of sputum testing during follow-up. The death rate was 5.5%, slightly above the national target of 5%.

Comparing the treatment outcomes for the TB/HIV coinfection for the cohort 2020, the performance is dismal, with a TSR of 80%, which is way below the national target of 90%. The death rate is high at 13% against the national target of 5% and lost to follow up of 3.8%.

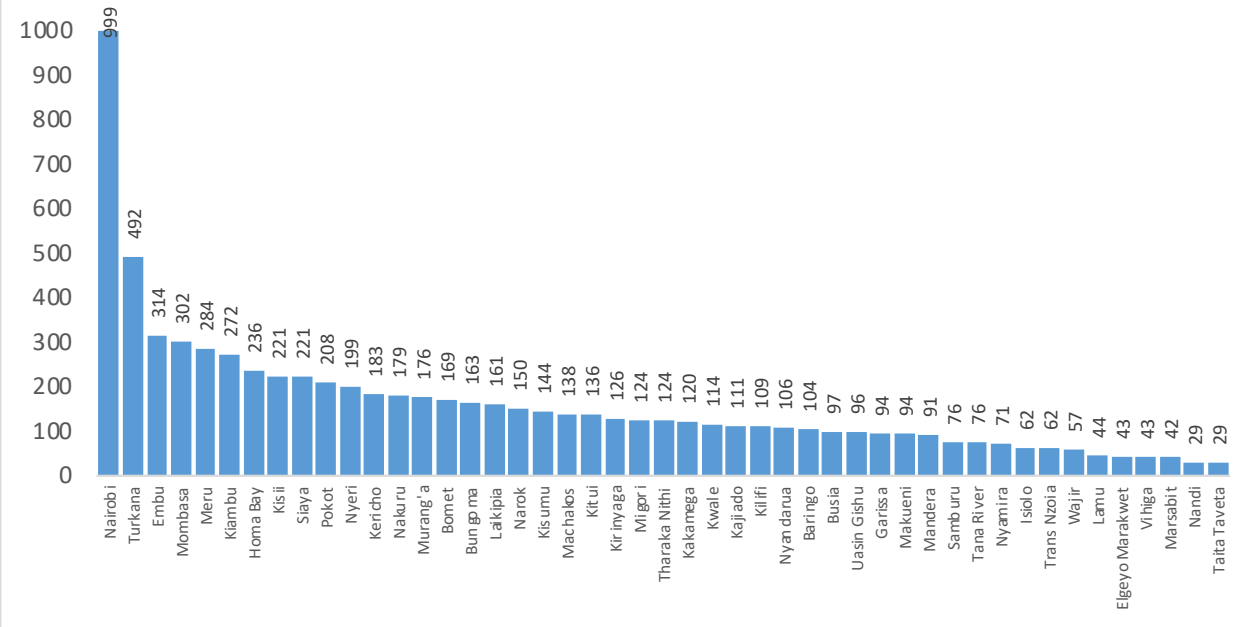


Figure 1.8: Results of Chest X-Ray for Childhood diagnosis (0 – 4 years)

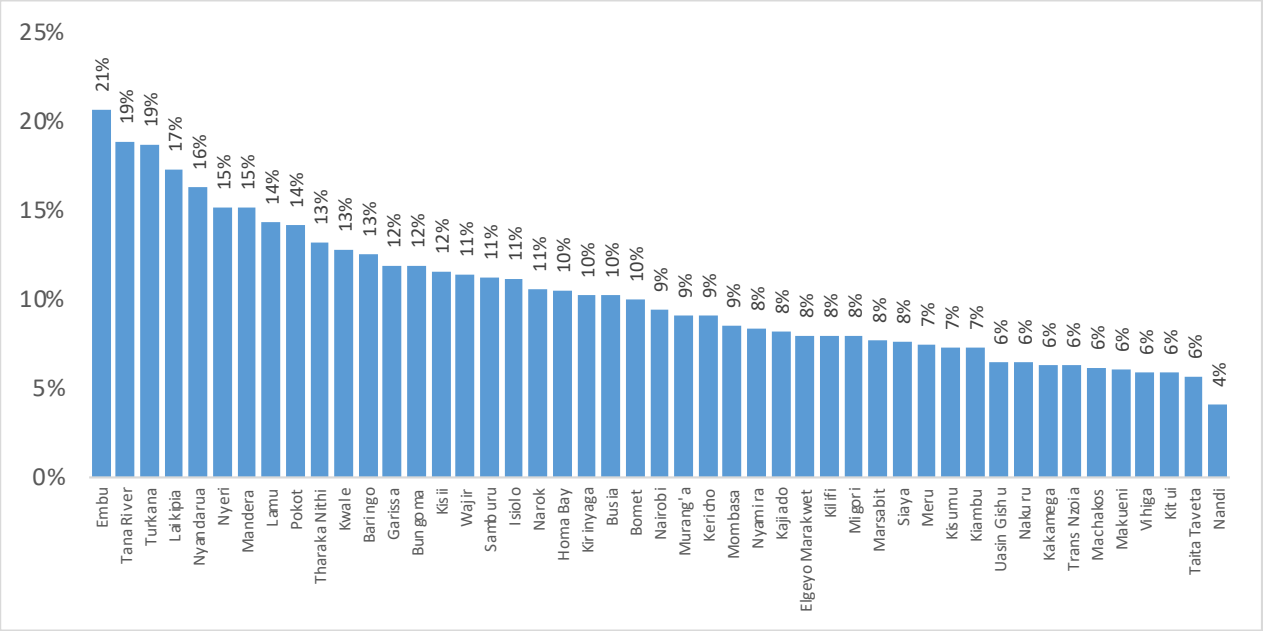


Figure 1.9: Proportion of Childhood TB Case Finding per County

A total of 23 Counties had a proportion of pediatric TB case-finding above 10%, with Embu County having the highest at 21% and the lowest being Nandi County at 4%.

1.2.3 TB/HIV among children

Testing rate among the children is at 94.4% with a co-infection rate of 11.5% and an ART up-take of 100%.

1.2.4 Childhood nutrition

In 2021 a proportion of 47% children were malnourished. This is higher compared to the previous year which registered 40.5%. Among the malnourished, 26.4% were able to access nutrition intervention in 2021 while in 2020, the proportion was higher at 36%. This is attributed to post COVID-19 economic crisis and the strategies that were put in place by the program such as contact management and ACF.

1.3 TB/HIV Annual Performance Report, 2021

1.3.1 HIV testing among TB patients

In the year 2021, the country achieved HIV testing rate of 97% overall among the notified TB cases which was reduction compared to the 2020 testing rate (98%). Only Nine counties met the 100% target for HIV testing. These were Nyamira, Kitui, Homa Bay, Machakos, Kisii, Laikipia, Nyandarua, Siaya, and Mandera. The HIV testing was similar across both gender at 97%. The adult patients testing was higher at 97% as compared to the children which was 95%.

1.3.2 TB/HIV coinfection and ART uptake

The overall HIV coinfection rate among the notified TB cases in 2021 was slightly reduced from 25.2% in 2020 to 24%. There were more female TB patients who were coinfected with HIV (31%) as compared to the male patients (20.4%). The coinfection rate reduced by 1% in both females and males when compared with the 2020 performance which was 31% and 21% respectively. The antiretroviral (ART) uptake was 96.4%, a slight reduction from 97% in 2020. However, Homa Bay, Garissa, Laikipia, Mandera, Nyamira, Tharaka Nithi, Transzoia, and Wajir counties achieved 100% uptake. Death rate among the TBHIV coinfected patients was 12.7% in 2021. The treatment success rate for the TBHIV coinfected patients in the year 2020 was 78.6%. However, Wajir, Homa Bay and Migori counties recorded treatment success rate of more than 90%.

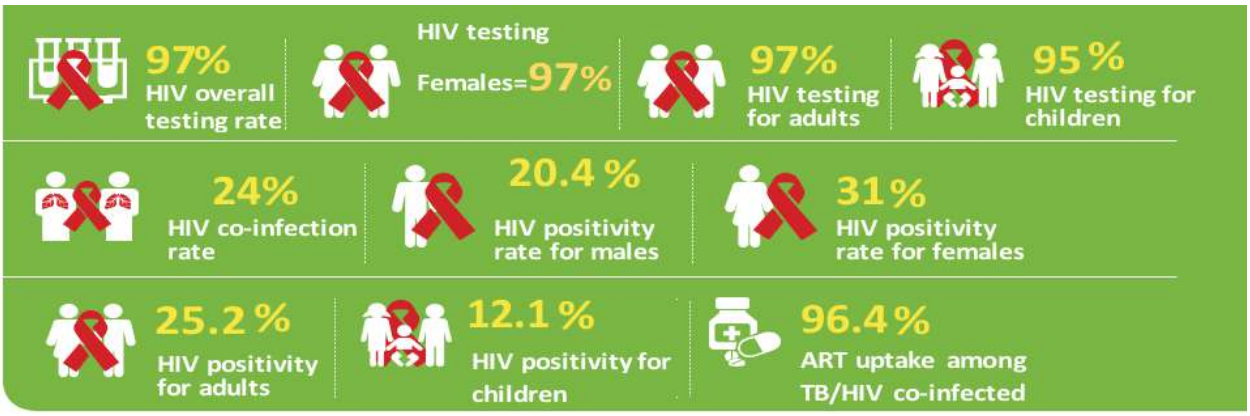


Figure 1.10: TB/HIV Performance 2021: Kenya

1.3.3 TB/HIV supported activities

In the reporting period, the following national and county level TB/HIV coordination activities were carried out.

National TB/HIV Stakeholders' Forum: This was done quarterly bringing together various stakeholders through the Ministry of Health. It's a joint activity between the Division of National Tuberculosis, Leprosy and Lung Disease program (DNTLD-P), and the National STI and AIDS control Program (NASCOP). The stakeholders involved from the County governments, Development partners and Implementing partners.

TB/HIV Stakeholder Forums in 11 Counties: These meetings were aimed at bringing together all the TBHIV control stakeholders to review and strengthen uptake of the collaborative activities involving the 5Is. These were: Integration of TB and HIV services, Intensified/Active case finding for TB, TB Infection prevention and control, Immediate initiation of ART, and strengthening the uptake of TB preventive therapy (TPT) among the TB/HIV co-infected and other recommended for TPT populations.

Joint TB/HIV Support Supervision/Technical assistance missions: Done in collaboration with implementing partners in Nairobi, Mombasa, Meru, Marsabit, Kakamega, Nyamira, Nakuru, West Pokot, Taita Taveta, Machakos, Kiambu, Siaya and Homa Bay Counties. This was aimed at addressing TB/HIV performance gaps. This included access to the package of care for

HIV and TB coinfected clients, improve treatment adherence and treatment completion, identification and addressing the challenges of integration of TB and HIV services.

1.4 Programmatic Management of Drug-resistant Tuberculosis

1.4.1 Introduction

Until the 2021 review of Global High burden countries, Kenya had been one of the 30 TB, TB/HIV and MDR/TB high-burden countries. As a consequence, subsequent medium-term plans (MTPs) prioritized, among others, the programmatic management of drug-resistant TB (PMDT) leading to country wide scale up of PMDT services with regular updating of internationally compliant national policy guidelines and algorithms.

1.4.2 Drug-resistant TB Surveillance

Drug-resistant Tuberculosis remains a public health crisis, and ongoing surveillance of the burden is essential to mounting an effective response.

Accurate diagnosis and treatment of Tuberculosis, including drug-resistant forms, should be available and accessible to all who need it. Surveillance should be conducted to all at high-risk populations. They include but not limited to; *Previously treated TB patients, TB Treatment interrupters, Failures on TB treatment, People who develop TB disease while on TB preventive therapy, People living in high congregate settings (prison/correctional facilities and refugee camps), Health care providers, Close contacts of DR TB patients (includes household contacts and children).*

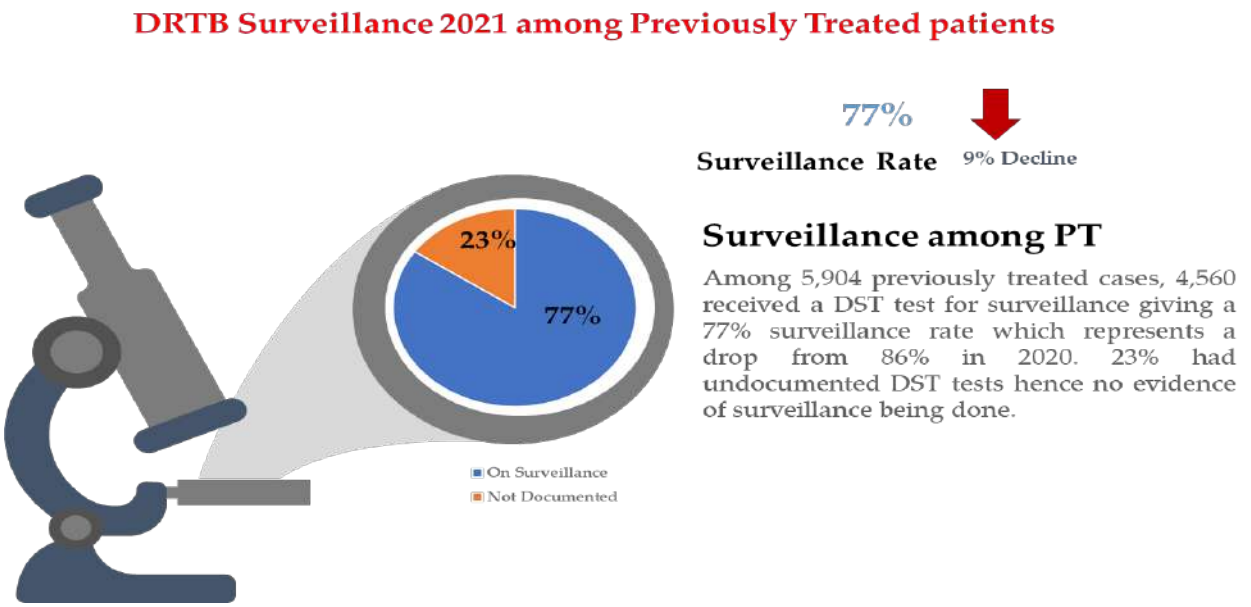


Figure 1.11: Surveillance among previously treated patients, 2021

1.4.3 DRTB Trends and Case Finding in Kenya

The country experienced a drop of 16% in 2021 DRTB case finding. In addition to the high-risk groups, in 2019, a pilot sentinel surveillance was conducted in 10 counties which included DST for all bacteriologically confirmed cases.

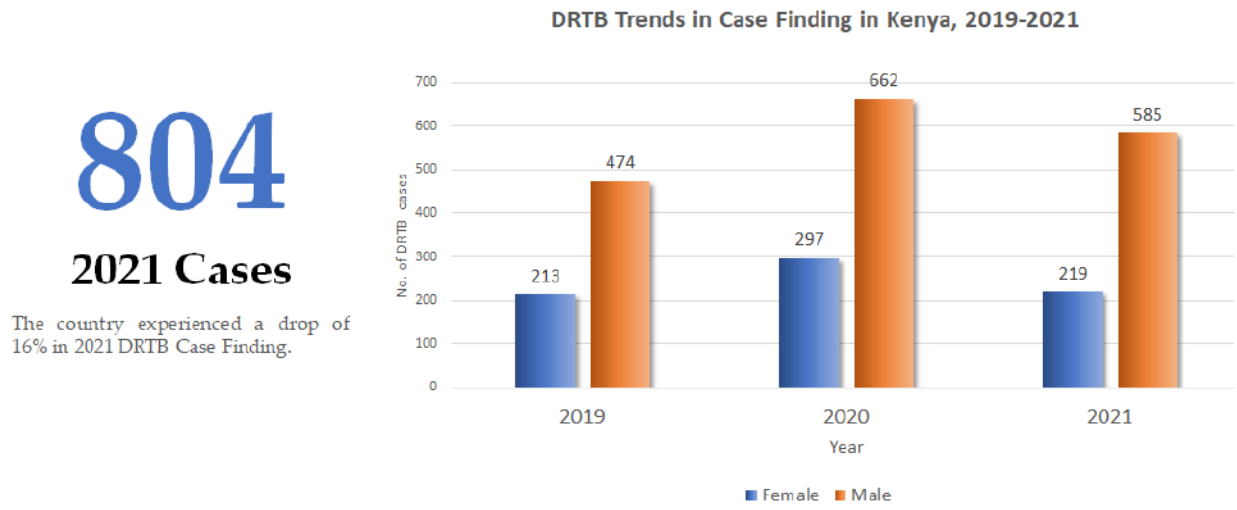


Figure 1.12: DRTB Case Notification Trends, 2021 Kenya

1.4.3.1 Case notifications by resistance patterns;

The steadily increasing DR-TB case detection, treatment coverage and expanded GeneXpert coverage and utilization are just a few among the many positive gains achieved so far by the DNLTD-P in implementing the Programmatic management of Drug-resistant Tuberculosis in the country.

There has been an increase in Rifampicin resistance and Isoniazid Mono resistance cases over time. Most of the affected patients are new, suggesting community transmission of resistant strains. This underlines the importance of strict DST surveillance. The majority of those with drug-resistant TB are persons aged 25-44 years.

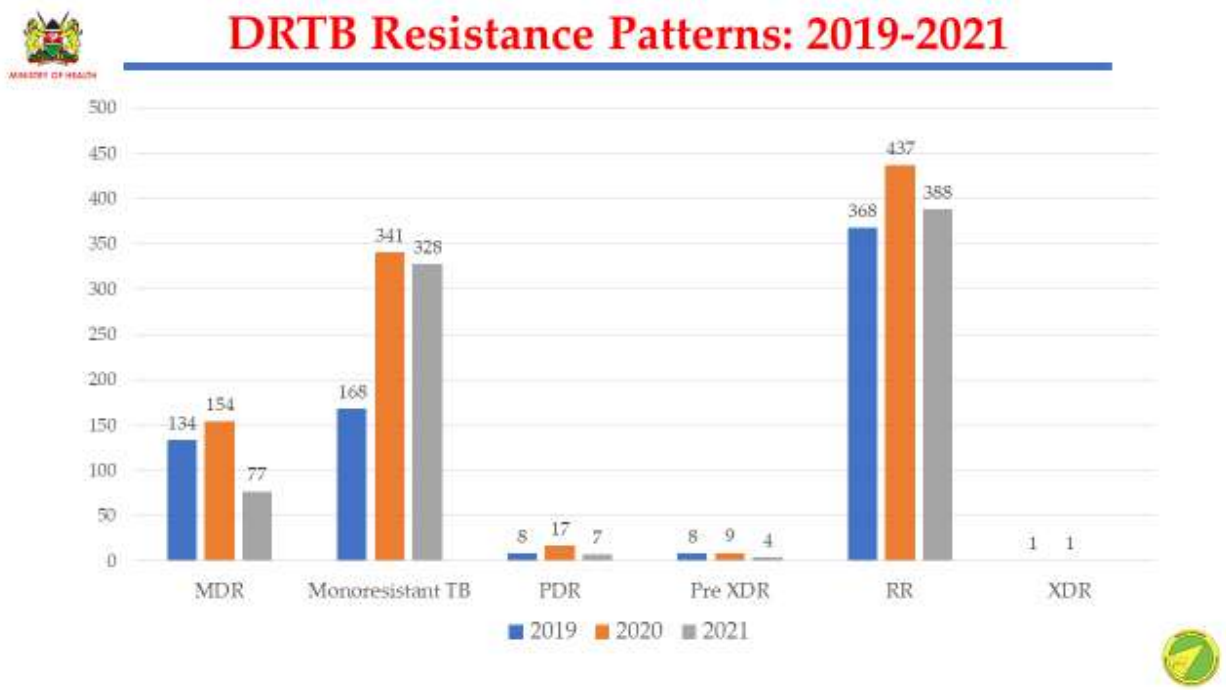


Figure 1.13: DRTB by Resistance Pattern 2021

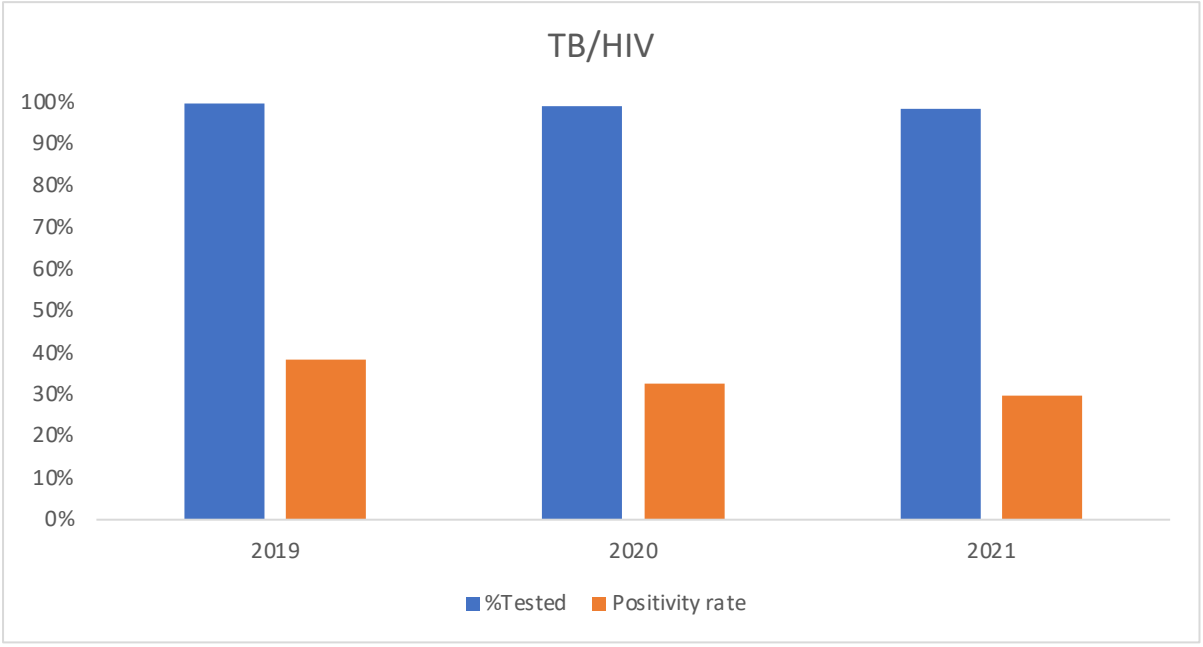


Figure 1.14: DRTB and HIV Co-infection

1.4.3.2 Childhood DRTB

Childhood DR-TB contribution to the total DR-TB cases was very low when compared to the target, i.e 2.4% vs 13% target. Majority of children were between 10-14 years. Figure 1.4 (a)

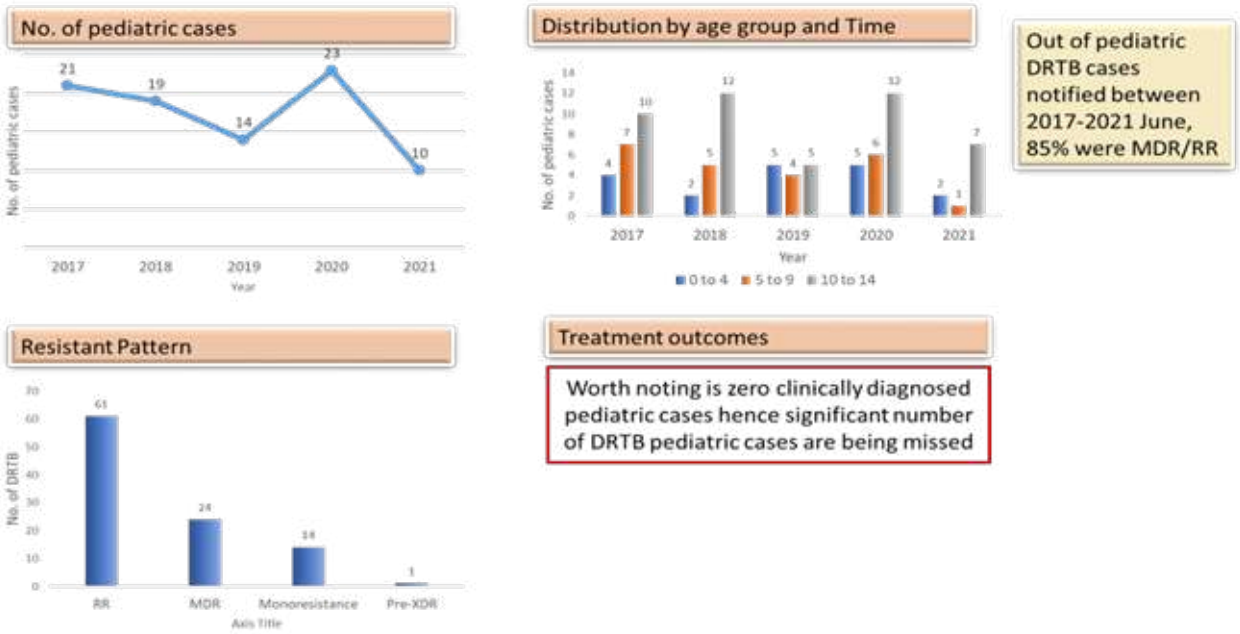


Figure 1.15: Childhood DRTB case notification by age category, resistance pattern & year

1.4.4 Care and treatment

1.4.4.1 Treatment of drug-resistant TB

Kenya adopted the All Oral regimens using new molecules (Bedaquiline and Delamanid) and repurposed medicines (Clofazimine and Linezolid) for treatment of drug-resistant forms of TB on 1st January 2020, following a rapid advice by WHO.

The standardized regimen for **MDR/RR** is **6Bdq, Lzd/18Lfx, Clf, Cs** for adults and **6Lzd/18Mfx, Cfz, Cs** for children, under programmatic conditions.

The Isoniazid resistant cases are treated with **6Lfx, R, Z, E**. Other forms of resistance / extremes of resistance patterns (Pre and XDR-TB) are largely treated with individualized regimens based on drug-susceptibility test results.

In line with the current WHO recommendations the country plans to introduce the shortened regimens to treat M/XDR TB under programmatic conditions.

1.4.4.2 Models of care delivery and treatment

The country has adopted the two models of DR-TB care delivery, Facility and Community models, with the majority of patients being on community ambulatory models of care (72%).

Practically every DR-TB patient is attached to a DOT worker who administers medicines on a daily basis besides screening for possible drug-related adverse events.

1.4.4.3 Clinical Review meetings, baseline and follow-up investigations

Monthly clinical review meetings play a key role in ensuring quality of care for DRTB patients. Supported by Global Fund, the meetings are conducted monthly in 36 Counties, bringing together a multidisciplinary team to evaluate the patient's progress. The remaining 11 counties are supported by the National TB implementing partners (USAID TB ARC II) in conducting their monthly reviews.

Baseline and follow-up investigations are supported by USAID TB ARC II, as well, through a courier system; samples and test results are delivered to and from Lancet Laboratories.

The National PMDT team mentoring health care workers at Vigurungani Health Centre, Kinango (Kwale County) after review of DRTB patients, February, 2021.

Capacity building, Technical Assistance Missions and treatment Centers of Excellence:

In order to bridge the capacity gaps in drug-resistant TB management, the National PMDT team continues to conduct training and sensitizations to healthcare workers targeting the clinical and programmatic aspects of drug-resistant TB management. The team has also continued to provide oversight through mentorship and Technical Assistance missions directly to counties.

The National PMDT task force conducted a baseline assessment of the proposed 10 DRTB treatment centers of excellence in the country *(Nairobi, Nakuru, Mombasa, Garissa, Meru, Kiambu, Kisumu, Homa Bay, Turkana and Eldoret)* in preparation for the adoption and transition to the Injectable Free treatment regimen in Kenya. The role of the CoE's is to support the County clinical teams in managing difficult DRTB case scenarios and oversee the implementation of the programmatic management of DRTB at county levels.

In 2021, the WHO Afro region in collaboration with STOP TB Partnership, conducted a Green Light Committee (rGLC) Technical Assistance Mission to the country. The mission aimed at reviewing the progress made by the country in the implementation of the injectable free

treatment and assessing the provision of quality of care cascade *(DRTB Surveillance and diagnosis, procurement and supplies management of DRTB commodities and treatment)* for drug-resistant TB patients in the country.

Key high-level recommendations include:

1. Lab/diagnostics: Develop an operational plan for decentralized Labs, adopt global recommendations on DST for new molecules (Bdq, Dlm).
2. Care and treatment: Strengthen surveillance to find the missing cases, expedite protocol development to assist with implementation of mSTR and DRTB prophylaxis for HHCs (including children), institutionalize death reviews in DRTB clinical review meetings
3. ADSM: Capacity build HCWs, linkage of reporting system with PPB and procurement of visual monitoring tools (Snellen and Ishihara charts)
4. M&E: Monitor the culture conversion rates, adopt the new WHO DRTB case definitions for Pre and XDR TB, Link TIBU and PPB to enhance reporting and review of the treatment log books to include the main side effects of Bdq and Lzd.

1.4.5 Treatment outcomes

The treatment success rate stands at 77% against a target of 80%. Death rate is still high at 13%, and lost to follow-up is at 5.4%. Severe acute malnutrition, late presentation, and advanced HIV disease are some of the commonest contributory factors to the high mortality.

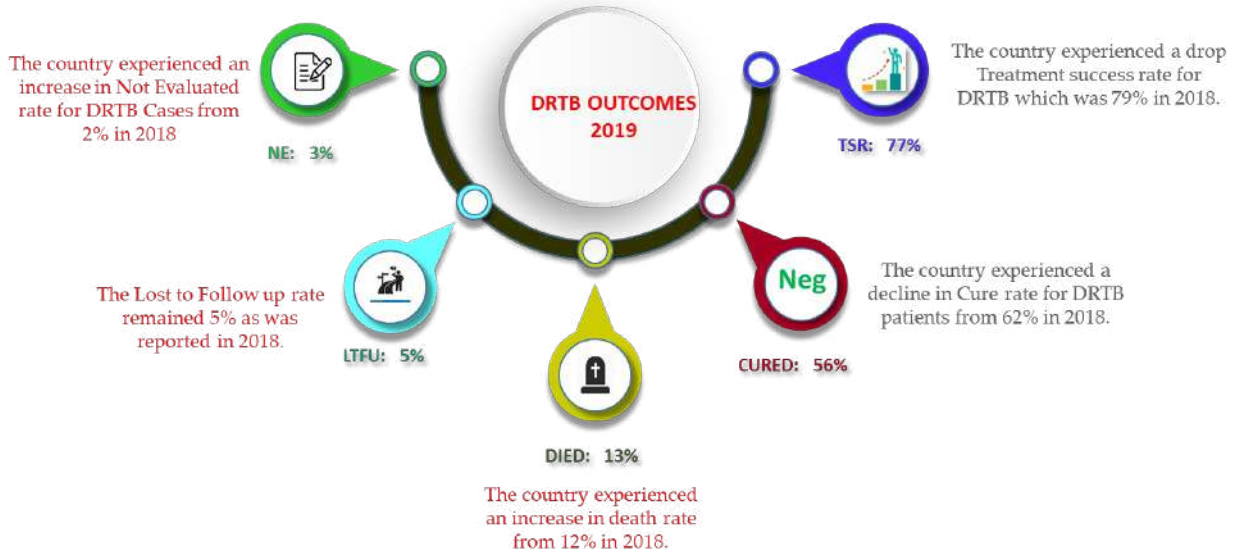


Figure 1.16: Outcome of DRTB 2019 Kenya

1.4.6 Social support (NHIF and Monthly stipends)

All patients are on a standard support package which includes a monthly stipend of KSH 6000 for the patient, as well as for DOT worker, for the duration of treatment; enrollment of DRTB patients on health insurance (NHIF) to cushion them against catastrophic costs in case of hospital admission; and waiver of costs for additional laboratory tests exists.

1.4.7 Plans ahead: Innovations in the management of Drug-resistant Tuberculosis

Innovation is crucial for making progress. There is a need to constantly adapt and upgrade our methods to meet the current challenges of TB in order to reduce infections, improve standards of care, and build better health systems.

While the severity of DR-TB must not be understated, there is a reason for optimism: innovative tools and health systems are paving the way for more affordable, efficient, and effective screening, diagnosis, and treatment of drug-resistant Tuberculosis as discussed below.

These include:

1. Formation of a network of DR-TB champions to:

- Hold support groups
- Host information sessions at TB hospitals and in the communities and
- Provide targeted assistance to patients who have DRTB.

2. Video DOTs/VOT (Video Observed Therapy):

Patients need motivation and reminders that following their treatment plan won't just help them, but it will also prevent the spread of TB to their loved ones and the community

- A video chat feature will enable a patient to have a face-to-face call with their doctors or care providers, and the doctors can as well call them in return.

3. Shorter all oral treatment regimens:

Shorter treatment periods will reduce the risks of failure to adhere to treatment and ultimately improve the treatment outcomes.

1.5 Effects of COVID-19 Pandemic on TB

1.5.1 Background

The COVID-19 pandemic occasioned a wide range of disruptions in social and economic activities. In the health sector resources, including finances and human resources and activities were re-directed towards addressing the pandemic in both the public and private sectors. This led to setbacks in the fight against endemic health problems such as non-communicable and other public health emergencies of international concern (PHEIC).

1.5.2 Effects of COVID-19

The nationwide lockdowns had a negative impact in disease control as people could not access health care services as well as basic commodities. Performance in many health programs declined including TB, particularly due to the stigma associated with overlapping symptoms between TB and COVID-19 that may have caused people to hide such symptoms in the fear of being diagnosed with COVID-19. Persons with respiratory symptoms felt stigmatized

because of the prevailing COVID-19 pandemic. With fewer people coming to the health facilities, detection and notification of people with TB declined by nearly 25% compared to the 2019 baseline. There was a potential of increased progression of TB disease, monitoring of patients on treatment by the HCWs reduced affecting adherence; these consequently led to poorer treatment outcomes and an increase in the TB burden and mortality.

In the health sector, hospital attendance dropped and a significant reduction in the inpatient utilization during the COVID-19 pandemics in the sense that most people who fell ill during the initial stages of the pandemic did not seek medical care. Some of the TB patients in care interrupted TB treatment due to Stigma. Interruption of services in the hospitals where most HCWs were deployed to the COVID-19 centers deprived services to the other departments.

COVID-19 mitigation measures were put in place to alleviate the effects, especially on the treatment interruption where the patient-centered approach is being given to various patients depending on the stability of their health and in the year 2021 hospital attendance started to normalize in 2021 (To Indicate the numbers from 2019-2021 from KHIS)

Mitigation measures

- Patient-centered care approach to patients and community services to reach out to those who did not get to the facility.
  - CHVs were capacity built through training and provision of cooler boxes to support sample networking for presumptive contacts of bacteriologically confirmed and children under 5 TB patients.
  - Delivery of TB medication in the community was done to stable patients in 17 counties, by community actors, as part of differentiated care during the COVID-19 pandemic.
- Continued with technical support and mentorship to the HCWs at the facility level and through virtual interactions to offer quality services to all.

1.6 TB Preventive Therapy

1.6.1 Introduction

It is estimated that a quarter of the global population is infected with M. Tuberculosis, however not all those who are infected will progress to TB disease. The risk of progression to TB disease after infection varies among individuals but top in the list among the factors is a weakened immunological status. Persons who have TB infection do not show any signs and symptoms of TB hence they are not infectious but they have an increased risk of progressing to TB disease and that is when they become infectious. On average, about 5–10% of those infected will develop TB disease over the course of their lives, most of them within the first five years after initial infection.

In line with the WHO End TB Strategy, Kenya prioritized TPT among people who are have a high risk of developing TB disease. The End TB strategy provides indicators to monitor progress and set a global target to achieve 90% coverage of TPT among PLHIV and household contacts of TB patients by 2025. The priority groups for the country are as follows; People living with HIV, all household contacts of bacteriologically confirmed TB patients, Health care

workers, Prisoners and those working in the prison setting and finally those with a clinical condition that weakens immunity.

1.6.2 Progress in the roll out of TPT

In 2021, the Global Fund TB project in collaboration with DNLTD-P, NASCOP and other implementing partners conducted two days' sensitizations of health care worker on the new TPT guidelines.

The sensitizations were done in 4 levels as follows;

- **Level one** - targeted members of the County health management team with an aim of getting their buy in and also to make them trainers of trainees at the county level. This targeted the County directors, County pharmacist, County TB and HIV coordinators, County Clinical officers and the county nursing officers.
- **Level two** - targeted members of the sub county health management team mainly because these are the immediate supervisors for the front line health care workers who run the TB and HIV clinics. The target for this level was as above but at the sub county level
- **Level three** - This targeted front line health care workers who run the TB and CCC clinics, the hospital managers and those from the pharmacy department. The priority was given to those with a high workload for TB and HIV.
- **Level four** - The community health volunteers who are the link between the facilities and the community. These play a crucial role in providing health education and demand creation for TPT at the community level.

1.6.3 Availability of the new TPT molecules

The country's TPT policy recommends the following regimes to be used as TB preventive therapy.

- Weekly dose of Rifampentin in combination with Isoniazid for 3 months- This is for persons aged 15 years and above who screen negative for TB disease, regardless of their HIV status.
- A daily dose of Rifampicin and Isoniazid for 3 months (3RH) for children aged <15 years who are HIV negative.
- A daily dose of Isoniazid monotherapy for 6 months (6H) if HIV infected and anyone with a contraindication to the above two regimens.

In the year 2021, the world largely relied on one manufacturer for 3HP hence the availability was sub optimal. This therefore led to the country to undertake a phase-in roll out for TPT medications. Engagement of counties largely was dependent on the quantities of 3HP in the country and availability of funds to cover the 4 levels of sensitizations.

1.6.4 TPT uptake 2021

Kenya has been offering TB preventive therapy to contacts of pulmonary bacteriologically confirmed TB patients for over 5 years now. Prior studies conducted in the country showed that for every 3 bacteriologically confirmed TB patients we are likely to initiate one child below

five years on TPT, this has henceforth been used as the target to track the country's uptake of TPT for this target group. There were 5,644 children below 5 years that were initiated on TPT in 2021, however in terms of achievement against the expected target that year recorded the lowest (30% of the expected) performance of TPT uptake for children below 5 years as indicated in the graph below. This was likely due to stock outs of Rifampentin/Isoniazid in most counties for more than 4 months of the period under review.

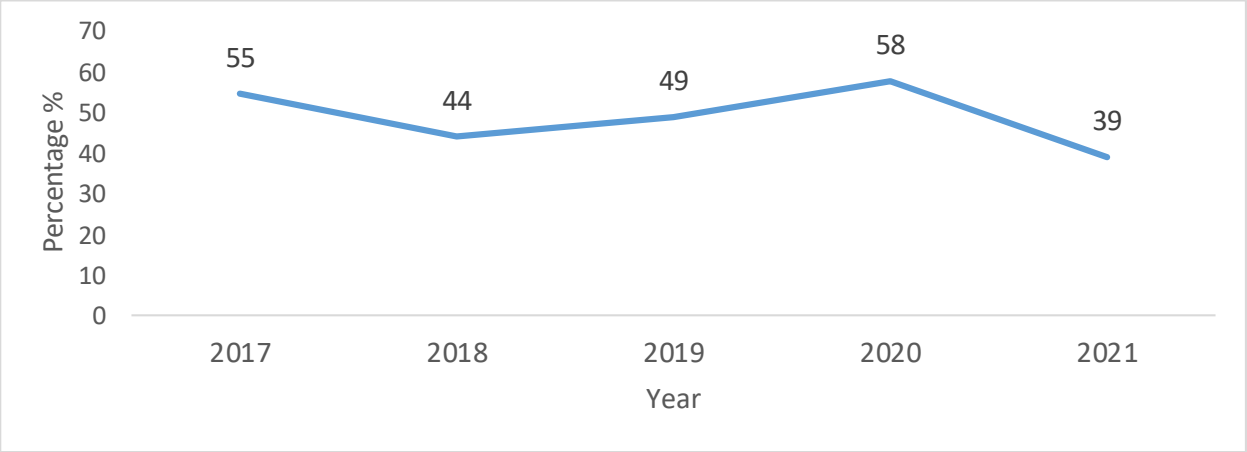


Figure 1.17: Proportion of child contacts below 5 years who were initiated on TPT, 2017-2021

Follow-up of children initiated is also very key for the program to ensure that those initiated on TPT complete. The sub county TB coordinators are mandated with the role of updating the treatment for all the clients that are initiated on TPT. A good treatment completion rate is a pointer of quality of care by the health care workers. The poor outcomes for TPT includes lost to follow up, discontinued due to reasons such as development of TB or ADRs and not completed: of whom majority of these will be attributed to the SCTLC not updating in the TIBU system. 2021 recorded the lowest treatment completion rate (45%) as indicated in the graph below while the proportion of those who did not complete their TPT was the highest (53%) compared to the previous years. Those who discontinued were 38 (0.7%) and out of these 15 (39%) discontinued TPT because they developed TB. The positive thing to note is that none was discontinued because ADRs.

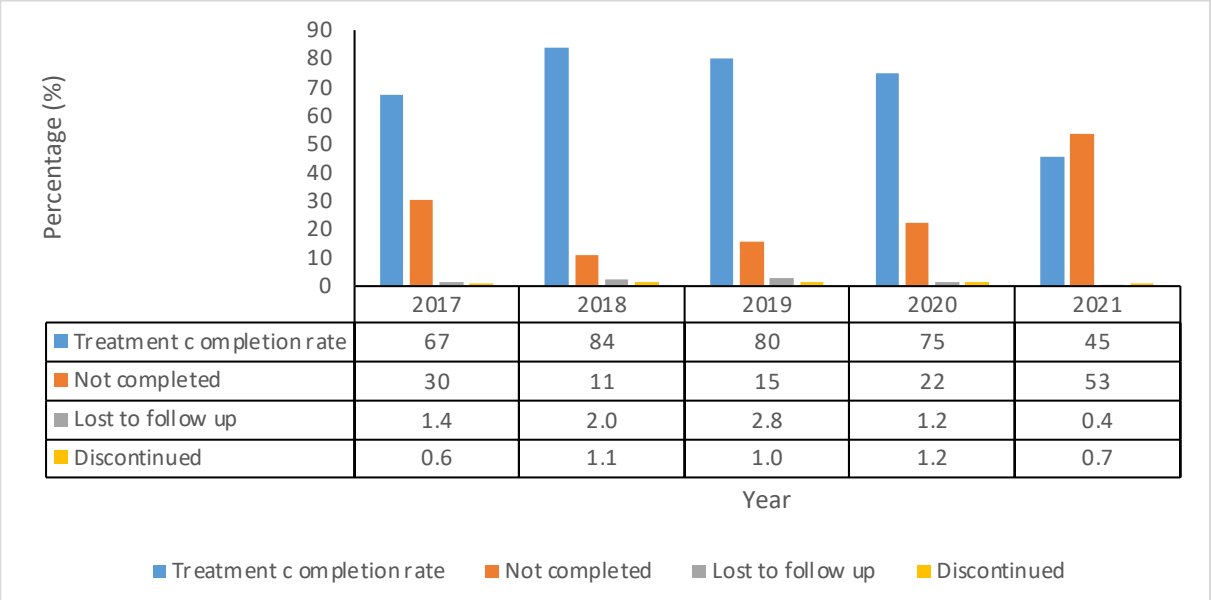


Figure 1.18: Treatment outcomes for the children initiated on TPT, 2017-2021

In conclusion, the rollout of TPT to the expanded populations started in Kiambu County in 2021. In addition, healthcare workers from Nairobi County were also sensitized and began the implementation. The table below shows the number of clients that Kiambu County initiated in 2021 and for Nairobi County between July - December.

Table 1.2: TPT initiation in Nairobi and Kiambu, 2021

	Nairobi	Kiambu
No of HCWS	253	92
No of Contacts 5-14 years	253	179
No of contacts >14 years	1728	417
No of prisoners	0	0

Sensitization of Prison staff did not take place in 2021 hence no one from the Prison department was initiated on TPT.

1.7 Leprosy

Leprosy is a chronic infectious disease caused by a bacillus, *Mycobacterium leprae*. *M. leprae* 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 even more. It mainly affects the skin, the peripheral nerves, mucosa of the upper respiratory tract, and the eyes. The disease is curable with multidrug therapy.

Leprosy is likely transmitted via droplets, 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.

There were 99 leprosy cases detected in Kenya in 2021, which was a slight increase compared to the cases that were diagnosed in 2020. Out of these, 3 (3%) were children below 15 years which a reduction compared to those that were notified in 2020.

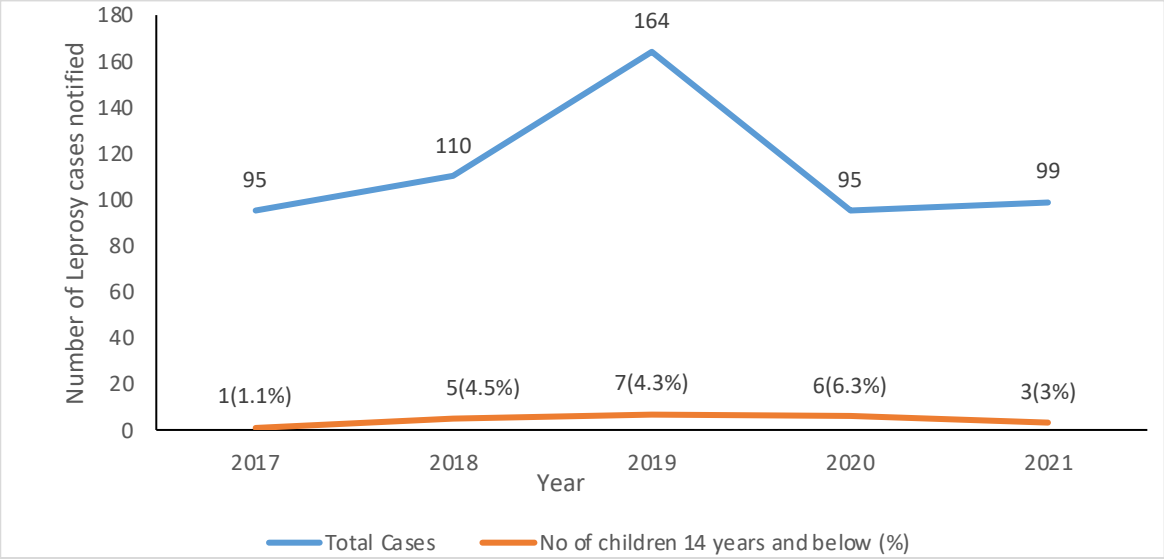


Figure 1.19: Trend of notified leprosy cases and the proportion of childhood leprosy cases

The proportion of patients with Multi bacillary type of leprosy in the year was 87% and that has been the proportion for the last 3 years. In addition, the number of notified cases with grade2 disabilities (G2D) was 16 (16.2%). These two indicators point out to late diagnosis of these patients, which could be attributed to knowledge gaps among health care workers or delay in seeking care by patients.

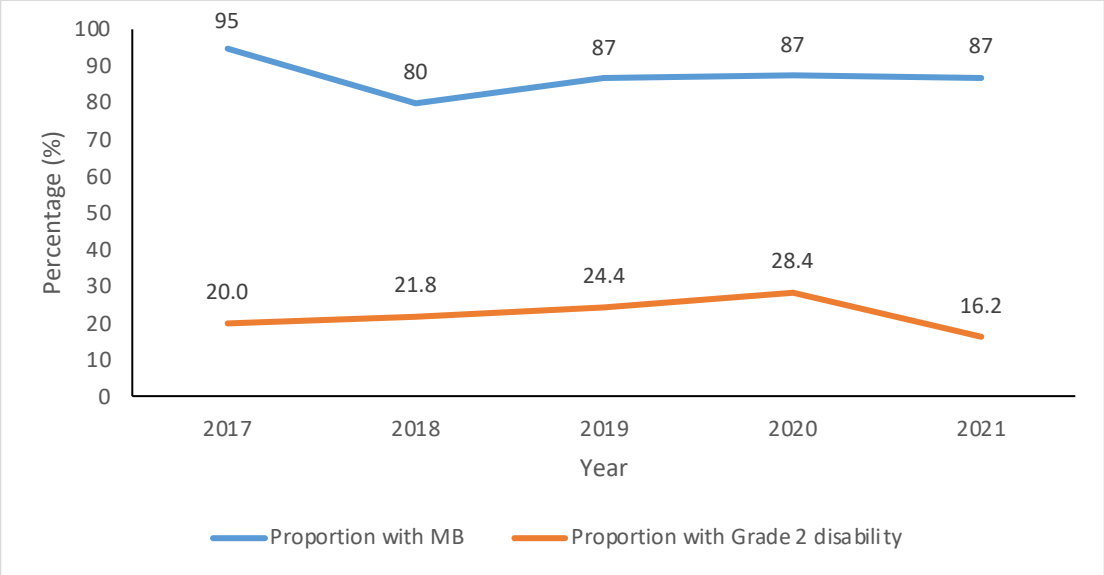


Figure 1.20: Proportion of MB type of leprosy and G2D, 2017- 2021

The COVID-19 pandemic disrupted program implementation and a reduction in new case detection by 50% in 2020 however 2021 showed an increase in the number of Leprosy cases notified.

2 STRATEGIES FOR FINDING MISSING PEOPLE WITH TB

1,053

health care workers were sensitized/re-sensitized on ACF from **80** health facilities across the **5** counties

15,574

Notified cases in the private sector (PFP-Private for profit and FBOs) accounting for 20% of all notified cases

2.1 Background information

Active case finding (ACF) is the systematic identification of presumptive TB cases from a predetermined target group/population by doing the symptomatic screening, detailed history taking, physical examinations, and further laboratory and/or radiological investigations to diagnose TB. The NSP 2019 - 2023 envisions that patients presenting to any service delivery point (SDP) be symptomatically screened for TB. The use of other TB screening options such as chest radiographs (CXR) is necessary for particular patient groups such as children, and PLHIV as recommended in the diagnostic algorithms.

Following the drop in case finding in 2019 compared to 2018, the GF conducted a mission and provided recommendations to improve on case finding. A circular was released from the Director-General for Health to revamp the ACF activities which resulted in the country gaining momentum in case finding in 1st quarter of 2020 however, this progress was curtailed by the unfavorable effects of the COVID-19 pandemic.

The Kenya Innovation Challenge TB Fund is one of the Global Fund-supported strategic initiatives to find the missing people with TB. These initiatives were launched to respond to gaps that were identified during the Kenya TB Prevalence survey 2015/16. The aim of KIC-TB is to find the missing people with TB in the community using innovative approaches and link them to diagnosis and treatment.

PPM collaborations provide continuous strengthening and expansion of meaningful engagement and participation of the private sector in the fight against TB. The current approaches are outlined in the PPM Action Plan 2021-2023 that describes goals, objectives and interventions for expanding and scaling up current PPM in the country.

2.2 Active case finding at health facility level

In 2021 the DNLTD-P continued with intensified efforts towards case finding in health facilities. There was an increase in cases notified in the year 2021 compared to 2022. Below is a documentation of the achievement for the period.

2.2.1 Achievement

- **Mentorship and support supervision:** During the year, counties benefited from the facility-specific ACF mentorship and supervision. These were integrated in the routine TA missions to counties. In total 23 counties were visited.
- **Sensitization of health care workers:** In order to address the knowledge gap among HCWs and hence get their buy-in and ownership on TB screening, 1,053 health care workers were sensitized/re-sensitized on ACF from 80 health facilities across the 5 counties (Table 2.1). The table below provides a summary of the ACF sensitizations.

Table 2.1: HCW Facility-based ACF Sensitization 2020-2021

	HCW facility-based ACF Sensitization 2020-2021				
	Activity	Counties	Number of sub-counties	Number of facilities	Number of HCWs
2020	HCW Sensitization on ACF	11	99	198	3,603
2021	HCW Sensitization on ACF	5	29	80	1,053

Sensitization meetings in 2020 were conducted in the first quarter of the year before the emergence on COVID-19 pandemic in March 2020. In 2021, reduction in the number of sensitization meetings was attributed to restriction measures placed.

- **ACF cascade:** The ACF is monitored based on performance indicators across the cascade of care of patients. The table below summarizes trends in achievement 2019 - 2021.

Table 2.2: Performance ACF Care Cascade 2019-2021

Indicator	**2019**	**2020**	**2021**			
Workload	80,987,838	68,251,103	79,662,946			
	2019	%	2020	%	2021	%
Respiratory conditions	24,048,056		18,124,145		26,032,701	
Screened for TB	7,330,316		15,203,721		16,968,341	
Presumptive TB cases identified	386,064		474,259		444,599	
Presumptive TB cases investigated for TB	204,111	53	279,258	59	226,572	51

Indicator	2019	2020	2021			
Presumptive cases clinically diagnosed to have TB	5,113	1	8,840	2	7,889	3
Presumptive cases bacteriologically confirmed to have TB	12,103	6	19,898	7	16,105	7
Total presumptive cases confirmed to have TB	17,196	8	28,738	10	23,994	11
Confirmed TB cases started on treatment	15,552	90	26,320	92	21,970	92
Presumptive cases referred by CHV	16,115		23,494		11,731	

Since the incorporation of ACF indicators in TIBU, there has been increased reporting from the counties with almost full-scale documentation being realized in 2020. This could partly explain some of the data gaps in 2019. As indicated in the Table above, reporting in the year 2020 went up as compared to 2019 assumption was due to the inclusion of ACF reporting indicators in the performance scorecard. However, there is a drop in numbers in the year 2021 which shows a drop in reporting as compared to 2020 and this calls for quality improvement approaches, especially on the reporting of the ACF cascade data into TIBU.

- **Program Quality Efficiency and Improvement (PQE):** In order to align with the Kenya Quality Model for Health, which provides the ministry's strategic approach to the management of the quality of healthcare services in the country, the NTLDP adopted the PQE approach in finding missing people with TB in health facilities. The aim of PQE is to increase TB case finding through institutionalizing the PQE model at health facilities in Kenya. A concept note was developed to conceptualize modalities of implementing the PQE model in Kenya. The implementation will target 10 counties before rolling out to the 47 counties. To guide the process, the program has been in the process of developing the following strategic documents;

  i) Overarching Quality Improvement Framework

  ii) Program Quality and Efficiency Handbook.

2.3 The Kenya Innovation Challenge TB Fund:

In the year 2021, the project continued to implement the first phase of the project that was under NFM 2 Grant (Jan 2018 - June 2021. During this phase, 11 innovations, implemented by 9 organizations sub granted by Amref Health Africa in Kenya were supported upto May when the project ended. The country transitioned to the Global Fund New Funding Model (NFM) 3 grant in July 2021 under which four innovations were selected to be implemented (*).

Table 2.3: Summary of KIC-TB innovations

No.	County	Summary of Innovation
1	Nairobi	Using USSD platform for enhanced self-screening for TB among men in work places informal settlements
2	Nairobi	Using manned call centers and financial support to enhance screening for TB in informal settlements
3	Nairobi	*Use of Automatic Screening Teller Machine (ASTM) for self-screening of persons seeking services at Huduma Centers, Passport control office and SGR terminus
4	Kakamega	*Screening school children for TB and facilitating them to screen their household members and link them to care through their teachers
5	Kiambu	*Expanding TB screening in congregate settings to include detainees in police cells and among police officers, and their families Use of SMS platform for self-screening of plantation and industry workers (NB was dropped in NMF3)
6	Mombasa	*Expanding TB screening services for truck drivers and corridor communities
7	Mombasa	Finding people with TB among Matatu crews and associates with linkage to health facilities.
8	Homa Bay	Strengthening TB screening in prisons through enhanced use of champions Use of USSD platform for self-screening in the community
9	Kajiado	Integrating private sector and incentives to increase TB screening in informal settlements

** Innovations that will be implemented in NFM 3 grant.*******

A total of 221,530 people were screened for TB, out of whom 830 (8% of those investigated) were diagnosed with TB and 707 (85%) started on treatment. Of the 830 diagnosed with TB, 60% were bacteriologically confirmed. Below is the performance for January to Dec 2021.

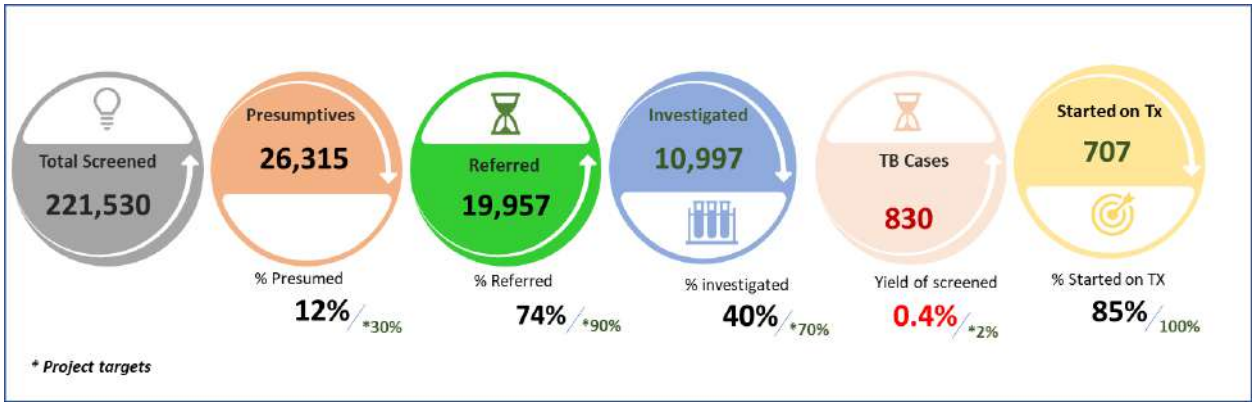


Figure 2.1: Snapshot of KIC TB achievement in the year 2021

Modifications to help close the gaps along the TB cascade will be implemented from 2022 that include support for chest x-ray, enhancing onsite sputum collection and transportation, escorted referrals for specific populations among others. The four innovations are being monitored closely for timely intervention for those not performing optimally.

2.4 Public-Private Mix (PPM)

The year 2021 saw the rapid assessment of the PPM implementation. The following were the achievements.

a. **PPM Action Plan 2021-2023:** Development of the PPM Action Plan 2021-2023 that describes goals, objectives and interventions for expanding and scaling up current PPM in the country. The PPM Action Plan 2021-2023 provides a guide on strengthening and expanding meaningful engagement and participation of the private sector in the fight against TB. It complements the Tuberculosis National Strategic Plan 2020-2023 using existing and reviewed models of engagements and providing a national scope.

b. **Coordination:** The PPM Committee of Experts continued to provide a strong advisory and monitoring role for the implementation of PPM activities. This was together with the implementing partners; AMREF Health Africa through the Global Fund support, Center for Health Solutions – Kenya (CHS) through the USAID TB ARC II activity, Respiratory Society of Kenya (ReSoK), Population Services Kenya (PSK) through the TB REACH grant and the Kenya Conference of Catholic Bishops (KCCB) through the KOMESHA TB program.

   i. Amref Health Africa in Kenya: Implements PPM intervention in collaboration with NTLDP through support of Global Fund grant. Under NFM 2 which ended in June 2021, the focus was in 10 urban centers across 8 Counties implemented by SR (PS Kenya). The current grant (NFM 3) has now expanded to all 47 counties. PPM in the high TB burden and high number of private facilities is implemented through National Network of People living with HIV (NEPHAK) in cluster 1 (10 Counties- Bomet, Homa Bay, Kakamega, Kericho, Kisii, Kisumu, Migori, Nakuru, Siaya, Uasin Gishu) and Respiratory Society of Kenya (ReSok) implementing in Cluster 2 (9 counties- Kiambu, Kilifi, Kitui, Machakos, Makueni, Meru, Mombasa, Murang'a, Nairobi). The remaining 28 counties are implemented by 20 SRs.

   ii. Center for Health Solutions (CHS): supported case finding activities in private for profit health facilities in 5 counties; Meru, Kirinyaga, Mombasa, Kilifi and Nyeri. A total of 146 health facilities were engaged; 96 hospitals and clinics, 31 chemists/pharmacies, 11 standalone laboratories and 8 corporate clinics. TB ARC II trained a total of 1,268 health care workers from the private sector in TB control. The 5 counties were supported to conduct joint support supervision with the County Health Management Teams (CHMTs). This activity contributed significantly to strengthening partnership between the private facilities and the county governments; it also provided a platform to lobby for additional support for private facilities from the Counties governments who play a critical role in providing overall leadership and oversight. Experience sharing workshops were also conducted and these facilitated cross learning and sharing of best practices among the private facilities. In order to strengthen access to more sensitive diagnostic tests (GeneXpert), TB ARC II supported linkage of private for profit

health facilities to gene xpert sites. This was through engagement and sensitization of riders who provided services at a cost share basis; therefore, both the facilities and riders benefited from this activity thus enhancing sustainability.

iii. **KCCB Komesha TB program:** Continued to focus on improving the efficiency of services in the facilities of support in 9 counties in western and Nyanza regions. The facilities include private and faith based organizations.

iv. **PS Kenya:** TB REACH Wave 8 grant (October 2021 - August 2023) from Stop TB Partnership to optimize the quality of care for optimal treatment adherence among drug resistant (DRTB) patients in order to improve treatment outcomes in 2 drug resistant TB high burden counties (Nairobi and Mombasa) in Kenya. The project uses a treatment adherence support system model to address the challenges affecting treatment outcomes among patients.

c. **PPM Performance:**

i. **Case Notification in private sector:** In 2021, the private sector (PFP-Private for profit and FBOs) notified 15,574 cases accounting for 20% of all notified cases which was a 2.3% increase from the previous year. An additional 4% were referred by the private sector.

Figure 2.2: Contributions of private sector and FBOs, private sector alone in TB case finding in Kenya, 2012-2021 and referral by private sector

ii. AMREF Health Africa - Global Fund PPM

Case finding was conducted from Jan - June 2021 under NFM 2 grant. Start-up activities for NFM 3 started in July 2021, recruitment for SRs has been concluded and implementation started in 2022. A total of 556,753 were screened and 1,476 diagnosed with TB. Out of the TB patients diagnosed, 98% were started on TB treatment. The graph in Figure 2.3 shows the cascade in case finding for the period January - June 2022.

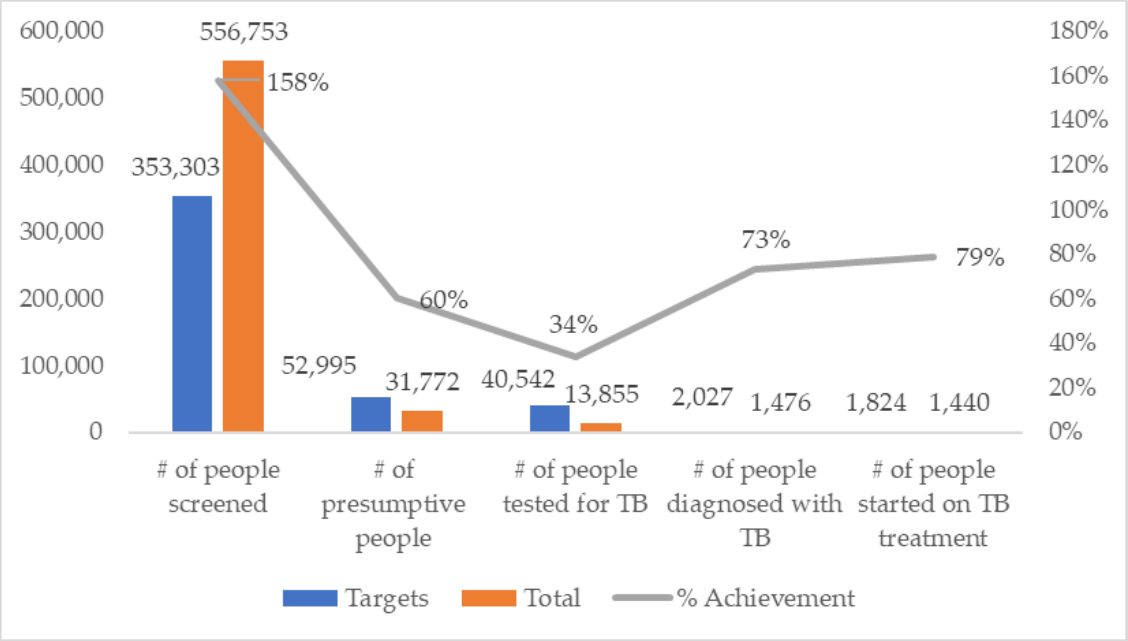


Figure 2.3: Care cascade performance for the PPM global fund grant for the period Jan - Jun 2021

iii. CHS

A total of 220,315 people visiting the private health facilities had respiratory symptoms and out of these, 177,816 (81%) were screened for TB, 7,237 (4%) were presumptive and 4,557 (63%) of these were tested for TB, out of those tested, 518 (11%) were diagnosed with TB. All those diagnosed were notified to the National TB program. The graphs below shows the numbers along the care cascade and the total number of TB cases diagnosed per PPM model.

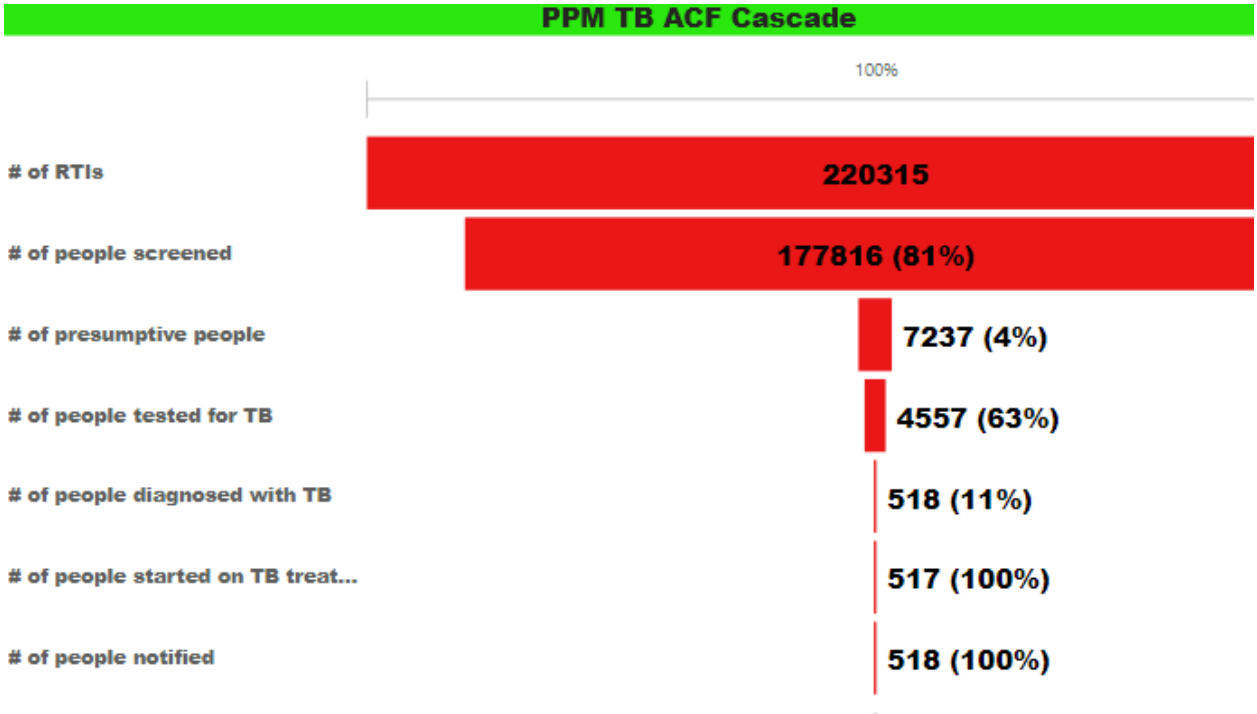


Figure 2.4: Care cascade performance for the PPM CHS USAID project for the period Jan - Dec 2021

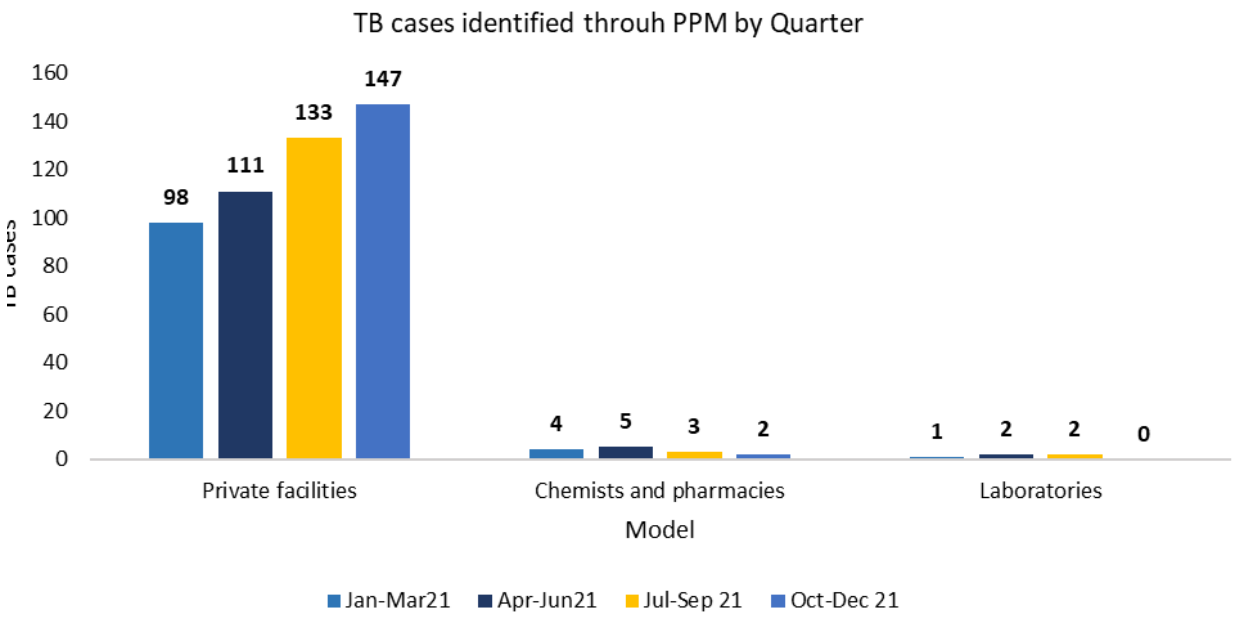


Figure 2.5: TB cases identified through PPM

iv. KCCB Komesha TB Program - Faith Based and Private Facilities

In the reporting period, the program screened a total of 1,595,454 (59% Female) persons in OPD, MCH, and IPD with a focus on HIV negative points of care. This screening achievement represented a 93% screening rate overall, an improvement from 79% from the last year

Out of those screened, 233,227 (56% Female) were identified as respiratory tract infections; this was an achievement of 13% of the target, an improvement from 11% from last year. A total of 36,989 (56% Female) presumptive cases were identified in the annual period. Overall, the program has achieved a 15% presumptive rate. CHVs referred to a total of 8,399(55% F) presumptive cases, and their presumptive rate was at 9%. The program further supported 17,195 (55% female) cases to access GeneXpert tests. This was a 46% testing rate, an improvement from 40% last year. A total of 4,869 (53% Female) were screened in biannual health care worker screening.

In the reporting period, 2,867 (43% Female) TB cases were notified in the year. Of the notified cases, 227(6% Female) were children. Further, In the year a total of 1,593 (42% Female) clients were diagnosed with TB.

v. TB REACH Wave 8-PSK

Treatment adherence among drug resistant (DRTB) patients

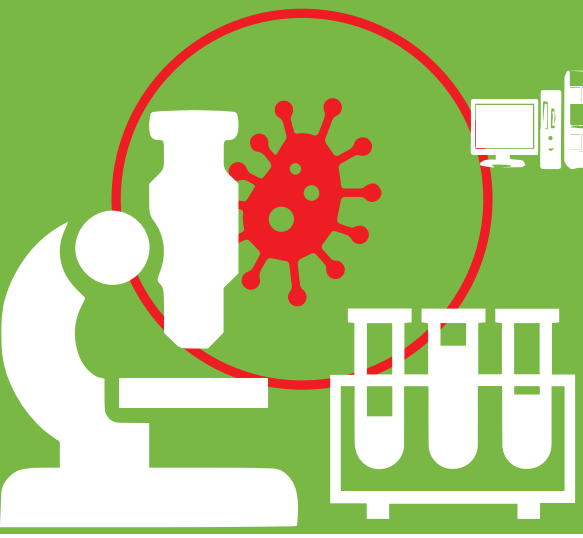
The project started set-up for implementation in October 2021, and is set to actively implement its activities from January 2022 to August 2023 in partnership with the National TB program and the respective county governments. The project will use a treatment adherence support system model to address the challenges affecting treatment outcomes among patients.

2.5 Key challenges and lessons learnt

1. Challenges faced
    i. Unwillingness/Reluctance of some providers to provide TB services. Engagement of chemists and pharmacies was slow as compared to health facilities.
    ii. Leaking TB cascade of care.
    iii. High Staff turn over and therefore need for continuous OJT/TA.

2. Key Lessons Learnt in NFM II implementation
    i. Social media (WhatsApp groups) can be instrumental in providing a platform for engagement of the private providers and there is a need to embrace these platforms.
    ii. Hub and spoke model worked very well to link up the small facilities to the diagnostic sites and can be applied on a large scale.
    iii. A mix of both technical and marketing skills for the staff offering the day-to-day technical support to the private providers can yield better results since engagement of the private provider requires a convincing voice.
    iv. There is a need to digitize recording and reporting tools and to simplify them.
    v. Incentivization of the private providers is key but needs to be tailored in such a way that the processes are incentivized rather than the end result.

3 DIAGNOSTIC CAPACITY AND SURVEILLANCE OF TB



227

Number of Gene Xpert machines distributed across all 47 counties in 2021, **193** in public MOH facilities, and **34** in private and research institutions.

41%

GeneXpert utilization rate

82%

GXLIMS utilization rate

67%

Relay of results via SMS

58%

Relay of results through email

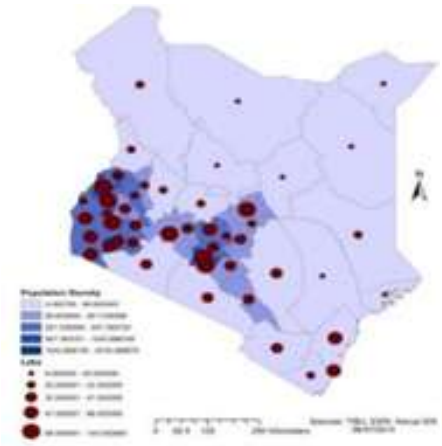
3.1 Introduction

Laboratory plays an important role in TB diagnostic services even as the country is working toward finding the missing TB cases. In 2021, the World Health Organization (WHO) introduced a new rapid diagnostic for Tuberculosis detection. As a country we have strived to realign ourselves to keep abreast with these new technological changes in order to reinvigorate our diagnostic and programmatic capacity. In line with WHO End TB Strategy that calls for the early diagnosis of Tuberculosis (TB) including universal drug-susceptibility testing (DST).

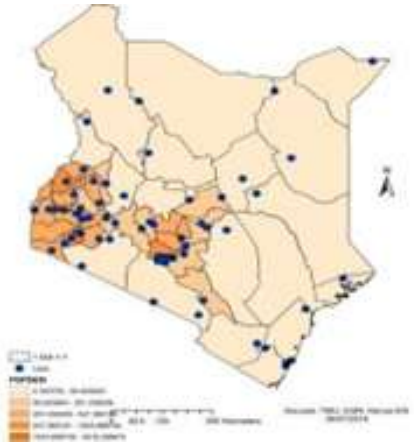
Current status of diagnostics in Kenya, the quest to improve access and enhance the TB surveillance system, the DNTLD program has decentralized the TB surveillance services to five more regional facilities to ease the workload at the National TB reference laboratory with focus on its core mandate. The decentralized laboratories include; KEMRI Kisian, Walter Reed Kericho, Malindi sub-county hospital, Kitale County Referral Hospital, and Machakos County Hospital. To ascertain quality of services, all the facilities including the National TB Reference Laboratory have been ISO 15189:2012-accredited.

Access to Tuberculosis diagnostic services in line with WHO/ DNLTD-P recommendations.

Distribution of smear microscopy sites by population density, 2020



Distribution of GeneXpert by population density, 2020



Map showing distribution of GeneXpert sites in Kenya, 2020

Number of microscopes

FM – 469

ZN – 2,690

Number of Gene Xpert

227

Figure 3.1: Access to Tuberculosis diagnostic services in line with WHO/ DNLTD-P recommendations

DNTLD-P has prioritized a seamless quality-assured laboratory network which is equipped with surge capacity, rapid diagnostic tools, sample referral systems, implementation of standard operating procedures (SOPs) as well as guideline and appropriate quality assurance (QA) processes and robust biosafety and biosecurity implementation practices. WHO has mandated the DNLTD-P/TB reference laboratory to play an essential role in the organization and maintenance of the TB laboratory network shown below;

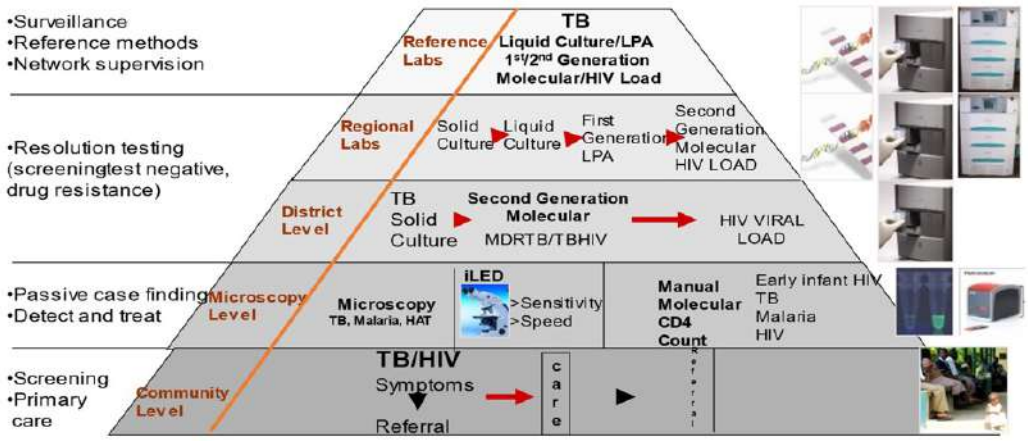


Figure 3.2: TB laboratory network

3.2 The role of diagnostic facilities in Kenya

National Tuberculosis Reference Laboratory (NTRL): The national referral and testing facility for the TB program, for diagnosis (including phenotypic and molecular), surveillance, mentorship and capacity building, development and/or review of TB Diagnostic policies and guidelines that govern implementation frameworks, Quality management oversight, technical assistance mission, verification and validation of new equipment and tools, conduct operations research and specimen repository as needed.

The National TB program has decentralized drug-resistance surveillance testing to other regional laboratories namely: Kenya Medical Research Institute (KEMRI) - Kisian, Machakos, Kitale and Malindi to increase access and reduce the turnaround of results. KEMRI provides similar services to NTRL due to its infrastructural capacity, while the rest provides line probe assays in addition to cartridge Acid-based amplification testing and Smear diagnostic.

There are also facilities providing molecular WHO-approved rapid diagnostics (mWRDs) using GeneXpert ULTRA, GeneXpert MTB Rif, TrueNat. A total of 226 facilities, from MOH 193 and Private 33.

The rest of laboratories largely support Smear diagnostics through Ziehl Nelsen or Fluorescent/ LED microscopy for both diagnostic and monitoring. The country has 3,159 facilities with smear capacities.

3.3 Laboratory Specimen Referral Systems (SRS)

Samples were referred routinely for diagnosis and drug-resistance surveillance of Tuberculosis, within the counties as well as to reference laboratories, to NTRL and KEMRI-Kisian, via motor riders, courier, or through health care workers, and supported by national implementing partners and local partners.

- There is a robust mechanism for results feedback amongst the referring and the testing laboratory
- These results are communicated via short text messages (SMS) and/or email to the corresponding clinicians/ facilities. For GeneXpert results, GXLIMS sends results to clinicians directly.
- The country encouraged integration of specimen referral by facilities across the country.
- Lack of mechanism to aid in samples referrals

3.4 National Tuberculosis Laboratory test menu

In Kenya, the national TB program has outlined the following diagnostic techniques in line with WHO recommendations; these techniques include, GeneXpert MTB RIF/ULTRA as primary diagnostic tests; all presumptive cases should access it, followed by culture and drug susceptibility testing (DST), Line probe assays (LPA), where available (WRDs), and smear microscope for treatment follow-ups.

3.4.1 GeneXpert MTB RIF/ULTRA

The National TB program with support from Global Fund and other partners has distributed and operationalized 227 GeneXpert instruments across the country. Of these, 193 public MOH facilities, and 34 in private and research institutions. Xpert testing tools developed for implementation were not readily available.

- Total number of tests done **332,110, 187/193,**
- MTB Positive **33,454**, proportion of positives (Rif res **988**, indeterminate **677**) /negatives **284,469**, errors/invalids **14,187**.
- GeneXpert utilization rate of **41%**, while GXLIMS utilization **82%**, Relay of results via SMS, **67%** and through email, **58%**.
- The average yield testing per year is **10%**, error rate of **3%** and results reporting (online) **187/193 (97%)** and Turnaround time (TAT), between **2-5** days.

Xpert quality control and EQA performance:

- Facilities were enrolled into Xpert PT program by NTRL, participating twice in the months of March and October of every year.
- In 2021, **189** facilities were enrolled in March and **194** in October 2021, an increase of **1.6%** and **4.3%** respectively. Each cycle contains 5 vials distributed per instrument per site, of these vials, 1 is an extra in case of need.
- The PT results are sent through an online platform, where sites are encouraged to print and file copies.
- Resolutions and appropriate use of CAPAs; For sites that do not meet the expected outcomes (failures), are expected to fill out CAPAs forms and submit to NTRL. NTRL thereafter plans for targeted mentorship to these sites with challenges, for onsite training.
- DNLTD-P renewed a Service Level Agreement (SLA) with CEPHEID for all **193** GeneXpert instruments, to ensure maximum equipment functionality and accessibility to all patients seeking TB diagnostics across the country.

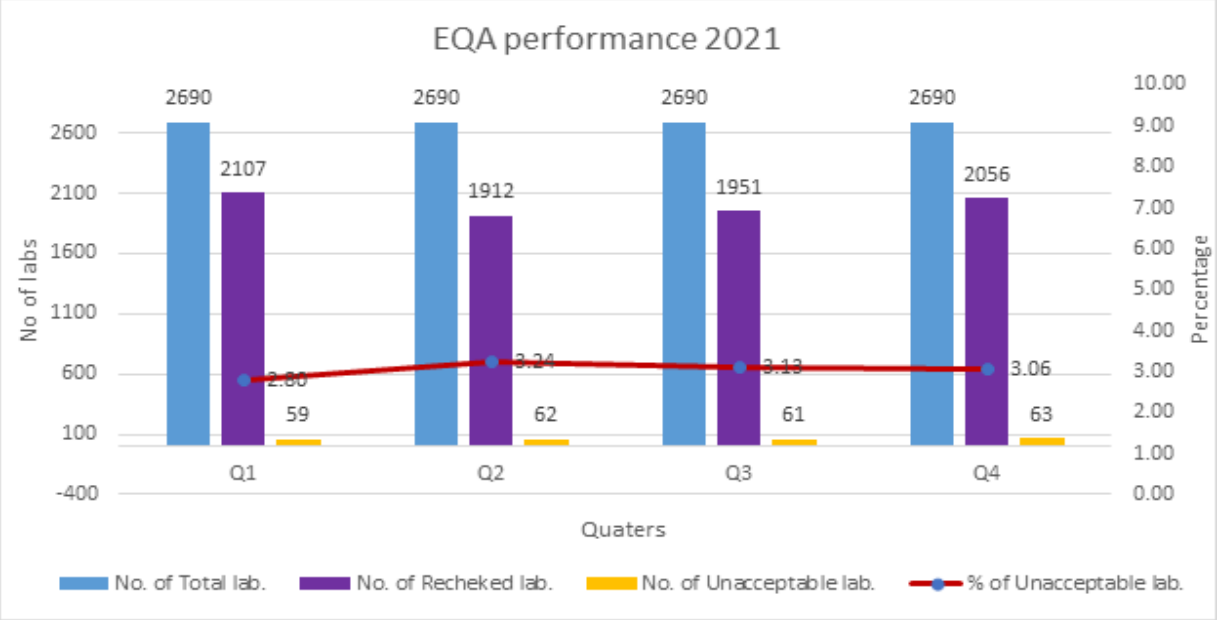


Figure 3.3: EQA performance (2021)

A graph showing Performance of facilities on PT among enrolled facilities 2021 Cycle A and B (No=194)

GeneXpert MTB RIF/ULTRA support for activities:

- HCWs were trained on testing using ULTRA cartridges, results interpretation.
- Super users are supported to make monthly visits to the GeneXpert facilities by USAID funded TB ARC II. Support covers transport reimbursement, lunch, and where applicable per diem.
- Bundling of GeneXpert machines; USAID funded TB ARC II supported the monthly bundling to all GeneXpert equipment, to support bulk SMS for the dissemination of GeneXpert results was also supported during this period.
- Staff were trained on GeneXpert stool testing for children below 5 years due to difficulty in producing sputum, facilitated through TB ARC II for the pilot phase of stool sample testing in the counties of Nakuru, Kisumu, Homa Bay, Nyeri, Mombasa, and Meru.

- A sensitization of clinicians on stool testing followed thereafter was conducted virtually
- Two TA missions were conducted in the country supported by USAID TB ARC II. This mission covered Meru, Embu, Tharaka Nithi, Kilifi, Kwale, Mombasa, Nairobi, Muranga, Makueni, Kisumu, Homa Bay, and Migori Counties in February 2021.
    - The TA mission's objective was; a) assess laboratory capacity to conduct quality GeneXpert testing and, b) to provide mentorship to clinicians and laboratory officers to improve quality in the diagnosis of TB using the TB diagnostic algorithm.

Dr. Elizabeth Onyango, former Head – NTLDP (in green), leads a team conducting GeneXpert TA mission in Western Kenya (Chulaimbo Sub- County referral) between 7th– 12th February 2021. Present in the team were Kennedy Muimi and Stella Omulo from the TB ARC II Activity

3.4.2 Culture and drug susceptibility testing (CDST)

Culture and drug susceptibility testing for patients is conducted at the National TB Reference Laboratory (NTRL) and KEMRI TB laboratory, Kisian.

The two laboratories perform both first and second line testing in these facilities, they employ the use of direct or indirect DST (direct refers to phenotypic while indirect refers to genotypic testing).

The indication for culture and DST is to diagnose TB and surveillance for drug-resistance.

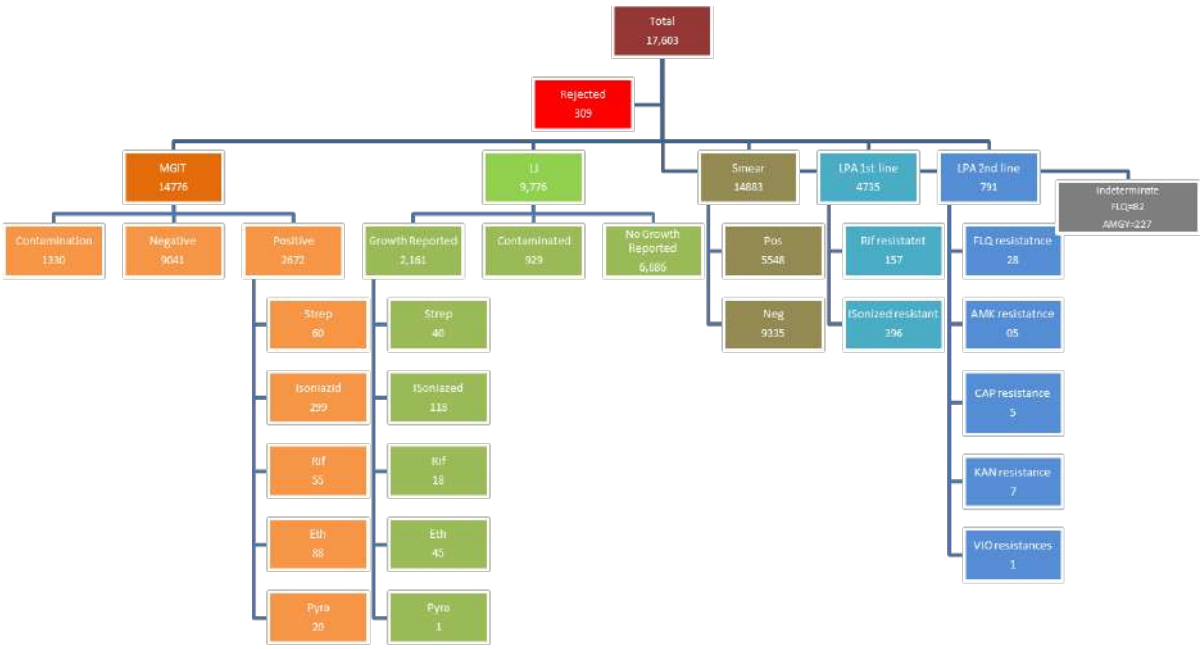


Figure 3.4: Culture and DST workload in 2021

Culture and DST EQA participation:

- The culture testing facilities are enrolled into local and external quality assurance programs. NTRL is enrolled into SRL EQA programs which run bi-annually, while KEMRI is enrolled in both NHLS and SMARTSPOT programs which also run twice a year. Both laboratories recorded 100% participation and performance.
- Global Fund supported NTRL to send out samples for inter laboratory comparisons to Supra National Laboratory- Uganda.
- Through Global Fund, NTRL was trained on supply chain management and Second line drug susceptibility testing training.

Culture samples referrals

Specimen referral systems for culture and DST were supported by USAID TB ARC II. Samples were couriered through G4S and EMS across the country to both NTRL and KEMRI, the referral for culture and DST services.

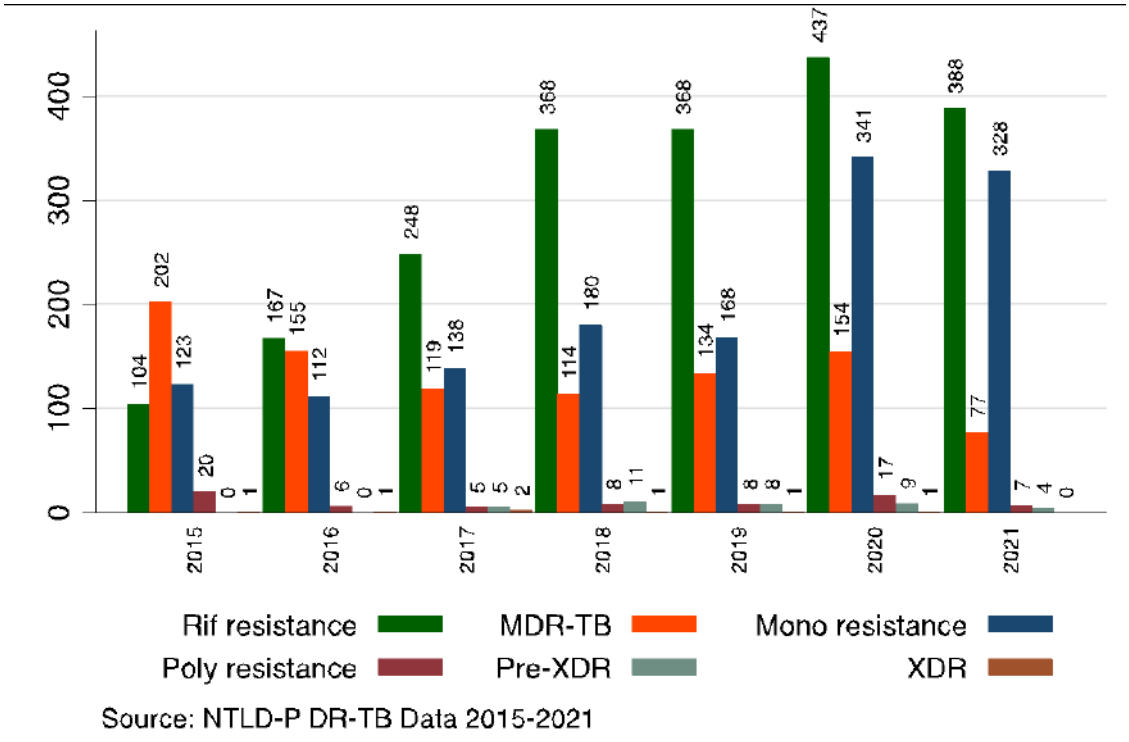


Figure 3.5: Number of second line DST performed

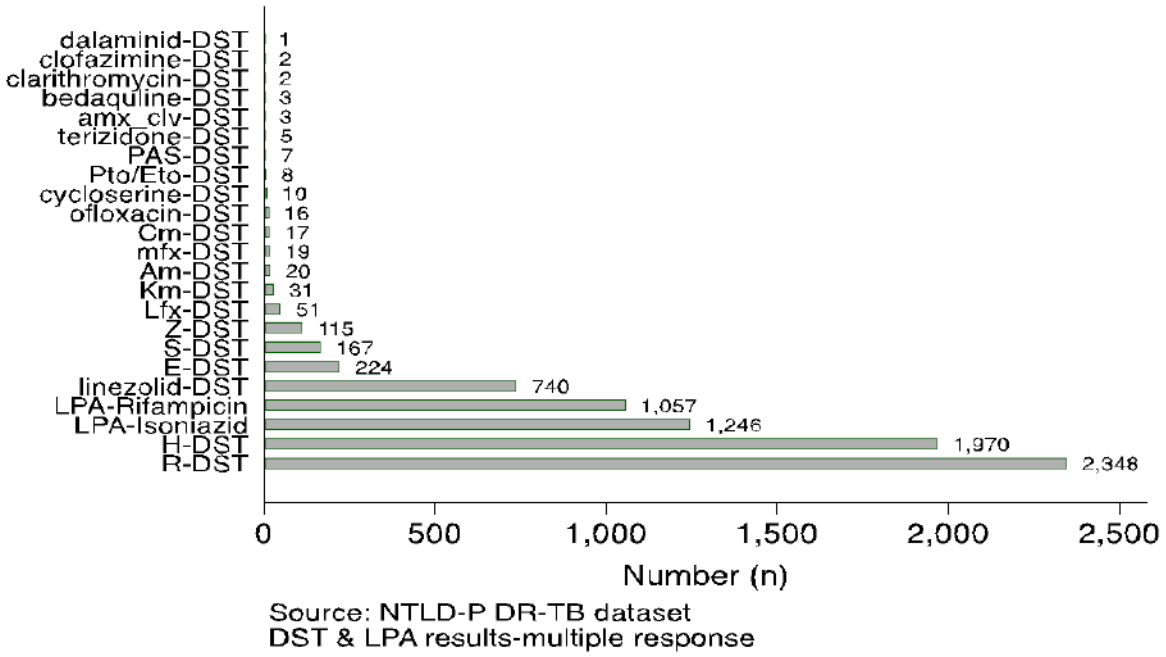


Figure 3.6: Distributions of second line tests performed

3.4.3 Smear Microscopy

The availability and quality of AFB microscopy relies on national programs that support, train, and monitor the testing performance of individual laboratories. Kenya's DNLTD-P country employs use of Smear microscopy largely for monitoring; however, it's also used in facilities without GeneXpert instruments for diagnosis.

AFB Capacity building:

- Health care workers (76) training on AFB Microscopy and GeneXpert was conducted targeting Turkana, Makueni, Tharaka Nithi, Mandera, Nyeri, Baringo, Kericho, and Meru County in 3 clusters through CHS TB ARC II support, and additional while 125 HCWs trained through Global Fund support.
- There are 3,159 facilities performing microscopy, of these 2,690 use ZN and 469 FM.

AFB EQA/PT Participation

- Facilities do participate in blinded slide rechecking every quarter with the SCMLT providing oversight, mentorship, feedback and CAPA as appropriate.
- The county referral hospitals are enrolled in a AFB PT program by NTRL, where they receive slides quarterly. Of these 50 enrolled facilities, 40 participated, 34 registered satisfactory results. 15 facilities participated using ZN 26 used FM microscopy.

Ongoing AFB Microscopy practicals facilitated by Catherine Githinji and Kennedy Muimi in Lodwar County Referral Hospital held in Cradle hotel Lodwar on 26th August-2nd September 2021

3.4.4 Line probe assays (LPA)

TB program decentralized diagnosis of presumptive DR TB through identification of 3 new facilities of Kitale, Machakos, Malindi in addition to both NTRL and KEMRI.

3.4.5 Adoption of WHO rapid diagnostic platforms:

The country adopted the use of new diagnostic tools as recommended by WHO. The program received support through USAID TB ARC II for sensitizations on the use of new diagnostic tools. Including Stool testing using Xpert test platform.

- National TB program's diagnostic CoE in collaboration with stakeholders (county governments, USAID supported partners, CHS-TB ARC II) and implementation partners, developed an implementation plan for facility identifications for the new WRDs.
- These tools included TrueNat, GeneXpert Ultra cartridge, use of stool for pediatric diagnosis of TB, LF LAM, and TB LAMP.
- The diagnostics team developed an implementation strategy and plan to guide on the roll out for the new tools.
- While counties identified their facilities for consideration or assessment, DNLTD-P drew the final list for 38 sites for assessment and possible installations.

Activities supported to implement effective and efficient diagnostics;

- USAID funded TB ARC II activity through NTLD-P supported the National Diagnostic Technical Working Group (TWG).
- DNLTD-P renewed the GeneXpert service level agreement (SLA),
- DNLTD-P also developed several guidelines and strategies for implementations covering;
  - Commodity security and management,
  - Sample referral,

- Adoption of new TB diagnostics in the country including GeneXpert Ultra cartridge,
- Stool for pediatric diagnosis of TB using GeneXpert platform,
- Scale-up of LF LAM,
- TrueNat implementation,
- COVID-19 testing using GeneXpert Instruments.

A practical demonstration of the use of TrueNat equipment by Step-labs laboratory specialist ongoing during the workshop

Sensitization was carried out to 130 participants including NTLD-P, County medical laboratory coordinators from 47 counties, and representatives of CTLC's, super users, and partners.

3.5 Operational research

The national TB program conducted a sentinel surveillance, the findings are yet to be shared.

Table 3.4: Table showing successes, challenges and way forward.

Items	Achievements/Successes	Challenges	Way forward
GeneXpert	• Increase of testing sites from 189-193 • Renewal of SLA for 2021 • Staff training on use Xpert ULTRA, stool testing for children • Pilot for stool testing in selected 12 counties • Supported use of Xpert Xpress SARSCOV2 testing	• Inadequate county reports for appropriate F&Q • Procurement delays due to bureaucracies leading to stock outs • Inadequate transportation within counties • Inadequate resources/funds for staff capacity building • Low yield of MTB from tested samples	• Ensure adequate reporting for effective F & Q • Strengthen procurement procedures • Avail resources or seek for more financial support through GOK, Partners etc.

Items	Achievements/Successes	Challenges	Way forward
Culture and DST	• Performing DST for new IFRs regimen • Sending samples to NTRL for interlaboratory comparison • Participation in external EQA programs • Samples referrals for testing from peripheral facilities	• Only 2 laboratories currently performing cultures • Significant stock-outs in the country • Inadequate resources for staff capacity building • NTRL's infrastructure status • HR inadequacy • Lack of support for genome sequencing • Lack of support for operations research	• Consider facilitating additional labs with infrastructure • Provide adequate resources to support activities • Fix NTRL infrastructural needs • Consider genome sequencing services
AFB Smear	• Increase in AFB sites from 2,690 to 3,159 • Staff capacity building, 150 staff trained	• Closure of laboratories due to COVID-19 • Poor laboratory infrastructures for field labs • Inadequate HR • Poor documentations • Untimely EQA/PT submissions, online etc.	• Enhance support supervision by CMLCs • CMLC's to liaise with local management to provide OJT support
LPA	• Decentralization of LPA to 3 facilities, Kitale, Malindi, and Machakos. • Placement of LPA testing equipment at the sites • Training and mentorship of site staff on LPA testing	• Decentralized facilities are not operational • Insufficient, erratic supplies leading to massive stock outs of commodities • Inadequate staffing • Inadequate resources to support HR, equipment, training etc. • No system for results relay (LIMS) • No Mapping of laboratories supported by decentralized LPA sites	• Initiate urgent testing at the LPA facilities • Improve on procurement procedures • Seek support for more staffing • Source for more funds • Perform LPA sites mapping
WRDs	• Developed a national strategy and implementation plan for WRDs • HCWs trained on a few WRDs e.g. TrueNat, Stool testing • Assessment for TrueNat placements and sites selection completed	• Implementation is yet to place for all WRDs • Placement of new WRDs yet to be completed. • Few staff trained on	• Hasten installation and initiation of tests in selected • Train additional staff on WRDs • Avail the required lab commodities

Items	Achievements/Successes	Challenges	Way forward
EQA and PT	• AFB Smear PT is carried out in at least 90% facilities • Microscopy blind rechecking performed by facilities and coordinated by SCMLC's • SCMLC's supported to conduct EQA processes in their regions. • Xpert PT also conducted in 80% facilities	• Inadequate financial support for productions. There is insufficient support to cascade for adequate technical assistance to the TB diagnostic peripheral facilities. • The number of technical staff is not adequate due to high staff turnover. • NTRL urgently needs additional financial support to cater for Human resource and PT supplies/ consumables. • Inadequate resources for coordination of the PT program.	• Enroll all facilities into EQA and PT programs • Seek for support for additional for HR • Seek for Financial support to NTRL for PT program
Sample referral systems (SRS)	• Culture samples referrals supported countrywide • SRS for Xpert testing in counties supported by Local IPs • There was effective and efficient support for courier through both G4s and EMS companies	• Lack of mechanisms to aid in samples referrals • Insufficient results feedback mechanisms, ICT • Inadequate support for trainings (SRS, guidelines, policies) • Inadequate packaging materials • Inefficient results feedback mechanisms, including ICT requirements (Server expansion) • Inadequate packaging materials for sample referrals • Lack of monitoring and evaluation of sample referral system.	• Develop M&E policies for SRS • Disseminate tools for SRS • Train all stakeholders on SRS • Provide training on Biosafety for stakeholders • Develop ICT mechanisms for managing SRS from the counties • Seek support to provide packaging materials.

Way forward for diagnostics

1. Recommendation for enhanced support supervision by the CMLC and SCMLC
2. Counties should liaise with the hospital and county management for improvement of their infrastructure so as to increase the diagnostic sites, OJT to laboratory staff including new staff,
3. Provide adequate and requisite trainings to HCWs on all relevant areas of their operations by National TB program and Partners,
4. Roll out of the electronic workbook to all Sub County Medical Laboratory Coordinators (SCMLCs) and continuous mentorship to improve on reporting and timeliness remain key.
5. Developing of mechanisms (M&E), policies, guidelines etc. for SRS and ensure its implementation, and provision of adequate support materials from both the county and DNLTD-P

6. Ensure steady supply, proper reporting, adequate F & Q, and prompt requisitions, and procurement of the laboratory commodities
7. Ensure adequate funding and support to NTRL's infrastructural requirements to cover BSL3, equipment and other relevant equipment service contracts.
8. Consider initiation of genome sequencing at the reference laboratory following previous recommendations
9. Rapidly initiate LPA testing at the decentralized laboratories to reduce backlog at the NTRL and provide necessary support either technical or commodities.
10. Ensure all testing sites are enrolled and participating in EQA, PT programs available in the country.
11. Implementation of bi-directional screening for SARSCOV2 and TB across the Xpert testing laboratories.

4 SOCIAL SUPPORT, NUTRITION HUMAN RIGHTS AND GENDER

6,000

Monthly cash transfers amount received by ptients with any form of Drug-Resistant (DR) TB as support to reduce out-of -pocket expenditure on non-medical costs such as food and transport to the facility.

1,583

Patients who received the monthly cash transfers in **2021**, representing **94%** of the **1,662** eligible patients notified in TIBU.

1,191

health care workers providing Directly Observed Treatment (DOT) services to the patients on the community-based model of care were supported with monthly transport of up to **Ksh 6,000** each

18%

increase of patients who received the monthly cash transfers compared to **2020** when **1,344** patients were supported

4.1 Social Support

The TB Program continues to provide social support to patients with Drug-Resistant TB and DOT workers providing community-based services in 2021. Patients with any form of Drug-Resistant (DR) TB in Kenya are supported with monthly cash transfers of up to Ksh 6,000 to reduce out-of -pocket expenditure on non-medical costs such as food and transport to the facility.

In 2021, a total of 1,583 patients received the monthly cash transfers, representing 94% of the 1,662 eligible patients notified in TIBU. This was an increase of 18% compared to 2020 when 1,344 patients were supported. In addition, 1,191 health care workers providing Directly Observed Treatment (DOT) services to the patients on the community-based model of care were supported with monthly transport of up to Ksh 6,000 each. The country anticipated that 50% of the patients would be on the community based model of care. However, due to the COVID-19 pandemic, more patients were transitioned to community management, reaching over 75% by the end of 2021. On average, 817 patients and 595 DOT workers were supported in 2021, compared to 659 patients and 432 DOT workers in 2020. The increase was due to the significant rise in the number of notified DR TB cases in 2020.

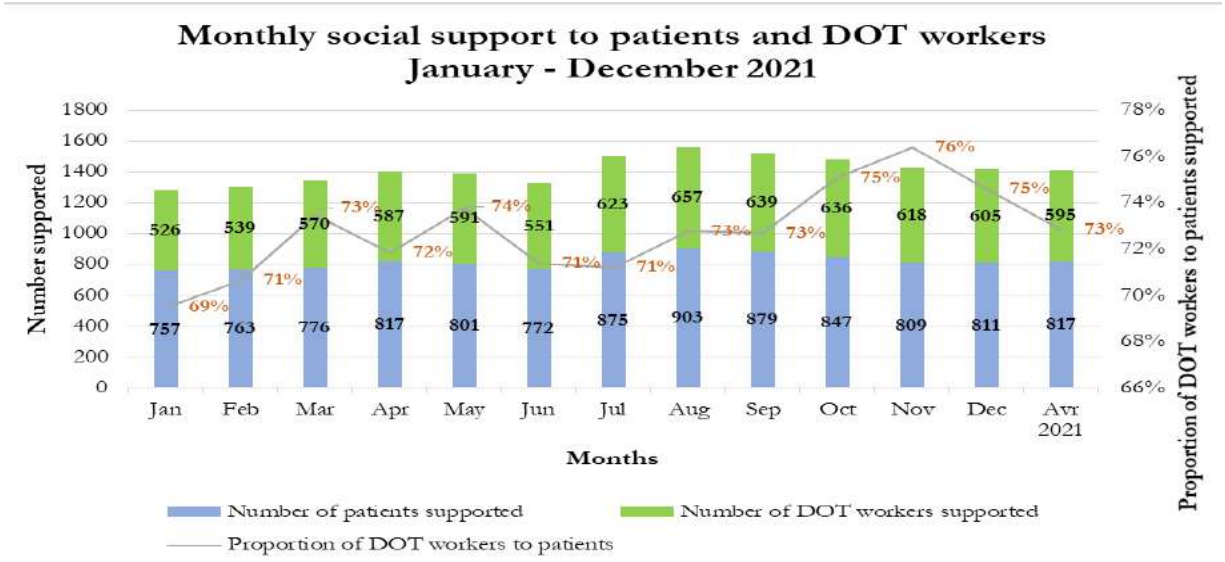


Figure 4.1: Monthly cash transfers to DR TB patients and DOT workers in 2021

KES 500

Monthly NHIF cover Each DRTB patient receives for a period of two years to ensure patients don't incur catastrophic costs as they seek medical care

250

(38%) out of **644** patients eligible for NHIF in 2021 benefited from NHIF compared to **(41%)** in 2020

38,148

of the **77,854 (49%)** notified cases of TB and **56%** of drug-resistant TB cases were undernourished at the time of diagnosis. (TIBU 2021)

4.2 NHIF Cover for DRTB Patients

The National TB Leprosy and Lung Disease Program continues to support DRTB patients with a medical cover to cushion them against any medical expenditures. Each patient receives an NHIF cover of Ksh 500 per month for a period of two years to ensure patients don't incur catastrophic costs as they seek medical care. Of the 644 patients eligible for NHIF in 2021, only 250 (38%) benefited from NHIF compared to 2020 (41%). The main reason contributing to the low enrolment rate is partly due to patients not having national identity cards which is mandatory for NHIF registration. Some of the patients are street families and refugees who also do not have identity cards.

In the period under review, the Ministry of Health through the National TB Program engaged the National Hospital Insurance Fund officials in a bid to resolve the stalemate by negotiating on a package for DRTB patients similar to Linda Mama. It is expected that the issues hindering quality of care to the TB patients will be resolved once the package is endorsed and implemented.

4.2 Nutrition

Nutrition in Tuberculosis is essential given the relationship. National Tuberculosis program has ensured continuous nutrition assessment and appropriate nutrition interventions for all eligible patients throughout the course of treatment.

In 2021 49% of the notified 77,854 cases of TB and 56% of drug-resistant TB cases were undernourished at the time of diagnosis. (TIBU 2021).

TB mainly affects the most vulnerable members of society & malnutrition exacerbates vulnerability & affects treatment outcomes. COVID-19 containment measures led to income loss and impacted heavily on people's livelihoods. As part of COVID-19 mitigation measures, Global fund approved a request to reallocate funds to cash transfer for DS TB patients with severe acute malnutrition (SAM) or moderate acute malnutrition (MAM). Cash transfers of KES 2,000 per month for a period of 2 months. This activity was implemented through AMREF Health Africa in Kenya and cash transferred for patients who were on treatment in the period February - June 2021.

Eligibility Criteria

- Patients on treatment for DSTB in the Counties.
- Documented SAM or MAM.
- Patients must be registered for support during the intensive phase of treatment.
- Notified in TIBU.

Claims and Payment Method

Registration, claims and Payment was made through TIBU cash. USSD codes was used to register and claim the cash support. Children and patients without a phone number were allowed to use a trusted nominee's number to raise the claim and receive payment. The nominee had to be identified and agreed upon by the patient and the health care worker.

Table 4.1. Coverage of cash transfer for DSTB patients with malnutrition

Month	No. of requests received	No. of requests paid	%Paid
February	2,369	1,542	65%
March	2,663	1,662	62%
April	2,160	1,465	68%
May	1,982	1,008	51%
June	926	735	79%
Total	**10,100**	**6,412**	**63%**

LESSONS LEARNT

For effective coverage;

- There is need for timely notification of all the eligible patients in TIBU.
- Recommendation to add a field in TIBU where a nominated recipient can be indicated for patients without phone numbers.

4.3 Human Rights and Gender

People and communities affected by TB face various barriers to the TB response, among them human rights and gender-related barriers. Over the year 2021, the National TB program continued to ensure implementation of a human rights-based approach to TB services. The implementation of human rights related activities was done through collaborative partnerships of communities, CSOs and implementing partners and a National Technical working group hosted by the National AIDs Control Council (NACC).

The Global Fund as part of its strategy, 'Investing to End Epidemics', 2017-2022, has been supporting Kenya to expand investment in programs to remove human-rights related barriers in national responses to HIV, TB and malaria through the Breaking down Barriers (BDB) initiative. To realize this, Kenya (with help of GF) conducted a baseline assessment of human rights-related barriers to HIV, TB and malaria services and is in the process of developing a national multi-year plan for a comprehensive response to human rights-related barriers to HIV, TB and malaria services. The Ministry of Health in 2021 set up a Joint National Human Rights Technical Working Group on HIV, TB & Malaria to support the development of the comprehensive plan and provide oversight in the implementation of comprehensive programs to remove human-rights related barriers in the national response to these three diseases. Three disease specific sub-groups of the TWG were established to develop the HIV, TB and malaria specific components of the strategic plan respectively. The TB Program together with HIV and Malaria programs in the National Joint Human Rights Technical Working Group began the process of developing a plan to address human rights related barriers in 2021. This has seen the provision of support scaling up programs to remove human rights-related barriers to HIV, TB and malaria services to increase the effectiveness and ensure that health services reach those most affected. The support to TB services has mainly been through support of KELIN and Stop TB Partnership.

1. The Kenya Legal & Ethical Issues Network on HIV and AIDS (KELIN)

Training of TB champions

Since 2020, KELIN with support from Stop TB Partnership has trained 80 champions on TB and Human Rights from 8 counties (Nairobi, Kisumu, Homa Bay, Mombasa, Kajiado, Busia, Makueni and Nandi). In 2021, fifty TB champions from Nairobi, Kajiado, Busia, Nandi and Makueni Counties were trained and equipped with information and knowledge on the science of TB, county and national strategies to end TB, and on rights of people with TB. At the end of the training, the champions developed a three-month work plan to undertake community activities in form of health talks at health facilities and community sensitization forums.

Support the trained TB champions to conduct community sensitizations and health talks in their respective counties

Thereafter, the trained TB champions were supported to conduct community sensitizations and health talks in their respective counties. A total of 52 community activities were planned in 2021 in four counties of Nairobi, Kisumu, Mombasa and Homa Bay. The TB champions conducted 26 health talks in health facilities and 17 community sensitization forums in their respective communities between February 2021 and June 2021. The champions directly reached a total of 993 people through these activities in this period. The champions further disseminated over 1000 IEC materials on TB and human rights in their communities. After these health talks and sensitization meetings, KELIN conducted review meetings with the TB champions. In the review meeting, KELIN conducted a refresher training of the champions thereby increasing their knowledge of rights-based approaches to TB. The review meetings were held from 26th to 31st May 2021 in each of the four counties. After the review meetings, the champions developed plans to conduct follow up activities aimed at monitoring provision of TB services in the facilities and reporting violations.

Multi-stakeholder dialogues on TB and human rights in the 4 counties (Nairobi, Kisumu, Mombasa, Homa Bay)

KELIN continued to conducted county TB multi-stakeholder dialogues in the counties of Mombasa, Homa Bay, Kisumu and Nairobi in quarter four. The dialogues targeted TB champions and their respective county TB management teams comprising of county TB coordinators (CTLC) as well as sub-county TB coordinators (SCTLC). The dialogues provided a platform to the TB champions to discuss with the county team issues of concern that they had documented during the routine monitoring of TB services. The dialogues also strengthened partnership and collaboration amongst the champions and the county team. During the dialogues, champions reported that through health talks and follow up activities, they had gained trust within their communities and passed important information on TB and human rights. They noted that demand for the information was high and recommended sustained interventions targeting people with TB as well as the community.

Community training manual on TB and human rights

KELIN developed a community training manual on TB and human rights. The training manual which will be disseminated to the TB champions for use during sensitization forums. Further, the champions will be trained on how to use the Manual so that they can utilize it in community training.

2. Stop TB Partnership Kenya

Strengthening the TB voices network in Gender and human rights issues

In 2021, Stop TB supported the launch of the network of TB champions in a conference that was held in Meru, the first ever forum that brought together TB champions in Kenya. At the conference, the Champions made a declaration which commits them to undertake advocacy and community TB activities. Clause seven in the declaration highlights their commitment to advocacy for community human rights and gender to reduce stigma and discrimination for those infected and affected by TB. The network brings together TB infected and affected communities to use their experience to bring change to the TB landscape through advocacy and contribute towards the goal of Ending TB in Kenya and globally. Through members of the newly launched network, stop TB sensitized political leadership in selected counties on gender and human rights issues in TB response and they too signed on the declaration that commits them to be vigilante to community human rights and gender issues in TB response. All Members of the County Assembly (MCAs) of Kisumu County signed on to the declaration too. Engaging political leaders and communities on human rights is expected lead to increased advocacy and consequently increase visibility and reduce cases of rights violation.

Mr. Steve Anguva reads the TB champions Network declaration which commits them to be vigilant on human rights and gender issues in TB response.

5 SUPPLY CHAIN MANAGEMENT, PHARMACOVIGILANCE AND ADSM

26%

increase in the country commodity reporting rates from **66%** in year **2016** to **92%** in **2021**

5.1 Situational Analysis

Availability and accessibility of commodities plays a key role in determining provision of services in health facilities and sustainability of the health care system.

Kenya is among the high TB-burden countries and therefore, the need to ensure the availability of high quality, efficacious TB medicines, diagnostic tests and nutritional commodities to all levels is absolute priority. The current National Strategic for the division of national Tuberculosis, Leprosy and lung health program has envisioned clear indicators for the section to apply and monitor its performance. This aims to strengthen forecasting of TB medicines, laboratory consumables and other related commodities at the National level.

Stock monitoring and early warning system to detect and respond to impending shortages and or excess stocks are included to ensure the medicines and other commodities are available consistently.

The sectional indicators remain constant under the 4 management structures that were expanded in the section:

- The commodities security committee,
- The national order management team,
- The procurement, forecasting and quantification team,
- The pharmacovigilance and ADSM team.

DNLTD-P indicators and targets being 100% reporting rates, 100% data quality and reliability, 100% order fill rate, 6 months' turnaround time in procurement and supply cycle, 100% pharmacovigilance reporting and interventions, 100% ADSM sentinel sites surveillance, 1-month turnaround time for distribution and ordering cycle for 1st line commodities while 48 hours for 2nd line commodities; 0% expiries rate, 0% stock out rates and 0% understock rates.

5.2 Commodity Security Committee

A functional TB commodity security committee is in place at the national Level. The committee provides an oversight role in the implementation of TB commodities management activities including monthly stock status monitoring, forecasting and procurement planning. The committee also coordinates the management decisions and solutions as matters to the sectional engagements with other sections and other agencies in the ministry of health or other national agencies in the ministry or counties as matter to TB commodities security and safety.

There has been a vast improvement in management of procurement, warehousing, and reporting through the monthly Commodity Security Committee.

This committee reviews the NTLD-Program's commodity status on a monthly basis and uses it for planning and decision-making. The information is shared with the National Government, Counties, Global Fund and partners in the form of a dashboard.

The committee has a pharmacovigilance subcommittee, which in the year 2021, it oversaw the pharmacovigilance spontaneous reporting from facilities on matters TB commodities adverse events and their management. Importantly, the subcommittee established team of ADSM resource capacity that works together with PMDT to set up sentinel surveillance sites for DR-TB management sites in COEs.

5.3 NTLD-Program Forecasting, Quantification and Procurement Committees

Annual forecasting and quantification was conducted to determine the country's commodity requirement with biannual reviews to consider emerging issues. The forecast advised the quantities to be procured by the program while identifying sources of funds to support the procurement. This exercise involved the use of QuanTB software, in quantification of the NTLD-Program's requirements (2021- 2022) for medicines and laboratory commodities.

The country has been able to consider bundled contracts for GeneXpert cartridges for all Future procurements. This bundled contract will ensure that all Machines receive automatic service coverage based on the cartridge procurement contract. KEMSA is fast-tracking the extension of framework contracts for the procurement of all TB Products. Such contracts are already being used for essential medicines and other health Supplies in the country. This move is expected to improve procurement turnaround times, reduce bulk purchasing to burn budget lines, and strengthen operational planning for Procurement at the national level.

5.4 Quality and Safety Assurance for TB Medicines (PV, PMS and ADSM)

In collaboration of NTLD-Program, NASCOP and Malaria Strengthening of HSS, Pharmacovigilance and capacity building on DHIS-LMIS integration has been supported by Global Fund (NFM). The NTLD-Program in collaboration with the three disease programs:

NASCOP and Malaria developed joint activities for the Health Sector Strengthening (HSS) intervention in the country. Some of these activities have been started. The activities include:

a) County supportive supervision

b) Post-market surveillance.

The pharmacovigilance reporting is suboptimal under TIBU and ADSM surveillance is still not settled and stabilized. However, there were ADSM reports for the last 2 quarters of the year 2021. ADSM leg work was realized in 2021. Protocol development; ADSM tool and ADSM related tools for the MTM clinics in COES were developed and approved by AMREF ethics committee.

ADSM operational research in the DR-TB centres of excellence and high DR-TB burden counties was done and report writing is in process. The scoping of the ADSM tools into KHIS2 and TIBU was done in August 2021. Linking these interphases to PPB PVErs platform is the outstanding gap.

5.5 National Order Management Team

This handles the distribution chain and facilities ordering and requisition to ensure a smooth good distribution practice (GDP), 100% quality and reliability of reports and starting point of ensuring successful and reliable Forecasting and quantification and procurement in the program.

5.6 Commodity Reporting

There has been an upward trend in the country reporting rates from 66% in year 2016 to 92% in 2021. Below is monthly reporting rates for 2021.

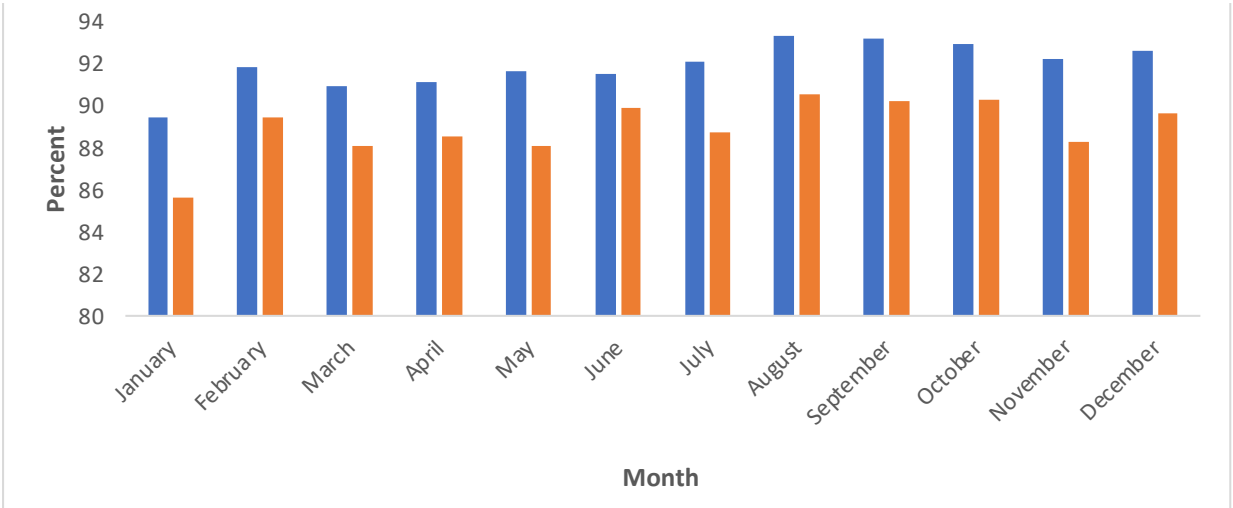


Figure 5.1: Kenya TB commodity reporting rates and timelines for 2021

5.7 Storage and Distribution Achievements

The country successfully transitioned the distribution of IFR- for DR-TB patient treatment packs from the NTLD-P to KEMSA, while maintaining the 48-hour turnaround time from notification of a new Patient to delivery of the required medicines to any part of Kenya. For the 1st line it maintains a 1-month turnaround time from ordering and receiving in the facilities.

5.8 Stock Management and Procurement.

The online TB medicine ordering and reporting module of the KHIS platform and county allocation platform are now up and Running. Facilities can now submit medicine requests directly to KHIS for the Order Management Team (OMT) to review and take appropriate

5.9 Performance against the NSP targets

Indicator	Baseline	Target	Achievements (as at 2021)
Priority intervention 1: Strengthen supply for TB commodities			
Strengthen supervision/ supply chain audits to prevent stock outs and expiries.	70% expiries rate 80% stock out rate 20% data quality and reliability audits.	0% expiries rate 0% stock outs rate 100% data quality and reliability audits.	40% expiries in facilities 25 % average stock outs rate in paediatrics, culture lab and nutrition commodities. (NB: these commodities have a short shelf life). 30% data quality and reliability audits.
Counties and sub counties to increase reporting rate through DHIS2 and increase order fill rate.	45% reporting rate.	100% Reporting rate.	98% reporting rate.
Strengthen DHIS to include LMIS data for TB commodities.	40% uptake rate in the systems.	100% uptake rate for all the key programmatic commodities.	75% cumulative rate (because lab commodities uptake is about 5% and Nutrition have not been included).
Strengthen coverage of the supply chain by enhancing maximum molecules and commodities available to the patient.	50 % order fill rate.	100% order fill rate.	80% cumulative order fill rate for therapeutic commodities, diagnostic and nutritional supplementation.
Strengthen forecasting and quantification (F&Q).	100% F&Q annual and annual review workshops. 0% National order monthly TWGs	100% F&Q annual and annual review workshops. 100% NOMT workshops on quarterly basis.	50% F&Q annual and review workshops. A drop in funding. 0% NOMT workshops on quarterly basis.

Indicator	Baseline	Target	Achievements (as at 2021)
Priority intervention 2: Strengthen active drug safety monitoring and management (aDSM)			
Train healthcare workers on aDSM for patients on second line treatment	All the sub county pharmacists and county pharmacists at the COE counties. All the pharmacists in the county referrals' in Non COE counties.	100 % trained sub county pharmacists and county pharmacists at the COE counties. 100% trained pharmacists in the county referrals' in Non-COE counties.	Only 12 county pharmacists of the COEs sensitized. Training yet to be done. 0% trained pharmacists in the county referrals' in Non-COE counties.
Reporting of ADR in PPB	<10%	100%	Low (< 5%)
Link TIBU and County allocation tool with PPB platform	0%	100%	Not done
Development of the ADSM and related tools.	0% done	100% developed tools.	100% developed ADSM and related tools.

6 PREVENTION, HEALTH PROMOTION, COMMUNITY AND STAKEHOLDER ENGAGEMENT

20,102,850

Viewers reached when the Program engaged two national TV stations; Citizen and KTN, in airing a TB commercial campaign in the month of October 2021. (Geopoll)

Social media campaign ran between March 24 – May 4, 2021 as part of the World TB Day commemoration, whereby **24** social media posts were developed and published in form of posters and audio-visual productions on Nation Media Group's (NMG) digital platforms; website, Facebook, and Twitter page.

403,693
Impressions

255,208
People reached

The placement of banners and website roadblocks on the NMG website garnered **2,996,830** impressions and **1,720** clicks.

6.1 Introduction

TB infection prevention and control response involves strategic and targeted interventions beyond the healthcare service provision at facilities. DNLTD-P has guided and provided structures and tools for efficient delivery of these interventions which include health education and promotion, Community Engagement, Advocacy and Communication, Gender and Human Rights empowerment and Multisectoral engagement.

Community Engagement

Community-based TB activities are conducted outside the premises of formal health facilities and are carried out in targeted existing community-based structures such as schools, places of worship, congregate settings and households among others. In any society, TB tends to impact heavily on the poorest and most vulnerable populations such as the migrant communities, people who abuse substances and alcohol, persons with mental health issues, the homeless and those in poor quality housing. Meaningful engagement of key resource persons in the communities are a fundamental aspect in sustainable implementation.

Advocacy and Communication

Advocacy on Tuberculosis has changed the perception of the disease from a silent epidemic to one with many voices that seek increased political goodwill, direct resource prioritization and mobilization, innovative investment and research. This is envisioned to increase demand and access to TB information, TB services such as access to new methods and technology to fight Tuberculosis, while meaningfully involving diverse communities in policy and programmatic decisions.

Human Rights and Gender

The highlighting of human rights and gender barriers related to TB has increased awareness towards TB programming from a gender and rights-based approach This seeks to prioritize patient-centered care approach, promoting community-based care that is accessible, well accepted by patients, and promotes adherence. The Gender component focuses on ensuring men are prioritized since they are most affected as well as women and children who are disproportionally affected due to TB facing greater discrimination. Community system

strengthening has been a priority towards ensuring human rights and gender are monitored and reported for adequate response.

Multi-sectoral Approach and Engagement

Multi-sectoral engagement and accountability is a foundation through which collaborations with diverse stakeholders can be formed, monitored and documented. This is with a view to enable other sectors to take part in TB response, for prioritization and the realization of set milestones towards achieving the vision 2030 and the "End TB Strategy 2035". Clear steps have been identified and set to achieve this engagement through the development of the multi sectoral framework.

6.2 Achievements in 2021

6.2.1 Community Engagement

In Kenya, Community Health Volunteers (CHVs) play a key role in the provision of promotive, preventive, and basic curative and rehabilitative services in the community. TB interventions in the community remain a critical component in realizing the End TB Strategy. The following key aspects in community interventions have been successfully implemented through DNLTD-P in collaboration with partners. They include:

a. Active TB case finding at community level:

i. Targeted TB screening community outreaches

Through the reporting period, DNLTD-P in collaboration with its partners implemented integrated community TB targeted outreaches. This is a process of finding persons with TB symptoms in the community through collaborative approaches, where diverse cadres, sectors, populations, and community groups were involved and reached respectively.

The intervention had the components of **capacity building for community healthcare workers** and **members of the community** on TB response at community level. Key activities included **mobilization through existing community health structures, TB screening at targeted communities, nutritional and comorbidities assessments, counseling and referrals**.

Amref Health Africa in Kenya under Global Fund grant: In 2021, a total of 12 targeted TB screening outreaches were conducted in 11 counties using mobile X-ray machines and linkage to sputum testing. The outreaches were aimed at reaching key at risk populations in informal settlements and hard to reach counties and were conducted for 3 days in each county. A total of 7,870 people were screened for TB through the outreaches, 160 diagnosed with TB and 98% started on treatment. The number needed to screen to diagnose one person with TB was higher in the informal settlements that the hard to reach counties. Mandera and Wajir Counties had particularly low numbers needed to screen, at 22 and 31 respectively. The country is in the process of developing clear algorithms for use of chest x-ray for TB screening to guide screening in the community and at health facilities.

Below is a summary of case finding through targeted TB screening outreaches:

Table 6.1: Summary of case finding through targeted TB screening Outreaches

Area of focus	Meru World TB Day 2021	Informal urban settlements	Hard-to-reach counties	Total
Indicator		Kiambu, Mombasa, Meru, Garissa	Isiolo, Mandera, Wajir, Pokot, Samburu, Tana River, Lamu	
Screened	2,055	1,906	3,909	7,870
Presumptive (symptoms)	1,242	1,301	1,971	4,514
X-ray	1,499	1,254	2,359	5,112
GeneXpert/AFB	660	324	729	1,713
Bacteriologically confirmed	33	16	39	88
Suggestive X-rays	100	220	235	555
Clinically diagnosed	31	5	36	72
Total diagnosed with TB	64	21	75	160
Started on treatment	64	20	73	157
*NNS	32	91	52	49

**NNS: Number needed to screen to diagnose one case of TB*

CHS TB ARC II: Through the project, conducted 8 targeted community TB outreaches reaching populations in congregate setting in Nyamira County, with a total number of 1,160 screened, and 485 Chest X-Rays conducted and 79 identified to have TB and all were put on treatment.

Table 6.2: Targeted TB screening conducted in Siaya and Homa Bay during the pre-world TB day activities.

County	Screening site	Total screened	Presumptive cases	Number diagnosed with TB	% yield	Initiated on treatment
Homa Bay	Huduma Centre	222	58	5	8.60%	5
Siaya	Siaya CRH	191	114	5	4.40%	5
	Yala SCH	99	55	4	7%	4
Total		512	227	14	6.20%	14

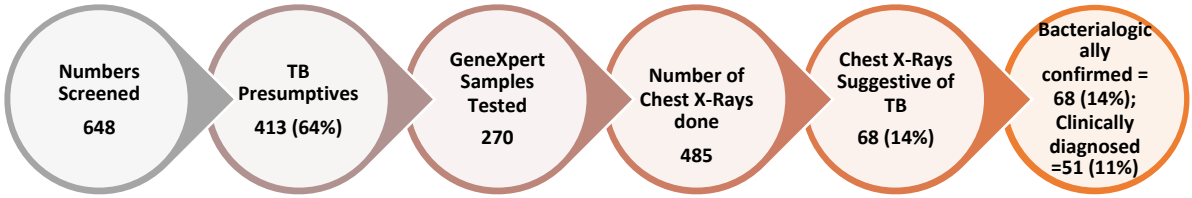


Figure 6.1: Targeted Community TB Outreach with Chest X-Rays in Nyamira County supported through USAID by CHS - TB ARC II activity

Table 6.3: Targeted Community TB Outreach with Chest X-Rays in Nyamira County supported through USAID by CHS - TB ARC II Activity

Zone	Hot Spot	Screened	Presumptive	Xpert Samples	Investigated	Bact. Confirmed	X-Ray	Suggestive	Cd	Total Cl& BC Linked To Care
Nyamira South	Miruka Mkt	121	95	62	62	3	95	14	10	13
Nyamira North	Nyamusi DOs Office	134	92	88	88	3	104	15	12	15
Manga	Kiendege Community	150	97	65	64	3	100	24	18	21
Masaba North	Riooga Community	170	112	44	44	2	125	10	8	10
Borabu	Kijauri ACK (Tea Community)	73	17	7	7	3	61	5	3	6
County	5	648	413 (64%)	271	270 (99%)	14 (6%)	485	68 (14%)	51 (11%)	65 (16%)

USAID's KCCB-Komesha TB Program: The project supported four digital X-ray outreaches in March 2021 in Homa Bay, Kakamega, Kisumu, and Siaya targeting key populations. A total of 6,060 persons were screened for TB, out of which 5,607 X-rays were conducted, 133 clinically diagnosed for TB, and 36 diagnosed for TB based on bacteriological confirmation (See Annex Table 6)

ii. Screening of contacts of bacteriologically confirmed TB patients and children under 5 years

Through the Global Fund grant, Amref Health Africa facilitated 3,500 CHVs across the 47 counties to visit and provide TB health education to households of bacteriologically confirmed TB patients and children under 5 years, while screening their contacts for TB and making referrals for further management. The project achievement is detailed in the figure below:

Figure 6.2: Summary achievement of Screening of contacts of bacteriologically confirmed TB patients and children under 5 years

During COVID-19 pandemic, the project identified innovative approaches to ensure continuity of service. Collection of sputum was undertaken by CHVs from 2,134 household contacts that had signs and symptoms of TB, transported to health facilities for testing and provided linkage to results. This was implemented from February to June 2021. Over 900 CHVs in 20 counties that had a high burden of TB and COVID-19 were sensitized and equipped with cooler boxes, falcon tubes and personal protective equipment to undertake sputum collection.

b. Community Patient Support and TB Treatment Adherence

- TB Treatment Interrupters tracing

The CHVs worked hand in hand with health care workers to ensure that any patients who missed their appointments and could not be reached through calling by health care workers were traced physically in the community. In the period, CHVs physically traced 5,463 people who had interrupted TB treatment or failed to present at health facilities for initiation of treatment after TB diagnosis, of whom 4,282 (78%) were returned to treatment. Feedback on those not found was given to healthcare workers in the TB clinic for the information to be updated in the TB register. Those not found included patients who had died, migrated or were not known in the locality.

- Delivery of TB medicines

Delivery of TB medication in the community was done to 3,761 stable patients in 17 counties, by community actors, as part of differentiated care during the COVID-19 pandemic. TB Champions from the National Network of TB Champions were also involved in delivering TB treatment to long distance truck drivers at the Border town of Busia which promoted treatment adherence during the pandemic.

c. Community Systems Strengthening

- Community mobilization

Community Health Volunteers (CHVs) together with Community Health Assistants (CHA) were supported to mobilize community members to conduct mobilization activities attend thein the 12 targeted TB screening outreaches that were carried out in the year.

- Meaningful engagement of TB champions to create awareness on TB

During the reporting period, with support from Stop TB Partnership-Kenya 250 TB champions were recruited and registered as champions. Their role included TB awareness and demand creation, identification of persons with TB symptoms in the communities, patient support and referral in collaboration with the existing community structures. Through Global Fund NFM 2 grant, Amref Health Africa supported 44 champions engaged under they were incorporated into the National Network of TB champions and more selected under the current grant.

Training of TB Champions through an Online Course was championed by the Stop TB Partnership - Kenya in collaboration with DNLTD-P and her partners. The TB 101 online course was developed through the support of the USAID funding in the TB ARC II Activity, with the aim of building the TB knowledge base for the TB Champions in Kenya for enhanced capacity as they carry out their roles in TB awareness and advocacy. 40 champions trained and are ready to undertake advocacy at the county and national levels.

d. Recording and reporting of community contribution in TB response

During the period, scoping for a community module in TIBU platform was done with the aim of providing CHVs and other community actors with a digital platform where they can document and directly upload reports on TB related activities to TIBU. This will capture the contribution of the community to the TB response more accurately, an area that has been significantly underreported over the years. The module, which also provides access to courses for capacity strengthening of community actors, is expected to be rolled out mid-2022. The T-bu Lite digital platform will also seek to ensure that data from community is integrated and there is no duplication of the efforts by different stakeholders in the community and also alleviate competition.

6.2.2 Advocacy and Communication

Advocacy

Tuberculosis advocacy has advanced in Kenya. It has changed the perception of TB from a silent epidemic to one with many voices that seek increased political will and investment in research. Tuberculosis advocacy has gained strength as a mechanism to increase access to new methods to fight Tuberculosis, and involve communities in policy and programmatic decisions.

Key achievement during the period include:

i. Development and finalization of Policy Guideline documents:

a. TB -Advocacy Communication and Community Engagement Strategy: The process of follow-up on completing the TB -ACCE strategy document to be aligned with the new programmatic strategies informed by the findings from the TB Prevalence Survey 2016, the management action for Global Fund grants 2018-2021 and National Strategic Plan for Tuberculosis, Leprosy and Lung Health (NSP 2019-2023). The draft ACCE strategy and Social and behaviour change chapter were developed but not validated due to lack of resources.

The development process of SBCC chapter was done in collaboration with Center for Health Solutions Kenya (CHS) USAID Tuberculosis Accelerated Response and Care II (TB ARC II) through a consultant. This chapter is aimed at providing a roadmap to influence TB knowledge, attitudes, and practices; TB social mobilization; and advocate for resources and leadership commitment in addressing TB gaps.

b. School Health Policy: Over the years, the DNLTD-P has partnered with the Ministry of Education, in conducting school health programs geared towards awareness and prevention of TB in schools and other institutions of learning. However, there is no policy document to inform implementation of TB initiatives in schools. In 2021, DNLTD-P embarked on development of a policy to institutionalize targeted screening, treatment and management of children in learning institutions. Key interventions aimed at reaching out to all schools (primary, secondary and tertiary) levels, will be coordinated through the offices of the County Director of Education in collaboration with the county director of health, who will continually provide oversight and guidance and address at the earliest opportunity any concerns that may arise. Sensitization will be spearheaded by the MOH through the DNTLD-P to ensure all the stakeholders are informed on the proposed intervention and support the implementation of the same. The document is envisioned to be completed by 2022.

ii. National Conference for TB Champions:

Stop TB Partnership - Kenya with support from Stop TB Partnership (Global)) held the first ever National Conference for TB Champions which brought together about 70 TB champions with representation from all the 47 counties. The objective was to have a platform for networking, experience sharing as well as deliberate on their advocacy role towards supporting the DNLTD-P's NSP objectives. The outcome was a declaration signed by the champions which stipulated their commitments to TB advocacy.

iii. TB Champions Advocating for Social Protection:

In support of the DNLTD-P's strategic goals for strengthened community engagement and patient centered approach, the Stop TB Partnership - Kenya built capacities for 25 Champions from 7 Counties on engagement in County budgeting processes and gender and human rights in TB at the county levels. As a result, Meru, Bungoma and Kisumu Counties allocated additional resources for TB and HIV in their budget prioritization.

iv. Advocacy for Domestic Resource Mobilization and Social Accountability:

Global Fund through Amref Health Africa in Kenya supported Civil Society Organizations (CSOs) and TB champions in advocacy for domestic resources from county governments to support TB, HIV and Malaria. Under the NFM 3 grant that began in July 2021, the project implemented start up activities that will ensure strengthening, coordinating and promotion of voices and structures of community actors. The current areas of focus include Community Led Monitoring; Community Led Advocacy and Research; Social mobilization, building community linkages, collaboration and coordination; and Institutional capacity building, planning and leadership development.

Following the forum on journey to self-reliance for health programming supported through the USAID funded TB ARC II held in Turkana County with USAID implementing partners and Turkana County leadership and Health Management Team, the County Health Team was able to advocate and mobilize resources towards installation of new technology for TB diagnosis. The County received 7 extra GeneXpert machines from private sector as well as the County domestic resources. This demonstrated sustainability of the gains made in the TB response.

6.2.3 Communication

The aim of communication is to raise awareness and demand creation for TB services and treatment completion. The program engaged in a number of activities that were aimed to raise awareness, create demand for TB services, support treatment adherence and break barriers on human rights-related issues. The program was able to run a number of campaigns through USAID TB ARC II as discussed below.

Media Campaign on SBCC: This campaign was targeted to effectively address and make significant strides in the fight against Tuberculosis. This relied heavily on social and behavior change communication in its interventions to raise awareness, demand creation for TB services and promote care seeking and prevention in the community.

Campaign Objectives

- Increase awareness on TB prevention, diagnosis and treatment adherence.
- Increase risk perception so more people seek treatment .
- Increase awareness to reduce TB stigma.

Sensitization on SBCC: Dissemination on the content of this chapter was done to selected health care workers in Siaya, Homa Bay, Migori, Nyamira, Nairobi, Kiambu, Taita Taveta and Kilifi Counties.

Key areas handled in the sensitization include:

- Sensitization to fight Stigma and discrimination and promotes rights empowerment.
- IEC materials and Health Education and promotion (Development of scripts and distribution) to enhance IPC and knowledge on TB.
- Recruitment of TB champions to talk about personal experience.
- Deliberate moves to support patients on adherence by use of CHVs and TB champions)
- Strengthening of referral linkage through existing ministry tools and structures.
- Influencing review of curriculum for learners in schools, engagement and collaborations.
- Use of innovations to attract crowd so as to optimize screening. Example is through football tournaments.
- Taking the World TB Day commemorations to be celebrated in the communities to optimize sensitization and seize opportunities in ACF.
- Use of murals and paintings to pass TB messages.
- Use of local media platforms to increase coverage on TB Messages to communities.

TB Television Infomercial: The Program engaged two national TV stations; Citizen and KTN, in airing a TB commercial campaign in the month of October 2021. According to Geopol ratings, the campaign reached 20,102,850 people.

TB Digital and Social Media Campaign: Between March 24 – May 4, 2021the program ran a digital and a social media campaign as part of the World TB Day commemoration. This was also aimed at raising TB awareness. The campaign ran across Nation Media Group's (NMG) digital platforms; website, Facebook, and Twitter page. 24 social media posts were developed and published in form of posters and audio-visual productions. The campaign garnered a total of 403,693 impressions and reached 255,208 people. The placement of banners and website roadblocks on the NMG website garnered 2,996,830 impressions and 1,720 clicks. The campaign was boosted on the DNLTD-P's Facebook and Twitter pages and re-shared on CHS and other implementing partners' social media platforms.

In October, the TB Program executed a one-month social media campaign dubbed ***#LabdaniTB*** (it could be TB). The campaign which was aimed to increase TB awareness among the general public reached 23,200 people and achieved 3,102 impressions. Standard Digital Media was contracted to run the campaign on Facebook and Twitter platforms.

Media Engagement - World TB Day Commemoration 2021: Kenya joined the rest of the world in commemorating the World TB day on Wednesday, 24th March 2021 with global theme *"The Clock is Ticking - It's time END TB"*, which was adopted and domesticated to align with Kenya goals and targets to "It is time to End TB in Kenya" with a tagline *"Pimwa TB! Tibiwa! Ishi Poa!"*

The day had been planned to be commemorated in three phases that included; Pre-World TB Day activities, the main World TB Day event commemoration and Post-World TB Day - review, adjustment and engagement of ideal advocacy, publicity and use of sound interventions to continue to sustaining gains towards overall goal.

The World TB Day was commemorated virtually due Government ban on public gatherings in response to the COVID-19 pandemic. The program engaged mainstream media health journalists from two national TV stations, one national newspaper, two national radio stations and vernacular radio stations in the documentation of TB awareness-raising features as part of the World TB Day awareness creation. TB experts from the DNLTD-P, counties and partners were hosted on live and recorded TV and radio talk shows to discuss TB matters. The links below shows some of the engagements:

Table 6.4: Links showing some of the media engagements

Station	Link to the Story
Radio Citizen	*https://cutt.ly/hvyoU1V*
Radio Maisha	*https://cutt.ly/pvypjL1*
Milele FM	*https://cutt.ly/evKJcAV* *https://cutt.ly/uvKKCry*
Voice of America Swahili	*https://cutt.ly/EvyalBr*
Citizen TV	*https://cutt.ly/Dvya0ks* *https://cutt.ly/svysr5Y*
KTN	*https://bit.ly/2QmQ8UK* *https://bit.ly/3a9BKqa* *https://cutt.ly/0vyoGsh*
NTV	*https://cutt.ly/4vyaATf*
Daily Nation	*https://bit.ly/3ulmRCQ*
Muuga FM	*https://cutt.ly/WvKZvsn* *https://cutt.ly/lvKLB6g* *https://cutt.ly/OvKZoyu*
Ramogi FM	*https://cutt.ly/ZvKVsqL* *https://cutt.ly/vvKVceq*
Bahari FM	*https://cutt.ly/DbpHB8E* *https://cutt.ly/DbpJtQd* *https://cutt.ly/DbpJag7*

Additional use of media to create awareness through the support of Amref Health Africa: A total of 32 spots were aired on Radio Jambo and Radio Citizen cumulatively between February and June 2021, addressing TB and COVID-19 and encouraging people to seek care if they have signs and symptoms of either of the two diseases.

Training of Journalists: The program in partnership with KCCB conducted training workshops for selected media houses and health reporters/journalists on TB coverage and reporting. The trained personnel were facilitated to file stories on TB prevention, treatment and care with the aim of creating awareness on World TB Day. The training took place between Monday 1st March and Friday 5th 2021 in Kisumu, Kisii, Homa Bay, Bungoma and Kakamega counties. At least 100 health journalists from Western and Nyanza region were trained.

Documentation TB Implementation Successes and Best Practices: The Program documented and disseminated TB best practices through four quarterly National TB Program TiBa newsletters. The newsletters highlighted among others the status of TB response in the country and captured human interest stories from TB clients' perspectives.

6.2.4 Multisectoral Approach and Engagement

During the reporting period under review, the DNLTD-P sought to put in place strategies and framework for purposes of engaging diverse sectors, government line ministries, departments and agencies in TB response in Kenya. The documents include Multisectoral Accountability Framework (MAF-TB) and development of the National Workplace Policy for TB

The National TB Multisectoral Accountability Framework (MAF-TB): This was developed and presented as a tool by WHO to foster multisectoral collaborations and accountability for putting political commitments to end TB into practice, defines the important role of all national stakeholders including civil society, the general community, private sector, government Ministries, Departments and Agencies (MDAs) and the political class. A draft Kenya TB MAF which was developed with representation from 25 diverse sectors such as the non-state actors, MDAs, TB patient communities among others.

Engagement of the Ministry of Education for integrated TB response: Before the launch of school health activities two meetings were conducted to sensitize the new KNUT officials in the areas of collaboration with the Ministry of Health. The CS for Health was the chair of this meeting. (Refer annex on photo with KNUT officials).

In addition, engagement of the Parliamentary Health Committee for resource mobilization for TB in Kenya was conducted in collaboration with DNLTD-P and the Stop TB Partnership – Kenya. TB ARC II continued to support advocacy towards enhanced engagements of Political class for resource mobilization for TB in Kenya in collaboration with DNLTD-P and the Stop TB Partnership – Kenya. Action Points from the Parliamentary HC meeting:

- A comprehensive budget accounting for available resources should be prepared and presented in the next Health Committee's engagements
- The funding gap should be accounted for showcasing where the desired funds would be put to use based on level of urgency.
- The TB MAF should reflect and include the information on the TB burden in Kenya by County profiling on TB burden).

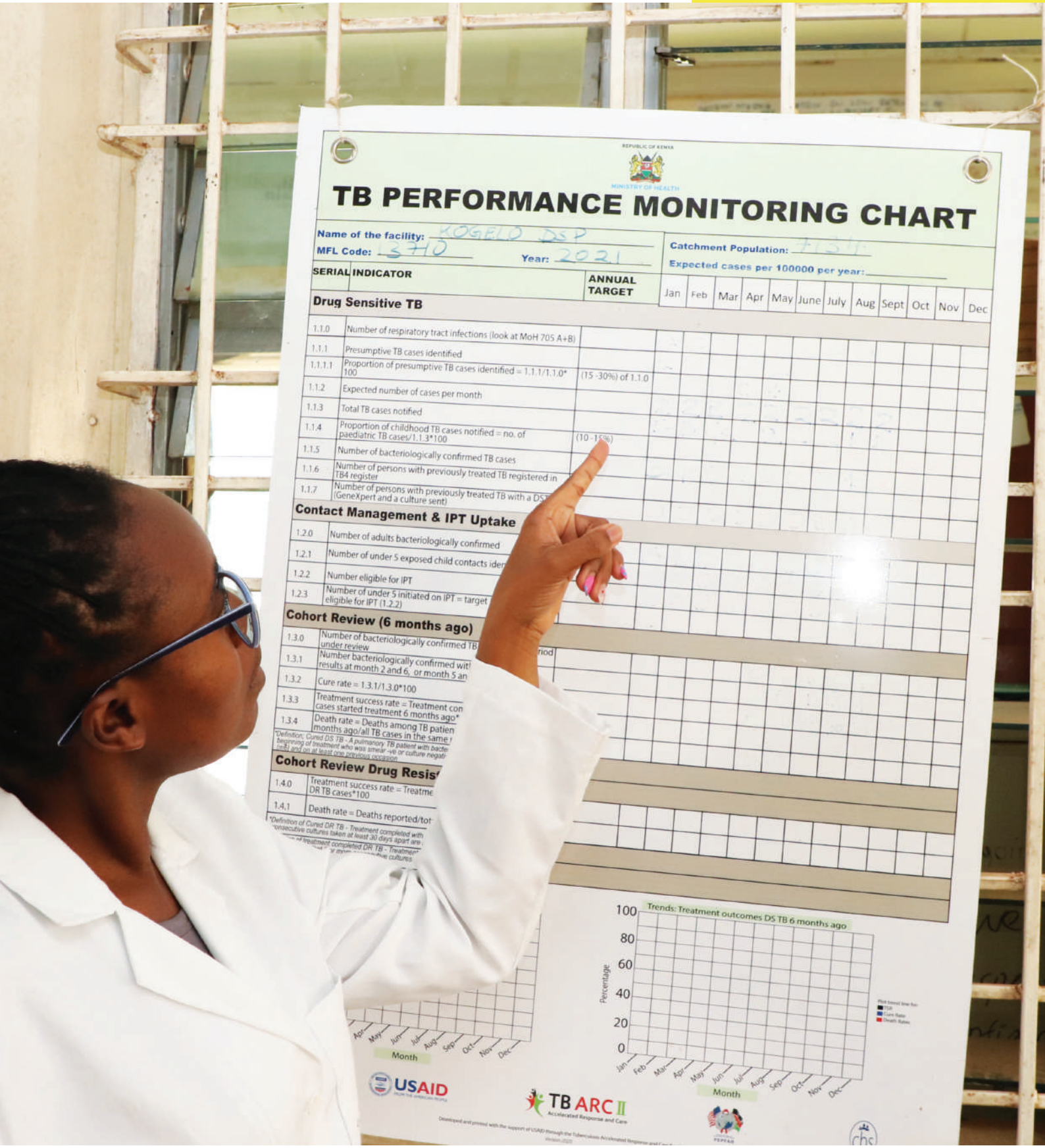
Representatives from diverse sectors during the first Stakeholders engagement in drafting of the Kenya TB Multisectoral Accountability Framework (MAF).

TB ARC II supported DNLTD-P, STP-Kenya and CHS and other Partners representatives addressing the Kenya Parliamentary Health Committee in Mombasa in December 2021

Members of the Kenya's Parliamentary Health Committee keenly following on the TB Multi-sectoral Approach and Accountability Framework presentation during their Session in Mombasa.

Development of the National Workplace Policy for TB

DNLTD-P's prevalence survey (2016) showed that men of productive age are adversely affected by TB but do not seek timely health services, which is attributed to their poor health seeking behavior among other factors. As such, TB ARC II supported DNLTD-P and its partners towards developing a workplace policy for TB in Kenya, targeting TB integration in the world of work. There was collaboration with the Ministry of Labour and Social Protection whose mandate is to ensure occupational safety and health of which TB prevention is a key aspect for consideration.


TB PERFORMANCE MONITORING CHART
Name of the facility: KOGELO DSP
MFL Code: 13710
Year: 2021
Catchment Population:
Expected cases per 100000 per year:
SERIAL
INDICATOR
ANNUAL TARGET
Jan Feb Mar Apr May June July Aug Sept Oct Nov Dec
Drug Sensitive TB
1.1.0 Number of respiratory tract infections (look at MoH 705 A+B)
1.1.1 Presumptive TB cases identified
1.1.1.1 Proportion of presumptive TB cases identified = 1.1.1/1.1.0* 100
(15 -30%) of 1.1.0
1.1.2 Expected number of cases per month
1.1.3 Total TB cases notified
1.1.4 Proportion of childhood TB cases notified = no. of paediatric TB cases/1.1.3*100
(10 -15%)
1.1.5 Number of bacteriologically confirmed TB cases
1.1.6 Number of persons with previously treated TB registered in TB4 register
1.1.7 Number of persons with previously treated TB with a DST (GeneXpert and a culture sent)
Contact Management & IPT Uptake
1.2.0 Number of adults bacteriologically confirmed
1.2.1 Number of under 5 exposed child contacts iden
1.2.2 Number eligible for IPT
1.2.3 Number of under 5 initiated on IPT = target eligible for IPT (1.2.2)
Cohort Review (6 months ago)
1.3.0 Number of bacteriologically confirmed TB under review
1.3.1 Number bacteriologically confirmed wit results at month 2 and 6, or month 5 an
1.3.2 Cure rate = 1.3.1/1.3.0*100
1.3.3 Treatment success rate = Treatment con cases started treatment 6 months ago*
1.3.4 Death rate = Deaths among TB patien months ago/all TB cases in the same
Cohort Review Drug Resis
1.4.0 Treatment success rate = Treatme DR TB cases*100
1.4.1 Death rate = Deaths reported/tot
Trends: Treatment outcomes DS TB 6 months ago
Percentage
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
USAID
TB ARC II
Accelerated Response and Care

7 MONITORING, EVALUATION AND RESEARCH

330,792

People with TB diagnosed and put on treatment in **2021** against a target of **425,200**, representing a performance of **78%** achievement of the targets

7.1 Program Performance

7.1.1 UN HLM & END TB Targets

The country is continuously tracking progress towards achievement of UN high-level meeting political commitments with targets aimed at ending Tuberculosis by 2035. The multi- sectoral approach is considered impactful in fighting the TB epidemic. So far, the country has made progress towards achieving some of these targets that include;

- Last year the country, through the leadership of the Ministry of Health started the development of the multi-sectoral accountability framework and a draft document is available and is expected to be launched later in 2022.
- The program had committed to diagnose and put on treatment 425,200 people with TB by the end of 2021. The program managed to detect and treat 330,792 representing a performance of 78% achievement of the targets.
- The country also committed to expand the diagnostic capacity to detect TB including adoption of new technologies. It has so far has expanded culture labs from 2 to 5 and is in the process of availing more molecular diagnostics through procurement of GeneXpert and Trunat. So far DST coverage for all people with TB is above 60% against a target of 90% This is 66% of the target.
- The country developed LTBI guidelines to be used in TB preventive therapy and identified populations to be reached that includes; PLHIVs, TB contacts, HCWs and prisoners. Since 2018, over 180,000 people have newly been initiated on ART and over 32,000 contacts started on TPT. The roll out has been slowed by commodity challenges especially new molecules and testing kits.

7.1.2 Performance against program targets

The performance of the program in 2021 against the set targets is as outlined below:

Table 7.1: Performance against program targets

Indicator	Target 2021	Results
DSTB Case finding	101,366	77,834 (77%)
Pediatric cases notified	10% - 15%	7,491 (9.6%)
Bacteriologically confirmed cases notified		57%
Private sector Contribution (%)	25%	19.80%
Proportion of males notified (%)		66%
HIV testing (%)	100%	97%
Co-infection Rate (%)		23
ART Uptake (%)	100%	96%
DSTB Treatment Success Rate (2020)	90%	84%
Cure Rate (2020)	90%	71%
DST Coverage (New)		61%
DST Coverage (Previously Treated)	100%	77%
DRTB Case finding	2,492	804
DRTB Treatment Success Rate (2019)	90%	77%
DRTB Cure Rate (2019)	90%	56%
Under 5 years on TPT		6,191 (43.7%)
Leprosy Case finding		99

7.2 Strengthening Recording and Reporting Systems

7.2.1 M&E tools (printing and distribution)

The TB guidelines and data collection tools were reviewed and revised in 2020 and as a result, the tools needed to be in tandem with the revised guidelines. NTLD-P in collaboration with USAID through TB ARC II supported printing and distribution of M&E tools to all counties in 2021. Tools distribution was via G4S to storage facilities as guided by the County TB coordinators and the coordinators were mandated to distribute the tools to all sub counties and facilities.

Table 7.2: List of M&E tools printed in 2021

Tool	Quantities	Tool	Quantities
TPT appointment cards	50,000	FCDRR booklets	4,500
ICF/TPT record card	50,000	DADR registers	5,500
TB 4 register	4,500	Lab request forms	35,750
TB 5 Patient record cards	100,000	EQA Facility register	750
TPT Contact Management register	6,500	EQA Facility summary	750
DR TB Log books	600	EQA Facility forms	750
DR TB Registers	1000	Laboratory register	6,000
TB screening register	550	Patient referral forms	5,150
ACF departmental summary form	20,000	ACF summary tool	4,000
DR TB appointment cards	1,000	DR TB referral forms	200
DR TB Patient information package	1,000	DR TB Community information package	500
TB performance monitoring charts	4,700	2021 Integrated TB Guidelines	4,500

7.2.2 TIBU maintenance and roll out of t-bu lite

Previous reviews and DQAs have shown gaps in reporting among private sector providers. Among the reasons stated for these gaps, the majority of the providers cited that the program has bulky M&E tools and should consider developing electronic versions of the same. The program, in response to this suggestion, developed the t-bu lite app. This app brings a patient-oriented approach to TB treatment and management in Kenyan health facilities and communities.

The MOH: DNTLD-P Kenya utilizes TIBU as a national case- surveillance system for Tuberculosis and Lung Diseases. This electronic version (t-bu lite) seeks to go beyond recording and reporting and into case-based patient management. It's built to provide options for care seeking and knowledge on how to manage TB screening, referral and treatment.

Designed for HCWs, CHVs and Private Pharmacies/ Chemists, this app provides quick reference to TB treatment guidelines in addition to the screening, contact management treatment and client appointment modules. With the app, users will be able to;

- Read the integrated TB guidelines.
- Do self-tests on the TB guidelines modules completed.
- Record all TB screening encounters at facility, community and private sector settings.
- Referral of all screening and symptomatic clients to the TB diagnostic and treatment sites in Kenya.
- Manage contacts for TB clients including initiation of TB preventive Therapy (TPT).
- Manage TB and DRTB patients with clear tracking of appointments to enhance favorable outcome.
- Earn reward points for achievement of every target in the rewards matrix.

The app is an upgrade of the existing TIBU reporting system which is managed by the county and sub county TB coordinators in Kenya. The app automatically relays data to the TIBU cloud server for validation without any need for integration. The app also benefits from the existing TIBU infrastructure and maintenance efforts.

It has been developed by the Ministry of Health Kenya (DNTLD-P), the Global Fund, USAID and AMREF Health Africa. t-bu lite has been rolled out as a pilot in 17 counties with a data progress breakdown as below.

Table 7.3: T-bu lite Data progress

Trainings Conducted	Counties trained	No of HCW using t-bu lite	No of Facilities using t-bu lite for screening Only
6	16	1,231	562
No of facilities using t-bu lite for screening and case management	**Cumulative Number screened for TB using t-bu lite**	**Cumulative TB Cases notified using t-bu lite - 2021**	**Cumulative TB Cases notified using t-bu lite - 2022**
230	4,800	6,812	2,140
Counties Trained			
Bungoma, Busia, Kakamega, Vihiga, Lamu, Kilifi, Kwale, Tana River, Kajiado, Machakos, Taita Taveta, Samburu, Laikipia, Kiambu, Mombasa, and Nairobi			

USAID, through TB ARC II support, offers system-managed services support on a quarterly basis to ensure no TIBU downtime. The managed services support is for both aspects of TIBU; Patient Managed Services (PMS) and Tibucash, in addition, there is support for cloud hosting servers for all the data collected through the TIBU system and GxLims and procurement of bulk SMSs to facilitate payments to healthcare workers, Gx alerts as well for supportive supervision claims for TB control engagement. TB coordinators are supported with bundling and airtime on a monthly basis for syncing of real time data from the tablets to the TIBU system, and GeneXpert machines supported with airtime for relaying of laboratory results.

7.3 Data Demand and Information Use

7.3.1 Data Quality Audit (DQA)

Quality data is critical in the implementation of TB control activities as it generates evidence which is vital for decision making, policy formulation and guides implementation approaches. It is important to ensure that appropriate validation and audit checks are conducted routinely. Provision of updated recording and reporting tools, which are in conformity with WHO standards, is vital for capturing essential data elements. Further, routine supervision, continuous capacity building and mentorship is necessary to ensure proper usage and fidelity of outcomes. To this end, the Program conducted a national data quality assessment in July 2021 in 6 counties to assess data for 2020 for DS TB and 2019 for DR TB. The overall level of agreement between TIBU and the facility registers for all the sub-counties visited was 87%, a drop from 94% in the previous DQA.

Table 7.4: Summary recommendations from the 2021 DQA (National)

#	Recommendation	Level	Priority	Responsible Person(s)
1	Distribute updated recording and reporting tools (Version September 2020)	National	High (3 months)	DNTLD-P, County, Sub County
2	Develop mechanisms and share circular on withdrawal of outdated recording and reporting tools	National	High (3 months)	DNTLD-P, County, Sub County
3	Capacity build to standardize knowledge on revised recording and reporting tools	Sub national and facility level	Medium	DNTLD–P, County, Implementing Partners
4	Review of the DQA tool to capture emerging issues	National	High	M&E
5	Purposively revisit the counties and sub counties visited/done in the current DQA to monitor improvement	M&E	High (Next DQA)	M&E

Table 7.5: Summary recommendations from the 2021 DQA (Sub National level)

#	Recommendation	Level	Priority	Responsible Person(s)
1	Ensure culture and LPA results are updated at facility level	Sub national level	High	SCTLC
2	Strengthen the data aspects of facility supervision to ensure all documents are updated	Sub national	High	SCTLC
3	Conduct sub national DQAs and share findings at county and national level	Sub national and facility level	High	CDH, CTLC, SCTLC, Implementing partners

7.3.2 DQI Plan

The Program, in collaboration with TB Implementing Partners revised the Data Quality Improvement (DQI) Plan (2019-2023) and came up with a revised DQI Plan (2021-2026). The DQI Plan will assist in strengthening data quality improvement efforts at all levels from: national, county, sub county and facility levels. It also identifies possible TB data quality issues and provides suggestions on how to address them.

The DQI plan is fully costed but not fully funded and provides an opportunity for stakeholders in data management to carry out resource mobilization to fund various interventions stipulated to improve the quality of TB data.

The stakeholders involved in the development of the revised DQI Plan (2021-2026) included: National Tuberculosis program officers, AMREF Health Africa, CHS TB ARC II, CHAI, KCCB-KOMESHA TB, and county representatives.

7.3.3 Capacity Building for TB Data for Decision-Making

The program continues to enhance data analysis and utilization at all levels of TB control service delivery. In the year 2021, a course on data for decision-making was conducted targeting CTLCs, CMLTs, SCTLCs, County Health Records Information Officers (CHRIOs) and DNLTD-P officers. The focus of the trainings include: -

TB Surveillance and Epidemiology

This section covers the use of TB surveillance data for program planning, monitoring and assessing TB epidemiology. The participants also cover data management, TB indicators definitions and calculations as well as the Human resource and data flow reporting structure.

Walkthrough of Data collection and reporting

The section facilitated discussions on the overview of TIBU data collection and reporting, a walkthrough of TB data excels exports, overview of KHIS TB datasets, pivoting and visualization aspects. Further, the section covers data verification from exportation of data from TIBU to preparation of datasets for analysis.

Data Analysis

Finally, the course also covers data analysis using excel and epi info software with a focus to summarizing data. Presentation of clear graphics and tables, discussions on Programmatic performance by treatment outcomes and critically interpreting results for program and policy recommendations are also covered in the data analysis section.

Training Methodology and Output

The training adopts lecture approaches to provide a background for analyses, practical sessions for participants to learn and practice and group work presentations. In 2021, a total of 4 trainings were conducted (29 HRIOs, 40 CMLCs, 45 DNLTD-P officers and 26 County and sub county coordinators). A total of 140 participants were trained across the 47 Counties. The program intends to continue with these trainings and mentorship among the HCWs to ensure data is utilized for decision making at all levels.

7.4 Program Review

7.4.1 Tuberculosis Epidemiological Review

7.4.1.1 Introduction

TB Epidemiological review measures the extent to which the TB surveillance measures the TB disease burden and mortality and analyzes trends to ascertain the TB epidemiological profile and the interventions to address TB disease.

7.4.1.2 Objectives

- Assess the current capacity of the national TB surveillance and vital registration systems in Kenya to measure the level of and trends in TB disease burden.
- Assess the epidemiology of TB disease and its burden using available surveillance data, survey data, programmatic data and other relevant data in Kenya.

- Review the overall progress of the national program towards meeting the set NSP 2019-2023 priority targets.
- To define the investments needed to directly measure trends in TB disease burden in the future, including technical assistance required.
- Assess the implementation status of the 2017 Epidemiological-review key recommendations.

7.4.1.3 Planning process

Due to COVID-19 pandemic situation in Kenya and the implementation of the travel restrictions, the TB Epi review was done virtually from the 12th to 23rd of April. The assessment of the TB surveillance system including vital registration and standards and benchmarks was done in accordance with the Standard and Benchmark checklist guidelines.

DNLTD-P and implementing partners provided routine data TB care cascades which were analyzed to inform TB disease trends. In addition, data from UN agencies and other international organizations were accessed and downloaded from their respective websites. Data analysis and interpretation of routine TB data was guided by WHO guidelines on understanding TB data.

7.4.1.4 Main Findings

- Vital registration

Coverage is at 40% and collects community and health facility mortality data, verbal autopsies are collected and used and the program has conducted mortality surveys in the past

- TB surveillance system

Kenya uses two electronic systems called TIBU and Kenya Health Information System 2 (KIHS2) whereby TIBU is case-based with over 300 users and covering 4,000 health facilities consisting of modules on DS-TB, DR-TB, Laboratory, pharmacovigilance, supervision and payment system. KHIS2 is a platform based on the DHIS2 platform with aggregated data at MoH.

The following areas were identified for improvement: modules are not linked with unique ID, integration issues with DHIS2 where there are mismatch of the reports, unique ID in DS-TB has duplicates and has bugs, dataset has both training dataset and actual dataset, duplicates are not removed even after data cleaning exercise.

- Standard and Benchmarks

Overall, in 2021 six benchmarks were met (B1.1, B1.2, B1.3, B1.4, B1.6 and B2.2), four were partially met (B1.5, B1.7, B1.8 and B2.3) and three are not met (B1.9, B1.10 and B2.1). Compared to 2017 assessment of benchmarks, three benchmarks upgraded to be met (B1.3, B1.4 and B2.3). Whereas two (B1.8 and B2.1) downgraded, and one moved from met to partially met.

Areas needing improvement include: improve electronic system data by addressing duplicate records, internally consistency of the data, reduce underreporting, and improve childhood TB case detection especially for those 0-4 years, as well as 5-14 years.

7.4.1.5 Long-term recommendations under M&E

- WHO dashboards: seek appropriate TA to support installation of the WHO dashboards into KHIS2.
- Training coordinators on WHO dashboard: resource mobilization for training of TB coordinators aimed at improving and increasing data and analysis and use at the health facility.
- Linking all modules with unique ID: TIBU has multiple modules that can benefit from being linked

7.4.2 End-Term Review Planning

7.4.2.1 Background Information

The National Strategic Plan 2019-2023 was developed following a targeted and patient-centered approach to planning and evidence-based prioritization of resource allocation to close the patient pathway gaps towards providing quality care. It also took into account the Sustainable Development Goals, Global End TB Strategy goals targets and the UN high-level commitments and targets. It continues to provide strategic and technical direction for eliminating TB, leprosy and controlling lung disease in Kenya with a clear vision, objectives and targets.

One of the key National strategic plan processes is the mid-term and the end-term review of its implementation. The 2019-2023 plan was due for the midterm review in 2021 but the process was halted by the COVID-19 pandemic. The program therefore prioritized the end term review in 2022 to take stock of the implementation progress, areas of improvement and recommendations for the next NSP development process.

7.4.2.2 Methodology

The planning process entailed rigorous weekly meetings by the secretariat and taskforce teams. The secretariat and taskforce teams were spearheaded by DNLTD-P and had representation from counties, parastatals, implementing and developmental partners (USAID/CDC/CHS TB ARC II/KOMESHA TB/CHAI/KEMRI). The Secretariat was responsible for the day-to-day logistics and planning whose proposals / suggestions were ratified and endorsed by the taskforce.

The program review was a nation-wide exercise, across the two levels of government (National and County Governments). To achieve the objectives of the program review, data collection tools were developed and aligned to the review objectives under each thematic area. Purposive sampling was used to select counties and facilities to be reviewed based on the disease pattern, urban and rural and ease of access (hard or easy to reach). In addition, in special circumstances, a county/facility was selected to achieve the objectives for some thematic areas. The counties sampled were Nairobi, Kiambu, Kirinyaga, Meru, Samburu, Machakos, Kitui, Kajiado, Taita Taveta, Kericho, Siaya and Busia. Within each county, all county referral, sub-county hospitals, faith-based, private for profit and prisons health facilities where available were selected. In addition, the review team joined clinical review meetings for DRTB patients and also conducted interviews (DSTB & DRTB patients, TB champions, CSOs/CHVs, local implementing partners).

7.4.3 Performance Review Meeting

The 2021 PRM provided a platform to review the performance of key TB indicators for the previous year (2020), identification of gaps/challenges and development of evidence-based and data driven action plan for the counties to adopt towards reducing TB incidence.

During the meeting, COVID-19 protocols were strictly observed with counties being clustered in 4 groups at each event. COVID-19 mitigation measures being displayed continuously on projection screens, participants reminded to observe the guidance, sanitizers were also provided at strategic points and physical distancing observed

TB ARC II provided logistical and technical support to the Performance Review Meeting held between 9th to 13th August, 2021 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 2021 was *"Leaving no one behind in TB Control"*. 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 the agreed targets for 2020.
- Develop action plans for correcting shortcomings during the period under review.
- Provide stakeholders consultative forum in TB control.
- Share any lessons learnt during the implementation period.
- Share the TB program updates and developments.
- Recognize and award counties with outstanding performance.

7.4.3.1 National 2021 Targets

The national TB targets were shared as shown in the table below:

Table 7.6: National 2021 Targets

Theme: It is time for quality of care in our health systems to end TB in Kenya	
Indicators	Targets
Case notification	Increase case detection by 23% among adults
	Children: 15% of cases notified
Treatment success rate	Cure rate – 90%
	TSR – DS TB – 90%, DR TB - 80%
GeneXpert utilization rate	Children: 1:3
	80% of all PLW HIV
Drug-resistant TB surveillance	50% new cases
	100% among all previously treated
HIV testing & ART uptake	100%
Health care workers screening	50%
Time to treatment initiation	Sample collection to treatment initiation – target 2 days.

7.4.3.2 A Snapshot of the Country Performance in 2021

The country experienced an overall 15% drop in case finding for the year 2020, and a 7.8% drop in pediatric case finding compared to the 9.7% in 2019.

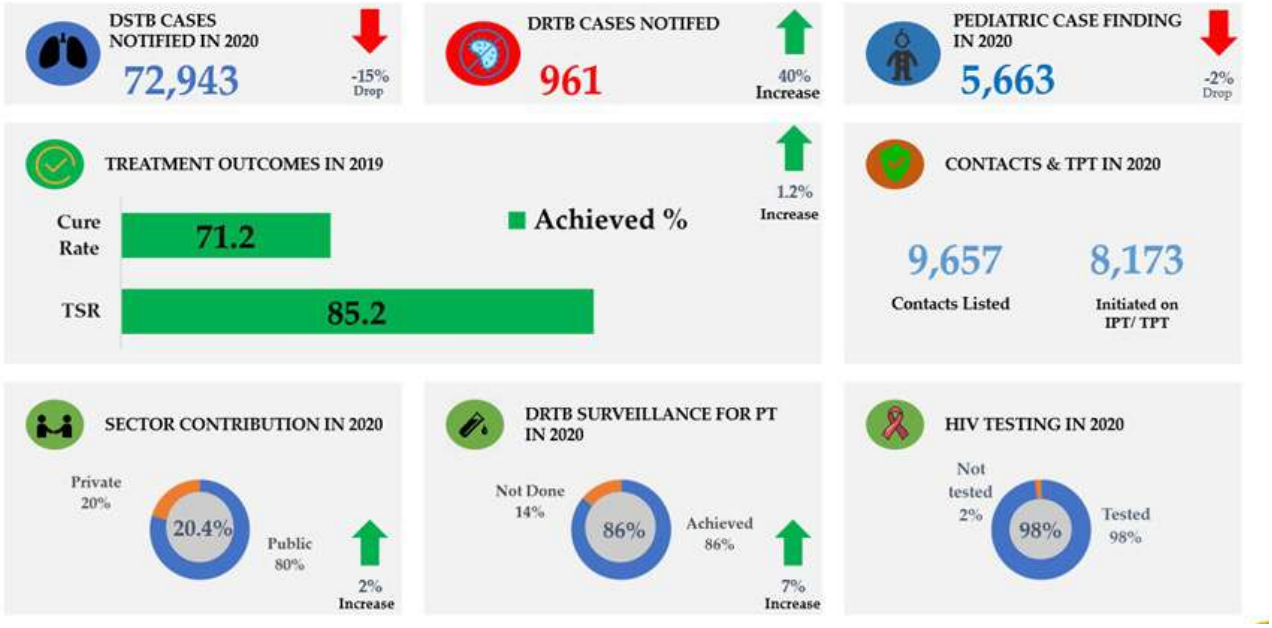


Figure 7.2: Kenya Snapshot 2020 1

7.4.3.3 County Performance Scorecard

County performance was ranked for various indicators using an innovative/objective score-card developed jointly by the DNTLD-P M&E officers. Kericho County was awarded the best performing county, with Mandera and Siaya counties being 1st and 2nd runners up respectively. Kipkelion West Sub County in Kericho County was ranked the best sub county.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8 RESOURCE MOBILIZATION

8.1 Work plan

The implementation of program activities is based on quarterly, semi-annual and annual work plans that are developed by the policy and planning section in liaison with other sections in the program. First, an annual work plan is normally co-created between the DNLTD-P, donors and partners involved in TB control activities. The approval processes for implementation involves the departmental heads and the Ministry of Health. In July 2021, a joint work planning meeting was conducted at Great Rift Valley Lodge, Naivasha with the involvement of the following organizations; AMREF, KCCB, CHAI, WHO, USAID-TB ARC II and Health IT. A schedule of activities was also prepared matching available funds, source of funds and responsible persons to ensure performance and tracking.

8.2 Global Fund - CRM 19 (DNLTD-P & AMREF)

The country through Kenya Coordinating Mechanism (KCM) submitted a successful grant proposal for TB, HIV , Malaria and RSSH to The Global Fund which was approved and signed in June 2021. The grant started being implemented in July 2021 and is expected to run upt June 2024. The total allocation for TB was USD60 million and supports the following modules; TB Care & Prevention, MDR TB RSSH M&E specific for TB. This grant is implemented through two principal recipients, namely: AMREF Health Africa (AMREF) with 51% of the grant, and The National Treasury (TNT) with 49% of the grant. AMREF will in turn implement through sub-recipients who are either civil society, community-based organizations or private sector, while the National Treasury will implement through the Ministry of Health TB program. The main areas of focus for this grant is funding for active case finding; strategic innovations that include PPM, KIC-TB and outreaches among key populations.

The grant also funds MDR TB interventions that includes diagnosis, treatment and social support. Sample referral was also prioritized and is jointly implemented through AMREF, TB program and national public health laboratories.

The Government of Kenya through the Ministry of Health has continued to increase funds for procurement of TB medicines and laboratory consumables, this through Counter Part Financing (CPF) & MoH Funds. This is complemented by the Global Fund (GF) for purchase of Second Line Medicines, Gene pert and Laboratory commodities.

Some funds were availed under MOH - Universal Health Coverage kitty, which supported the GeneXpert cartridges purchase, in the last quarter of 2021.

This section is responsible for coordinating supply chain management of the NTLD-Program's commodities to provide uninterrupted supply of medicines as well as laboratory consumables under NOMT-technical working group.

For ADSM protocol development and ADSM operational research field activity, KES. 12 Million were realized from the GF savings to do the activity. The scoping of the ADSM tools into KHIS2 and TIBU was supported by USAID - Health IT

8.3 USAID - HealthIT mechanism

HealthIT is a five-year (2018 - 2023) project funded by USAID/Kenya. The HealthIT project led by the University of Nairobi through UNES (University of Nairobi Enterprises and Services) is working collaboratively with the Government of Kenya (GoK) - Ministry of Health to contribute to evidence-based decision making by health stakeholders in Kenya. This groundbreaking collaboration is aimed at strengthening national Information systems that support reporting, provide data for decision making and improve human capacity on use of health systems, quality data capture and reporting. In 2021, the DNTLD-P got support from HealthIT through USAID as a new implementing partner to support various activities. These included;

- TIBU trainings for County and Sub County teams
- Hardware support for the TIBU system.
- Hardware support for the GeneXpert system.
- Support for multi-stakeholder engagements for TIBU integration with KHIS and DHP.
- Support for multi-stakeholder engagements for TIBU Cash for all implementing partners.
- Overhaul of the DNTLD-P website.

TIBU KHIS Integration - Data exchange between TIBU system and KHIS is now operational and more enhancements are planned to incorporate more indicators. The project will continue to work with the program to review the workflows and processes and identify areas of improvement and integration with other systems and processes in the health informatics ecosystem.

Website Updates and Content Refreshing - Supported the TB program to update the Program website content presentation. The Program has over the last few years renewed its brand online through social media pages. However, the DNLTD-P website was less focused on targeted audiences and users. As the web has evolved considerably over the last couple of decades, website designs and functionality have also changed massively especially for health communication. The DNLTD-P website had not been updated to reflect the current trends and also the content available in some instances was outdated.

Infrastructure Support - In FY22Q1, the project initiated the procurement of the 20 laptops for the TB Program staff and 100 modems for the upgrade of the GeneXpert machines at the laboratories. During the reporting period, the activity finalized the procurement and delivery of the equipment to the Program for staff allocation as well as distribution of modems to the various laboratories.

TIBU Cash Scoping - The activity supported the program to review the TIBU Cash System and scope new areas to address the gaps identified to improve the System. The review and scoping was completed during a four-day workshop in Kiambu County and the following stakeholders participated: CHS - TB ARC II, AMREF Health Africa, TB Program officers, CTLCs, and ICT officers from the Program.

8.4 CHAI - TPT and Commodity

Clinton Health Access Initiative (CHAI) developed and piloted TB lab allocation tools for 4 counties Nyandarua, Kwale, Turkana and Nakuru. In addition, they support the procurement of 3HP of 29,305 patient courses and monthly commodity security meetings.

8.5 CDC - Bi-directional screening (CHS *Tegemeza*)

PEPFAR through CDC-Kenya funded the CHS-*Tegemeza* Plus HIV project in collaboration with TB ARC II and the DNTLD-P in 2020 to support the development of standardized guidelines and operating procedures for integrated TB and COVID-19 screening and testing. The project ended in September 2021 and the key deliverables included;

1. Development of standardized guidelines and SOPs for integrated TB and COVID-19 screening and testing (in order to leverage COVID testing for TB case finding, and bi-directional screening and testing).
2. Development/enhancement of an electronic platform for the collection of TB & COVID integrated screening data (this will depend on what may or may not be already in place).
3. Interfacing of TB/COVID data with TIBU and Kenya EMR platforms.

Achievements

- Draft TB & COVID-19 Bi-directional Screening Guidelines developed.
- Draft TB & COVID-19 Bi-directional Screening Guidelines collapsed to 4 chapter document and forwarded to volunteer team of external reviewers.
- Development of Android app *TIBA TEKELEZI* to support bidirectional screening of TB & COVID-19.
- Review of TB DSD guidelines completed and forwarded for external review and inclusion in the ***Integrated Guideline for TB, Leprosy and Lung Disease*** document.

9 FINANCE ADMINISTRATION AND HUMAN RESOURCES

USD67,522,544

The total approved budget in the New Funding Model 3 (NFM3).

USD28,656,387

Amount incorporated in the Tuberculosis grant for the Health System strengthening budget.

USD80,900,786

Amount incorporated in the Tuberculosis grant for COVID-19 emergency response funding.

USD6,308,131

The total USAID budget to TB activities for the year 2021, with expenditure amounting to **USD6,020,063**.

9.1 Finance and Administration

A. Funding

1. Global Fund Tuberculosis Grant

During the year 2021, the Global Fund Tuberculosis Grants transitioned from the New Funding Model 2 (NFM2) whose implementation period was from 1st January 2018 to 30th June 2021 to the New Funding Model 3 (NFM3) whose implementation period will be from 1st July 2021 to 30th June 2024. The total approved budget is USD67,522,544.

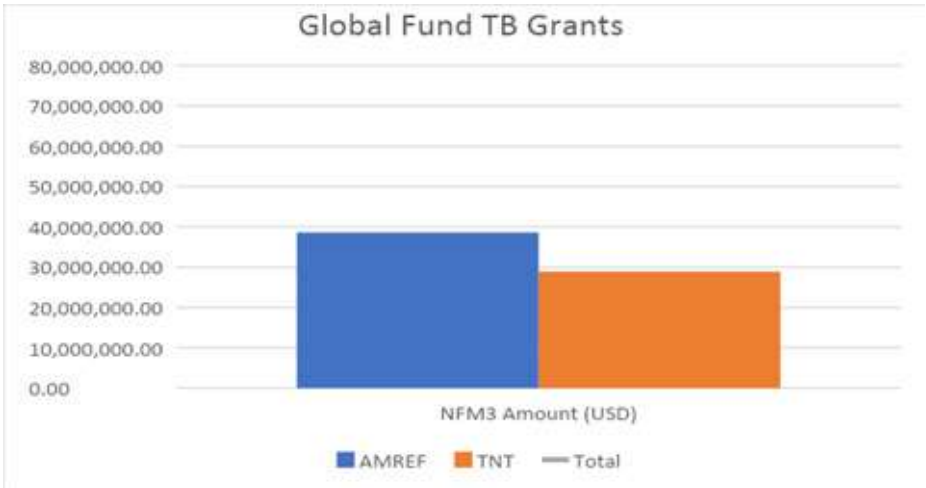


Figure 9.1: Kenya Global Fund TB Grants

The Tuberculosis NFM3 grant incorporated the Health System strengthening budget amounting to USD28,656,387 and COVID-19 emergency response funding of USD80,900,786.

NFM3 Grant Overview.

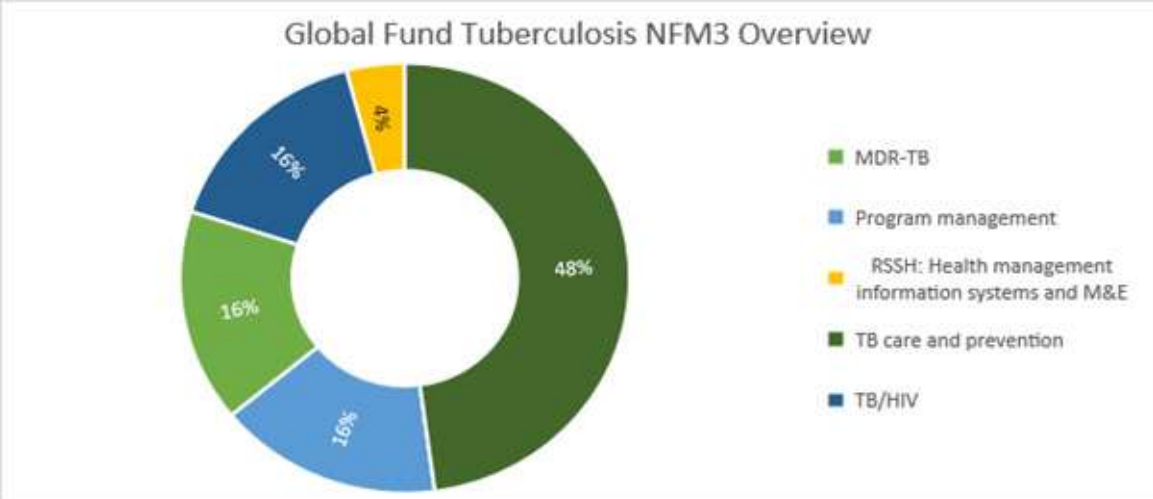


Figure 9.2: Global Fund Tuberculosis NFM3 Overview

2. USAID – TB ARC

For the year 2021 USAID total budget to TB activities amounted to USD6,308,131 with expenditure amounting to USD6,020,063 reported as tabulated below.

Table 9.1: USAID -TB ARC II funding

Module	Budget (USD)	Expenditure (USD)
TB Care and Prevention	3,308,429	2,858,339
TB/HIV	1,244,000	1,267,054
MDR- TB	178,000	174,738
RSSH: Health Management Information Systems and M&E	474,595	474,595
Program Management	1,103,107	1,245,337
Total	6,308,131	6,020,063

Budget balance is due to the level of funding received during the year, which was lower than the budgeted amount.

B. Performance 2021

For the year 2021 the total budget for NFM2&3 amounted to USD30,766,272 with an expenditure reported of USD10,842,567 as shown in table 9.2.

Global Fund TNT

Table 9.2: Global Fund TNT

Module	Budget (USD)	Expenditure (USD)
Tb Care and Prevention	1,780,462.03	597,244.72
TB/HIV	691,485.02	444,137.03
MDR-TB	1,755,404.28	1,278,688.20
RSSH: Human Resources for Health (HRH), including Community Health Workers	578,041.51	623,730.38
Rssh: Health Management Information Systems and M&E	65,213.37	213,822.08
Program Management	587,754.32	843,550.02
COVID-19	25,307,912.17	6,841,395.43
Total	**30,766,272.69**	**10,842,567.85**

The low expenditure rates are attributed to ongoing procurement for NFM3 grants including COVID-19 funding under the TB grant.

9.2 Human Resource/Administration and Capacity Building

A. Capacity Building and Training

During the year 2021 the TB program conducted various routine refresher and capacity building trainings of various cadres of healthcare workers. A total of 11,371 HCWs were capacity-built on various trainings and sensitizations with the support of Global Fund TB grant as below:

In addition, the TB program continued to facilitate sensitization of HCWs at sub county health facilities on ACF implementation, IPC Sensitization, NPA/NGA sensitizations and OJT for NTRL.

During the year, the program conducted sensitization of TB coordinators and health workers through various capacity building avenues including online training via ECHO, didactic CMEs and integrated into existing sensitizations and trainings. The program engaged in development of the paediatric TB training.

Among the key trainings conducted were the Training of County Trainers of Trainers (ToTs) on the Revised Guidelines and TB Diagnostic Algorithm which was held in June 2021. With support from partners, the program also conducted the Advanced TB Training for 63 DNLTD-P Technical whose objective was to ensure that the National TB Program officers are updated on the new developments, enhance their understanding on the basics of TB. The training was held between 28th June and 2nd July 2021 in Nakuru.

B. Human Resources

The Division of National Tuberculosis Leprosy and Lung Disease Program (DNTLD-P) has a total staff establishment of 26 GoK, 6 GFATM supported, 4 FELPT,15 Interns, 3 seconded by USAID and 1 by CDC to NTLDP. The GFATM TB grant continued to support a total of 115 county-based staff.

170
Total number of staff working at the Division of National Tuberculosis Leprosy and Lung Disease Program at the national and county level

Staff Distribution

Table 9.3: Staff distribution

No.	Row Labels	GOK	GF	USAID	FELTP	CDC	INTERNS	Total
1.	Head of Program	1						1
2.	Care & Support	4	1	1	2		2	10
3.	Commodity & Logistics	4			1			5
4.	Admin. & Finance	10				1	5	16
5.	MER	2	3				5	10
6.	PHP	2					2	4
7.	Policy Planning	1	1	1				3
8.	Laboratory	2		1	1		1	5
9.	Communication		1					1
	Total	26	6	3	4	1	15	55

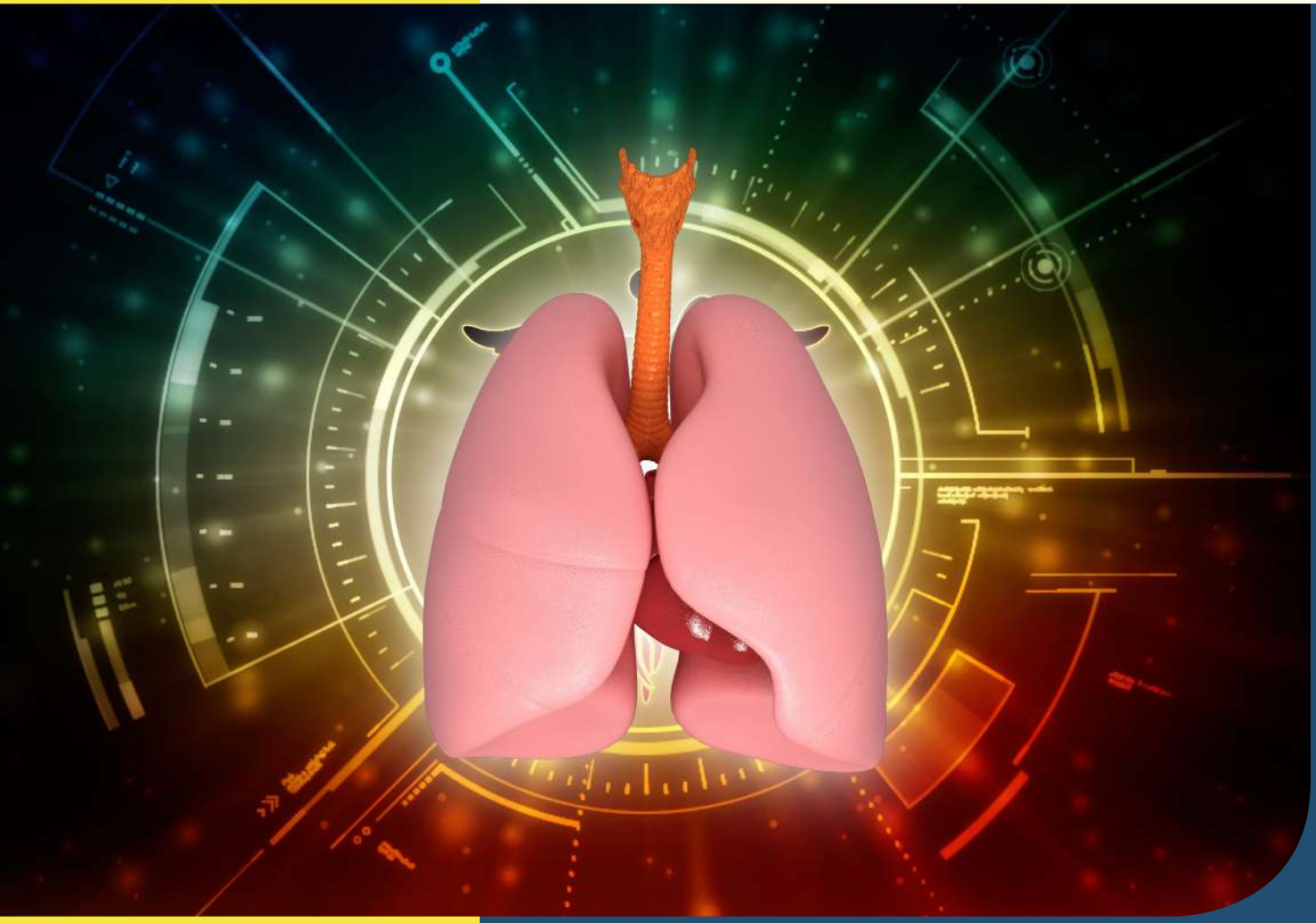
C. Fleet Management

The TB program has a fleet of vehicles totaling 23 supported by partners and GFATM, out of which 15 are used to support program implementation at national level and 8 vehicles are at county level.

Table 9.4: Fleet management

Location/County	No
Kwale County	1
Busia County	1
Embu County	1
Garissa County	1
Isiolo County	1
Kisii County	1
Nairobi County	1
Nyeri County	1
Program	15
Grand Total	**23**

23
Total number of vehicles, supported by partners and GFATM



ANNEXES

Annex 1: List of sub-recipients engaged to implement the Global Fund TB 2021 – 2024

SRs supporting community TB activities					
No.	Sub Recipient	County	No.	Sub Recipient	County
1	AMURT	Kilifi, Marsabit, Samburu	16	OLPS	Kericho, Kisumu, Nyamira
2	BLUE CROSS	Taita Taveta	17	Outreach	Mandera, Wajir
3	CABDA	Kakamega	18	PRDP	West Pokot
4	CHAT	Isiolo, Laikipia	19	RESOK	Kiambu
5	CIPK	Lamu	20	SIMAHO	Garissa
6	Daraja Mbili	Kisii	21	St. Joseph's CBO	Nyeri
7	Eagle Neema CBO	Nyeri	22	TALAKU	Kajiado
8	IRDO	Busia, Migori, Siaya	23	World Vision Kenya	Nakuru, Narok, TransNzoia
9	KANCO	Bungoma, Kwale, Mombasa	24	YOFAK	Homa Bay
10	KCCB	Embu, Kirinyaga, Meru	25	Catholic Diocese of Murang'a	Murang'a
11	KICE	Tana River	26	Hope Worldwide Kenya	Kitui, Tharaka Nithi
12	KICOSHEP	Nairobi	27	Konnect Youth Consortium	Bomet
13	Malteser	Nairobi	28	SWOP Kenya	Nyandarua
14	NEPHAK	Nandi, Vihiga	29	World Relief Intl. Kenya	Turkana
15	NIAK	Baringo, Elgeyo Marakwet, Uasin Gishu	30	To be determined	Machakos and Makueni
SRs implementing KIC-TB					
1	North Star Alliance	Mombasa	3	Community Support Platform	Kakamega
2	RODI Kenya	Kiambu	4	Sema Limited	Nairobi

Annex 2: Procurement plan 2021/2022

Procurement Plan 2021/2022							
Source of funding (Quantities delivered)							
Medicines	**Pack Size**	**CPF**	**Global Fund**	**PEPFAR**	**CHAI**	**Total**	**Status**
Ethambutol 100mg	100	9,789				9,789	
Isoniazid 100mg	100	5,483				25,483	
RH(75mg/50mg)	84	27,707		21,080		48,787	
3 RH (150/75 mg)	84			1,808		1,808	
RHZ (75mg/50mg/150mg)	84	16,411				16,411	
Patient pack KIT	1	25,000	35,000			60,000	
INH isoniazid 300mg	672		1,145		40	1,185	
Rifampicin (150)	100		1,660			1,660	
Rifampicin (300)	100		766			766	
3 HP 300/300mg	36		40,000		29,305	69,305	
Clofazimine 100mg	100		2,781			2,781	
Clofazimine 50mg	100		4			4	
Cycloserine 125mg	100		205			205	
Cycloserine 250mg	100		4,081			4,081	
Ethambutol 400mg	672		171			171	
Levofloxacin 250mg	100		689			689	
Levofloxacin 500mg	100		3,720			3,720	
Linezolid 600mg	100		821			821	
Pyrazinamide 500mg	672		267			267	
Bedaquiline 100mg	188		480			480	
Pretomanid 200mg	26		189			189	
Moxifloxacin	100		167			167	
RUTF 92gms sachets	150	20000				20,000	Commodities ordered in 2021 but delivery scheduled for 2022
Methanol	1ltre	204				204	
HCL	500ml	250				250	
Phenol crystals	500gm	250				250	
Methylene blue	25gm	250				250	
FM LED Microscope	pc	95				95	
TB LAMP HumaLoop T	Pc	22				22	
HuMax ITA Microcentrifuge	Pc	22				22	
HumaHeat	Pc	22				22	
LoopampMTBC Detection kit (2x48) T	Kits	68				68	
Loopamp PURE DNA Extraction kit (90T)	Kits	68				68	
Pipette-60 set for TB-Lamp	Pc	30				30	

Annex 3: Performance score card results

Annex 3a: Indicators and Weights

Gene Xpert Scores		
Indicator	**Weight**	**Criteria**
SMS sent	5	For every record in GX LIMS, Where SMS was sent, assign 5 points, where not sent assign zero. Present mean as final score for the indicator
Email Sent	3	For every record in GX LIMS, Where Email was sent, assign 5 points, where not sent assign zero. Present mean as final score for the indicator
Gene Xpert Utilization	5	Actual percentage utilization was computed against the score of 5
System utilization	5	Hit or miss based on samples processed online or offline.
Gene Xpert Error Rates	3	Hit or miss; If Error rate is below 4% assign 3 points, If 4% and above assign 0
Total weight	**21**	
DSTB & DRTB Scores		
Indicator	Weight	Criteria
Timeliness		
TX start date vs Entry in the system (30 days)	5	Time stamp minus date of treatment start. 30 days and below is 5, 31 - 60 is 4, 61 - 90 is 3, others is 0
Assigning outcomes on time for DSTB (210 days)	5	Outcome date minus treatment start date start. 168 - 210 days is 5, 211 - 240 is 3, Others is 0
Assigning outcomes on time bone and meningitis for DSTB (390 days)		Outcome date minus treatment start date start. 360 - 390 days is 5, 391 - 420 is 3, Others is 0
Assigning outcomes on time for DRTB (720 days)	5	Outcome date minus treatment start date start. 720 - 780 days is 5, Others is 0
Completeness		
Smear completion for Bacteriologically confirmed in TB4	3	3 follow up smears is 3, 2 follow up smears is 2, 1 follow up smear is 1, Others is 0
Smear completion in DRTB	3	100% follow up cultures is 5, 50% and above follow up cultures is 3, Others is 0
Culture follow up for DRTB	5	100% follow up smears is 5, 50% and above follow up smears is 3, Others is 1
Not Evaluated in TB 4	5	Hit or Miss, If Any case that is NE; score 0. If no cases that are NE; Score 5
Not Evaluated in DRTB	5	Hit or Miss, If Any case that is NE; score 0. If no cases that are NE; Score 5
Accuracy		
Cured but clinically diagnosed	4	Where Clinically diagnosed with cured outcome, score 0. Where clinically diagnosed with other outcomes, score 4
Cured but Extra pulmonary	4	Where Extra Pulmonary with cured outcome, score 0. Where Extra pulmonary with other outcomes, score 4
Invalid BMI Less than 8 and over 50	4	1 and 0
BMI / Z Score Not Evaluated	4	Where BMI evaluated, Score 4. Where no BMI evaluation, score 0
DRTB Correct Regimens	5	Distribute per patient. If patient has correct regimen, score 5. If incorrect or no regimen, score 0

QOC & General Performance Indicators		
Private sector contribution (25%)	2	Hit or Miss. If 25% and above, score 2. If below 25%, score 0.
Eligible for Food Support and not on Food Support	2	Distribute per patient. If patient was eligible and was provided with food, score 2. If eligible and no food support, score 0.
DRTB Surveillance for new patients	4	Distribute per patient. If patient was eligible and surveillance was done, score 4. If eligible and no surveillance, score 0.
DRTB Surveillance for Previously Treated	5	Distribute per patient. If patient was eligible and surveillance was done, score 5. If eligible and no surveillance, score 0.
Increase in Case Notification (20%) DSTB	4	Hit or Miss. If 20% and above, score 4. If 10% and above, score 3. If 5% and above, score 2. If 1% and above, score 1. Others score 0
Increase in case Notification (20%) DRTB	4	Hit or Miss. If 20% and above, score 4. If 10% and above, score 3. If 5% and above, score 2. If 1% and above, score 1. Others score 1
Increase in case Notification (15%) Children	4	Hit or Miss. If 20% and above, score 4. If 10% and above, score 3. If 5% and above, score 2. If 1% and above, score 1. Others score 2
TSR DSTB (92%)	5	Hit or Miss. If 92% and above, score 5. Others score 0
TSR DRTB (85%)	5	Hit or Miss. If 85% and above, score 5. Others score 0
Cure rate DSTB (90%)	4	Hit or Miss. If 90% and above, score 4. Others score 0
Cure rate DRTB (90%)	4	Hit or Miss. If 90% and above, score 4. Others score 0
HIV Test (100%)	3	Hit or Miss. If 100% and above, score 3. Others score 0
ART Test (100%)	3	Hit or Miss. If 100% and above, score 3. Others score 0
Death rate less than 5% (DRTB)	5	Hit or Miss. If 5% and below, score 5. Others score 0
Death rate less than 5%(DSTB)	5	Hit or Miss. If 5% and below, score 5. Others score 0
DSTB LTFU Less than 2%	5	Hit or Miss. If 2% and below, score 5. Others score 0
DRTB LTFU Less than 2%	5	Hit or Miss. If 2% and below, score 5. Others score 0
Contact Management (For Bact Confirmed: 3 Contacts were listed)	5	Hit or Miss. If ratio is 1:3, score 5. If ration is 1:2, score 4. If ratio is 1:1, score 3. Others score zero
	131	
Total Scores	**152**	

Annex 3b: County results

	Scores					Ranking					Final Score	Overall Ranking
County	Timeliness	Accuracy	Completeness	QOC	Gene Xpert	Timeliness	Accuracy	Completeness	QOC	Gene Xpert		
Kericho	10.99	18.29	8.93	34.39	12.24	7	38	14	3	5	84.83	1
Mandera	9.53	17.63	7.77	45.34	4.27	31	41	36	1	47	84.54	2
Siaya	9.67	17.22	8.95	33.08	12.56	30	44	13	5	2	81.49	3
Laikipia	10.90	19.97	9.94	31.13	7.11	8	11	3	9	32	79.05	4
Tharaka Nithi	9.25	19.32	10.76	32.53	7.03	37	18	1	6	35	78.88	5
Embu	10.29	20.26	9.03	32.22	6.75	20	5	11	7	38	78.55	6
Isiolo	8.48	20.06	7.68	33.29	6.50	46	8	39	4	39	76.02	7
Homa Bay	11.63	18.97	8.61	26.63	10.02	4	24	19	13	15	75.86	8
Murang'a	8.64	20.00	9.29	23.36	13.47	43	9	8	20	1	74.77	9
Kisii	10.67	19.54	9.10	24.32	10.87	11	17	10	19	8	74.49	10
Nyandarua	10.35	17.38	9.33	28.39	8.89	19	43	7	11	21	74.34	11
Garissa	7.68	20.98	7.25	30.91	7.18	48	1	47	10	31	74.00	12
Narok	11.08	18.46	8.23	31.21	4.52	5	35	29	8	46	73.50	13
Kilifi	10.23	19.63	7.55	24.99	10.62	22	16	40	18	9	73.03	14
Nandi	10.99	19.99	8.67	26.14	7.08	6	10	18	14	33	72.87	15
Wajir	9.99	20.94	8.02	25.79	7.07	25	2	31	16	34	71.82	16
Lamu	12.51	15.93	7.86	35.30	0.00	1	48	35	2	47	71.60	17
Taita Taveta	9.38	19.12	9.54	21.20	12.29	34	19	5	27	4	71.54	18
Migori	9.32	18.70	8.46	26.03	8.68	35	30	22	15	22	71.19	19
Kajiado	10.74	18.91	7.42	27.95	5.03	10	27	44	12	44	70.05	20
Tana River	10.38	18.44	8.57	21.62	9.68	18	37	20	26	16	68.69	21
Nyamira	10.40	16.71	9.39	21.76	10.10	15	46	6	25	14	68.36	22
Bungoma	10.44	20.13	7.54	18.09	11.52	14	7	41	30	7	67.71	23
Bomet	12.21	18.97	7.70	22.80	5.54	2	25	38	22	42	67.22	24
Turkana	10.45	16.85	7.41	22.00	10.20	13	45	45	24	13	66.92	25
Makueni	9.44	19.66	9.62	17.55	10.39	32	15	4	33	12	66.66	26
Busia	9.97	18.82	8.33	18.72	10.53	26	28	25	29	10	66.37	27
Marsabit	8.58	18.67	8.28	23.21	7.29	44	32	26	21	29	66.03	28
Kiambu	10.16	18.69	7.73	22.16	7.20	23	31	37	23	30	65.94	29
Meru	9.30	20.63	10.04	19.26	6.36	36	3	2	28	40	65.59	30
Trans Nzoia	8.39	19.00	8.75	17.80	11.61	47	23	16	31	6	65.55	31
Kisumu	8.58	17.47	6.97	25.27	6.84	45	42	48	17	37	65.14	32
Kakamega	9.94	18.15	7.97	16.25	12.32	28	39	33	41	3	64.62	33
Samburu	11.74	19.68	7.31	17.41	7.86	3	14	46	34	26	64.00	34
Mombasa	10.39	19.84	8.99	16.72	7.91	16	12	12	37	25	63.85	35
Vihiga	10.39	18.47	9.22	15.57	9.58	17	34	9	43	17	63.24	36
Kirinyaga	9.94	20.54	8.80	13.11	10.52	27	4	15	46	11	62.92	37
Pokot	8.97	19.09	8.00	17.75	8.19	39	21	32	32	23	61.99	38
Kitui	10.61	19.11	8.75	16.49	6.91	12	20	17	39	36	61.88	39

Uasin Gishu	8.90	17.98	8.27	16.60	8.95	41	40	27	38	18	60.70	40
Nairobi	8.94	18.74	8.35	16.89	7.50	40	29	24	36	28	60.43	41
Kenya	**9.80**	**19.06**	**8.52**	**13.70**	**8.95**	**29**	**22**	**21**	**45**	**19**	**60.03**	**-**
Elgeyo Marakwet	10.79	20.15	7.53	16.31	4.57	9	6	43	40	45	59.34	42
Baringo	10.12	18.45	7.93	17.05	5.36	24	36	34	35	43	58.92	43
Nakuru	10.25	18.95	8.40	12.99	7.92	21	26	23	47	24	58.50	44
Machakos	9.39	18.66	8.11	14.16	7.86	33	33	30	44	27	58.17	45
Kwale	8.74	16.31	7.53	15.75	6.17	42	47	42	42	41	54.50	46
Nyeri	9.23	19.83	8.25	7.35	8.94	38	13	28	48	20	53.59	47

Annex 3c: Sub-county rankings

		Scores				Ranking				Final Score	Overall Ranking
Sub County	County	Timeliness	Accuracy	Completeness	QOC	Timeliness	Accuracy	Completeness	QOC		
Kipkelion West	Kericho	7.03	18.50	18.66	56.73	66	131	18	2	100.92	1
Bomachoge Chache	Kisii	6.62	20.93	15.23	55.81	107	61	60	4	98.60	2
Mbooni West	Makueni	5.47	20.97	15.45	56.16	223	41	51	3	98.06	3
Nyaribari Masaba	Kisii	6.63	18.46	17.43	54.01	106	151	23	5	96.53	4
Nyamira	Nyamira	6.74	16.00	15.30	57.06	90	187	55	1	95.10	5
Homa Bay	Homa Bay	7.90	19.73	14.00	51.66	9	99	130	7	93.29	6
Maara	Tharaka Nithi	5.38	19.72	19.49	46.25	234	101	10	20	90.84	7
Nyaribari Chache	Kisii	6.61	19.53	14.29	49.43	108	106	108	12	89.86	8
Bureti	Kericho	7.25	15.98	14.40	50.49	43	240	98	9	88.13	9
Kipipiri	Nyandarua	6.97	15.88	14.62	49.71	71	284	87	10	87.18	10
Imenti South	Meru	6.48	20.98	16.62	42.90	131	34	33	32	86.98	11
Narok East	Narok	7.63	15.92	13.65	49.45	13	278	154	11	86.65	12
Aldai	Nandi	7.36	21.00	19.47	38.53	31	1	11	56	86.36	13
Manga	Nyamira	6.45	21.00	15.54	42.96	137	1	50	31	85.95	15
Narok West	Narok	7.19	19.31	15.89	43.18	51	111	46	30	85.56	16
Kasarani	Nairobi	5.35	18.91	14.16	47.07	237	126	123	18	85.49	17
Uriri	Migori	4.76	19.28	13.61	46.81	271	114	157	19	84.46	18
Rongai	Nakuru	6.34	21.00	14.19	42.77	152	1	116	33	84.30	19
Ruaraka	Nairobi	5.58	19.71	19.96	39.03	213	104	7	47	84.28	20
Mbeere South	Embu	6.85	20.27	14.89	42.24	80	85	76	35	84.25	21
Embu West	Embu	6.99	20.63	14.00	42.25	70	75	131	34	83.87	22
Moiben	Uasin Gishu	4.66	15.98	19.16	43.71	274	243	14	26	83.51	23
Likuyani	Kakamega	5.61	21.00	13.00	43.63	212	1	191	28	83.24	25
Refugee Camps	Garissa	4.98	15.93	9.30	52.88	264	270	242	6	83.09	26
Mandera East	Mandera	7.48	17.64	12.33	45.52	21	168	227	22	82.97	27
Gatanga	Murang'a	5.16	20.98	17.74	39.08	248	33	21	46	82.96	28
Mbita	Homa Bay	7.61	15.98	7.65	51.41	15	242	270	8	82.65	29
Mumias East	Kakamega	6.46	21.00	13.26	41.81	136	1	175	37	82.52	30
Ugunja	Siaya	5.86	17.64	15.08	43.90	190	167	67	25	82.48	31
Laikipia West	Laikipia	7.18	19.15	19.52	36.60	52	117	9	76	82.45	32
Tana Delta	Tana River	6.74	20.95	15.94	38.63	91	54	45	53	82.26	33

		Scores				Ranking				Final Score	Overall Ranking
Sub County	County	Timeliness	Accuracy	Completeness	QOC	Timeliness	Accuracy	Completeness	QOC		
Awendo	Migori	5.05	16.00	12.95	48.11	259	187	195	15	82.11	34
Nakuru West	Nakuru	6.88	19.72	16.09	39.41	78	102	40	43	82.10	35
Samia	Busia	6.47	15.91	22.10	37.53	132	281	3	67	82.00	36
Mbeere North	Embu	7.00	20.27	13.76	40.86	69	83	146	38	81.90	37
Molo	Nakuru	7.13	20.93	19.71	34.07	57	60	8	94	81.84	38
chuka igambang'ombe	Tharaka Nithi	5.28	20.00	17.36	38.99	244	90	24	48	81.64	39
Trans Mara west	Narok	7.68	20.92	14.37	38.60	12	67	102	54	81.58	40
Ugenya	Siaya	5.72	16.00	14.73	45.05	206	187	81	23	81.50	41
Baringo Central	Baringo	6.95	20.82	13.98	39.23	72	72	133	45	80.98	42
Ainamoi	Kericho	7.30	20.99	14.70	37.96	38	29	82	62	80.96	43
Alego Usonga Zone B	Siaya	5.75	20.96	14.34	39.75	202	51	104	42	80.80	44
Ikolomani	Kakamega	6.23	20.98	13.02	39.98	164	36	189	40	80.21	45
Igembe South	Meru	6.38	20.99	21.70	31.12	148	28	5	126	80.20	46
Tharaka	Tharaka Nithi	5.36	17.65	16.86	39.90	235	166	31	41	79.77	47
Mandera North	Mandera	7.45	15.95	7.87	48.39	24	263	265	13	79.65	48
Jomvu	Mombasa	6.46	19.71	14.68	38.76	134	103	83	51	79.62	49
Kahuro	Murang'a	5.01	20.00	15.16	38.98	261	90	64	49	79.15	50
Maragua	Murang'a	5.03	19.42	17.74	36.86	260	108	22	70	79.05	51
Nakuru North	Nakuru	6.40	21.00	15.42	36.21	142	1	54	77	79.03	52
Sotik	Bomet	8.11	20.95	14.15	35.51	6	53	124	82	78.72	53
Kandara	Murang'a	4.98	20.96	14.89	37.70	265	52	77	65	78.52	54
Mandera South	Mandera	7.32	16.00	7.91	47.27	36	187	264	17	78.49	55
Ndaragwa	Nyandarua	7.04	18.50	14.55	38.33	63	131	92	59	78.41	56
Thika	Kiambu	6.46	18.46	16.19	36.92	135	152	38	69	78.04	57
Kilome	Makueni	5.61	20.94	24.63	26.82	211	59	2	171	78.00	58
Kirinyaga North	Kirinyaga	7.33	21.00	14.61	34.85	34	1	88	87	77.79	59
Sigowet	Kericho	7.04	17.38	14.59	38.69	64	172	89	52	77.69	60
Rangwe	Homa Bay	7.60	15.97	8.22	45.88	16	248	256	21	77.67	61
Nyatike	Migori	5.26	20.15	14.41	37.68	246	87	96	66	77.50	62
Kirinyaga Central	Kirinyaga	7.46	20.98	14.52	34.52	23	31	93	92	77.48	63
Kesses	Uasin Gishu	5.39	16.00	8.07	47.96	232	187	262	16	77.42	64

		Scores				Ranking				Final Score	Overall Ranking
Sub County	County	Timeliness	Accuracy	Completeness	QOC	Timeliness	Accuracy	Completeness	QOC		
Narok South	Narok	7.43	15.98	13.58	40.41	27	243	158	39	77.41	65
Fafi	Garissa	4.31	16.00	8.45	48.28	284	187	252	14	77.04	66
Webuye West	Bungoma	6.84	20.93	27.48	21.72	81	66	1	225	76.97	67
Kitui South	Kitui	6.51	19.97	13.73	36.67	124	92	151	73	76.89	68
Mandera West	Mandera	7.30	15.92	9.24	44.42	39	279	243	24	76.87	69
Rachuonyo South	Homa Bay	8.00	19.31	14.27	35.23	8	110	110	85	76.81	70
Mathare	Nairobi	5.53	19.26	14.96	36.83	215	115	74	72	76.58	71
Ndhiwa	Homa Bay	7.25	20.93	14.56	33.56	46	63	91	103	76.30	72
Kiminini	Trans Nzoia	4.88	18.49	15.06	37.79	268	144	69	64	76.22	73
Rachuonyo North	Homa Bay	7.37	17.23	13.41	38.21	30	177	168	60	76.22	74
Kangema	Murang'a	4.98	20.89	14.77	35.53	262	69	80	81	76.17	75
Kipkelion	Kericho	7.41	17.18	16.91	34.67	28	181	30	90	76.17	76
Kajiado North	Kajiado	7.48	18.50	12.98	37.19	20	131	193	68	76.15	77
South Mugirango	Kisii	6.58	19.29	17.90	31.99	110	113	19	118	75.76	78
Emgwen	Nandi	7.47	19.73	14.52	33.69	22	98	94	99	75.41	79
Kabondo	Homa Bay	7.44	15.96	8.47	43.42	26	254	251	29	75.29	80
Gem	Siaya	5.82	15.99	15.05	38.35	195	236	70	58	75.21	81
Laikipia North	Laikipia	6.71	15.94	14.59	37.90	96	269	90	63	75.13	82
Juja	Kiambu	6.32	17.22	12.92	38.56	154	178	198	55	75.02	83
Koibatek	Baringo	6.92	20.97	13.56	33.46	75	45	159	104	74.91	84
Trans Mara East	Narok	6.84	20.96	13.51	33.59	82	46	163	102	74.90	85
Laikipia East	Laikipia	7.13	20.96	15.12	31.68	58	49	65	121	74.89	86
Kajiado East	Kajiado	7.15	20.98	12.92	33.82	54	37	197	96	74.87	87
Nandi Hills	Nandi	7.44	21.00	13.98	32.22	25	1	134	117	74.65	88
Muhoroni	Kisumu	5.35	20.97	12.12	36.07	238	42	232	79	74.50	89
Kinangop	Nyandarua	7.34	15.94	17.07	34.12	33	267	29	93	74.47	90
Lamu East	Lamu	8.29	15.92	8.33	41.86	3	277	254	36	74.40	91
Kitutu Chache South	Kisii	6.56	20.97	14.22	32.57	115	39	115	112	74.32	92
Changamwe	Mombasa	6.64	20.73	17.10	29.60	105	74	28	132	74.07	93
Kajiado South	Kajiado	7.54	17.89	13.07	35.26	18	162	184	84	73.76	94
Kitui East	Kitui	6.43	20.98	15.44	30.78	139	35	53	127	73.62	95
Kiambu	Kiambu	6.83	18.46	12.50	35.55	83	153	218	80	73.34	96
Mwingi North	Kitui	6.64	18.73	13.19	34.57	104	128	180	91	73.12	97

		Scores				Ranking				Final Score	Overall Ranking
Sub County	**County**	**Timeliness**	**Accuracy**	**Completeness**	**QOC**	**Timeliness**	**Accuracy**	**Completeness**	**QOC**		
Kanduyi	Bungoma	6.76	20.15	12.43	33.65	88	88	221	100	72.99	98
Westlands	Nairobi	5.34	17.24	13.76	36.63	240	175	149	74	72.98	99
Kabete	Kiambu	6.57	21.00	13.84	31.47	112	1	144	123	72.88	100
Nakuru East	Nakuru	6.78	18.95	15.19	31.78	87	123	62	120	72.69	101
Lari	Kiambu	6.55	20.82	12.73	32.58	118	73	206	111	72.68	102
Mumias West	Kakamega	6.38	20.97	16.54	28.41	149	40	35	150	72.30	103
Bonchari	Kisii	6.70	17.67	14.97	32.95	99	163	73	107	72.29	104
Meru Central	Meru	6.28	18.43	16.31	31.20	158	156	37	124	72.23	105
Kisauni	Mombasa	6.28	19.72	13.45	32.73	157	100	167	109	72.19	106
Nyali	Mombasa	6.55	18.91	14.02	32.55	116	125	129	113	72.04	107
Roysambu	Nairobi	4.96	17.20	13.73	36.12	266	180	152	78	72.00	108
Matungu	Kakamega	6.26	15.96	13.05	36.63	160	257	186	75	71.90	109
Voi	Taita Taveta	6.22	19.75	17.19	28.45	167	96	27	149	71.61	110
Emuhaya	Vihiga	6.80	21.00	22.00	21.75	85	1	4	224	71.55	111
Isiolo	Isiolo	4.46	20.47	12.90	33.70	281	77	200	98	71.52	112
Taveta	Taita Taveta	5.52	21.00	19.01	25.66	216	1	16	184	71.20	113
Mosop	Nandi	6.68	21.00	13.92	29.40	101	1	140	135	71.00	114
Chepalungu	Bomet	7.72	20.96	14.16	28.13	11	50	122	153	70.97	116
Kaloleni	Kilifi	6.59	15.96	13.04	35.30	109	258	187	83	70.88	117
Langata	Nairobi	5.65	17.99	14.38	32.85	208	160	99	108	70.88	118
Bura	Tana River	7.06	15.94	14.25	33.37	61	266	112	105	70.62	119
Subukia	Nakuru	6.54	20.95	13.94	28.98	119	54	139	143	70.41	120
Malava	Kakamega	6.23	15.90	13.22	35.00	165	283	177	86	70.36	121
Kajiado West	Kajiado	7.31	20.88	12.67	29.32	37	70	208	138	70.18	122
KONOIN	Bomet	8.41	16.00	8.90	36.86	2	187	245	71	70.17	123
Embu East	Embu	6.95	19.96	15.26	27.92	73	93	56	160	70.08	124
Ojororok	Nyandarua	7.07	15.84	8.19	38.95	60	287	258	50	70.05	125
WUNDANYI	Taita Taveta	5.98	15.93	15.78	32.27	186	275	47	116	69.95	126
West Pokot	Pokot	5.79	20.29	13.33	30.36	199	80	173	128	69.77	127
Starehe	Nairobi	5.42	18.71	16.00	29.59	231	130	44	133	69.72	128
Bobasi	Kisii	6.24	15.96	8.11	39.24	163	255	260	44	69.55	129
Bumula	Bungoma	6.70	21.00	13.08	28.58	97	1	183	145	69.36	130
Kirinyaga East	Kirinyaga	7.26	21.00	16.04	24.73	42	1	43	188	69.02	131
Olkalou	Nyandarua	7.01	18.50	14.05	29.09	67	131	128	142	68.65	132
Borabu	Nyamira	6.39	15.94	17.86	28.03	143	268	20	155	68.22	133

		Scores				Ranking				Final Score	Overall Ranking
Sub County	County	Timeliness	Accuracy	Completeness	QOC	Timeliness	Accuracy	Completeness	QOC		
Bomet East	Bomet	8.43	17.61	13.49	28.48	1	169	166	147	68.01	134
Suna West	Migori	5.39	17.00	13.68	31.82	232	182	153	119	67.88	135
Kapsaret	Uasin Gishu	5.57	15.96	13.55	32.69	214	256	160	110	67.77	136
Athi River	Machakos	5.76	16.00	12.38	33.62	200	187	225	101	67.76	137
Soy	Uasin Gishu	5.10	16.00	13.49	32.99	254	187	165	106	67.58	138
Matayos	Busia	6.39	19.51	13.00	28.39	146	107	190	151	67.29	139
Kajiado Central	Kajiado	7.10	18.45	11.84	29.88	59	154	236	131	67.26	140
Rarieda	Siaya	5.72	15.95	19.29	26.27	205	264	13	176	67.22	141
Bomachoge Borabu	Kisii	6.35	21.00	14.06	25.74	151	1	127	183	67.14	142
Laisamis	Marsabit	5.33	16.00	7.77	38.02	241	187	269	61	67.12	143
Mwatate	Taita Taveta	6.44	18.50	16.18	25.94	138	131	39	181	67.06	144
Mathioya	Murang'a	5.09	20.88	14.80	26.27	255	70	78	175	67.05	145
Moyale	Marsabit	5.90	18.83	14.38	27.80	189	127	100	161	66.91	146
Lugari	Kakamega	6.21	18.50	12.88	29.24	168	131	201	140	66.83	147
Belgut	Kericho	7.23	16.00	8.70	34.85	49	187	247	88	66.78	148
Pokot North	Pokot	5.94	19.23	13.62	27.99	188	116	156	159	66.77	150
Gatundu	Kiambu	6.56	20.93	13.08	26.01	114	65	181	180	66.59	151
Makadara	Nairobi	5.50	19.74	13.97	27.27	220	97	137	168	66.48	152
Mwala	Machakos	5.31	20.97	13.75	26.45	242	44	150	174	66.47	153
Cheptais	Bungoma	6.46	21.00	11.19	27.65	133	1	238	165	66.31	154
Baringo North	Baringo	6.78	17.67	15.75	26.03	86	163	48	179	66.23	155
Kilifi South	Kilifi	6.27	18.50	13.54	27.72	159	131	162	163	66.03	156
Tinderet	Nandi	7.27	16.00	8.77	33.86	41	187	246	95	65.90	157
Tigania East	Meru	6.32	20.97	16.39	22.15	155	38	36	218	65.83	158
Saboti	Trans Nzoia	4.86	18.50	14.78	27.62	270	131	79	166	65.77	159
Pokot South	Pokot	6.06	19.94	16.82	22.87	180	94	32	209	65.69	160
Saku	Marsabit	5.45	17.98	12.74	29.39	227	161	205	137	65.56	161
Masinga	Machakos	5.63	21.00	13.96	24.92	210	1	138	186	65.51	162
Chesumei	Nandi	7.24	16.00	14.22	28.02	47	187	113	157	65.48	163
Kiharu	Murang'a	5.12	18.96	15.23	26.10	252	122	59	177	65.41	165
Buuri	Meru	6.01	20.36	15.04	23.99	185	78	71	194	65.40	166
Suba	Homa Bay	7.87	18.40	18.68	20.19	10	157	17	242	65.14	167
Turkana West	Turkana	6.53	16.33	12.35	29.94	121	186	226	130	65.14	168
Rongo	Migori	5.06	21.00	17.29	21.54	258	1	25	228	64.89	169
Kitui West	Kitui	6.72	18.50	16.04	23.61	95	131	42	197	64.86	170
Garissa	Garissa	4.39	20.99	11.00	28.25	283	30	239	152	64.62	171
Dagoretti	Nairobi	5.07	19.31	14.09	26.08	256	112	125	178	64.55	172

		Scores				Ranking				Final Score	Overall Ranking
Sub County	County	Timeliness	Accuracy	Completeness	QOC	Timeliness	Accuracy	Completeness	QOC		
Njoro	Nakuru	5.64	20.96	13.79	24.10	209	48	145	191	64.49	173
Sirisia	Bungoma	6.51	16.00	12.57	29.40	125	187	214	134	64.49	174
Ganze	Kilifi	6.50	16.00	8.09	33.73	127	187	261	97	64.32	175
Samburu North	Samburu	7.55	21.00	12.77	22.98	17	1	203	207	64.30	176
Nyando	Kisumu	5.46	18.50	11.73	28.57	226	131	237	146	64.26	177
Kathiani	Machakos	5.82	20.17	14.62	23.63	194	86	86	196	64.24	178
Kitui Rural	Kitui	7.25	16.00	8.48	32.43	44	187	250	114	64.16	179
Yatta	Machakos	4.75	17.67	13.99	27.65	272	163	132	164	64.06	180
Kigumo	Murang'a	5.11	20.93	15.08	22.91	253	64	66	208	64.02	181
Keiyo South	Elgeyo Marakwet	7.25	21.00	12.97	22.33	45	1	194	214	63.56	182
Shinyalu	Kakame-ga	5.81	15.96	12.43	29.31	196	259	222	139	63.50	183
Turkana South	Turkana	7.03	18.37	12.07	25.92	65	158	233	182	63.39	184
Githunguri	Kiambu	5.44	15.98	12.61	29.17	229	239	212	141	63.20	185
Kalama	Machakos	5.49	16.00	13.55	28.08	221	187	161	154	63.11	186
Lamu West	Lamu	8.20	15.93	7.53	31.20	4	271	273	125	62.86	187
Kibwezi West	Makueni	5.50	18.47	17.20	21.40	218	149	26	229	62.57	188
Msambweni	Kwale	5.16	15.96	12.98	28.45	250	261	192	148	62.55	189
Kuria East	Migori	4.65	18.50	12.60	26.71	276	131	213	172	62.47	190
Matungulu	Machakos	5.35	16.00	13.76	27.24	236	187	147	169	62.35	191
Kaiti	Makueni	5.29	16.00	20.65	20.39	243	187	6	239	62.33	192
Kirinyaga West	Kirinyaga	6.94	21.00	16.57	17.82	74	1	34	261	62.33	193
Teso South	Busia	5.85	21.00	14.66	20.53	191	1	84	237	62.04	194
Kimilili Bungoma	Bungoma	6.70	20.93	13.64	20.77	98	61	155	236	62.04	195
Kabuchai	Bungoma	6.69	15.95	6.94	32.32	100	262	283	115	61.91	196
Machakos	Machakos	6.03	19.06	13.28	23.44	182	121	174	199	61.81	197
Igembe North	Meru	6.26	20.14	16.08	19.20	162	89	41	251	61.67	198
Likoni	Mombasa	6.49	19.09	15.01	21.08	130	118	72	233	61.67	199
Turbo	Uasin Gishu	5.68	16.00	8.22	31.55	207	187	257	122	61.46	200
Suna East	Migori	5.34	18.48	15.25	22.28	239	146	57	216	61.36	201
Makueni	Makueni	5.47	18.48	15.24	22.09	224	147	58	219	61.28	202
Bondo	Siaya	5.83	18.94	14.18	21.99	193	124	120	222	60.94	203
Ruiru	Kiambu	6.50	17.45	12.95	24.04	128	171	196	192	60.94	204
Narok North	Narok	7.17	15.97	12.65	24.92	53	251	209	187	60.72	205
Naivasha	Nakuru	6.91	16.52	14.08	23.20	77	185	126	202	60.71	206
Alego Usonga Zone- A	Siaya	5.74	15.99	14.18	24.69	203	237	118	189	60.60	207
Tigania West	Meru	6.36	20.29	15.45	18.46	150	80	52	257	60.56	208

		Scores				Ranking				Final Score	Overall Ranking
Sub County	County	Timeliness	Accuracy	Completeness	QOC	Timeliness	Accuracy	Completeness	QOC		
Hamisi	Vihiga	6.14	20.96	14.65	18.67	175	47	85	255	60.42	209
Turkana North	Turkana	6.55	16.00	10.49	27.37	117	187	240	167	60.41	210
Gilgil	Nakuru	6.92	18.50	14.41	20.51	76	131	97	238	60.34	211
Bomet Central	Bomet	8.12	16.98	12.55	22.57	5	183	216	212	60.21	212
Lurambi	Kakamega	6.43	15.97	13.50	24.17	140	250	164	190	60.07	213
Kitui Central	Kitui	7.39	19.32	15.64	17.69	29	109	49	263	60.05	214
Kisumu West	Kisumu	4.67	15.99	12.50	26.84	273	238	219	170	59.99	215
Mvita	Mombasa	6.38	20.27	13.85	19.36	147	82	142	249	59.86	216
Kibwezi East	Makueni	5.50	20.27	15.22	18.80	219	84	61	253	59.79	217
Rabai	Kilifi	6.08	16.00	7.64	30.06	179	187	271	129	59.78	218
Samburu East	Samburu	7.61	18.43	12.22	21.39	14	155	230	231	59.66	219
Imenti North	Meru	6.51	20.63	13.76	18.73	126	76	148	254	59.63	220
Samburu Central	Samburu	8.02	19.91	12.15	19.51	7	95	231	247	59.58	221
Kuresoi	Nakuru	6.57	16.00	13.40	23.29	113	187	169	200	59.26	222
Masaba North	Nyamira	6.50	16.00	15.06	21.67	129	187	68	226	59.23	223
Malindi	Kilifi	6.54	20.92	12.64	19.01	120	68	210	252	59.11	224
Pokot Central	Pokot	5.84	18.00	12.29	22.70	192	159	228	210	58.83	225
Kinango	Kwale	5.14	17.23	13.21	23.12	251	176	178	204	58.70	226
Cherang'any	Trans Nzoia	4.63	21.00	14.49	18.50	278	1	95	256	58.61	227
Nyamira North	Nyamira	6.02	16.00	8.51	28.02	184	187	249	156	58.56	228
Sabatia	Vihiga	6.16	15.95	14.32	22.05	172	265	106	220	58.48	229
Turkana East	Turkana	6.42	15.90	12.41	23.51	141	282	224	198	58.24	230
Endebes	Trans Nzoia	4.89	16.00	14.18	23.12	267	187	117	203	58.19	231
Butula	Busia	6.09	16.00	13.84	22.17	178	187	143	217	58.10	232
Wajir North	Wajir	6.16	15.93	8.13	27.75	173	272	259	162	57.97	233
Loima	Turkana	6.65	15.85	13.05	22.02	103	285	185	221	57.58	234
Turkana Central	Turkana	7.15	17.20	13.08	20.14	56	179	182	243	57.57	235
Teso North	Busia	6.39	18.50	14.17	18.41	145	131	121	258	57.47	236
Nyakach	Kisumu	4.63	16.00	7.97	28.67	277	187	263	144	57.28	237
Wajir East	Wajir	5.95	20.94	12.63	17.72	187	57	211	262	57.25	238
Kikuyu	Kiambu	6.58	20.94	13.36	16.18	111	58	171	271	57.06	239
Kisumu Central	Kisumu	4.98	16.95	11.85	23.26	263	184	235	201	57.05	240
Kibra	Nairobi	5.44	17.55	12.57	21.39	228	170	215	230	56.95	241

		Scores				Ranking				Final Score	Overall Ranking
Sub County	**County**	**Timeliness**	**Accuracy**	**Completeness**	**QOC**	**Timeliness**	**Accuracy**	**Completeness**	**QOC**		
Mwingi West	Kitui	7.15	18.47	14.38	16.57	55	150	101	269	56.57	242
Embakasi	Nairobi	5.47	18.72	14.30	17.92	225	129	107	260	56.41	243
Iungalunga	Kwale	5.07	16.00	12.53	22.42	257	187	217	213	56.01	244
Nyeri South	Nyeri	6.11	19.67	13.19	16.75	177	105	179	268	55.72	245
Mt. Elgon	Bungoma	6.22	15.93	7.00	26.52	166	275	281	173	55.67	246
Marakwet East	Elgeyo Marakwet	7.33	16.00	12.87	19.44	35	187	202	248	55.63	247
Khwisero	Kakamega	6.03	16.00	12.91	20.27	183	187	199	241	55.21	248
Magarini	Kilifi	6.39	16.00	7.16	25.36	144	187	278	185	54.91	249
Tana River	Tana River	6.73	15.92	14.26	17.36	92	279	111	265	54.27	250
Vihiga	Vihiga	6.86	15.98	15.18	15.90	79	247	63	272	53.91	251
Marakwet West	Elgeyo Marakwet	7.00	21.00	12.05	13.71	68	1	234	279	53.77	252
Wajir West	Wajir	6.04	15.93	9.38	21.96	181	274	241	223	53.30	253
Kuresoi South	Nakuru	6.73	17.25	14.91	14.36	93	173	75	275	53.25	254
Garbatula	Isiolo	2.76	16.00	14.27	19.94	288	187	109	245	52.98	255
Limuru	Kiambu	6.30	16.00	7.49	23.10	156	187	274	205	52.89	258
Kirinyaga South	Kirinyaga	7.05	18.48	14.33	12.14	62	145	105	282	52.01	259
Kamukunji	Nairobi	5.16	20.35	14.35	12.00	249	79	103	283	51.86	260
Kangundo	Machakos	5.76	20.98	13.33	11.77	201	32	172	285	51.84	261
Keiyo North	Elgeyo Marakwet	7.29	20.95	12.48	11.06	40	56	220	286	51.77	262
Navakholo	Kakamega	6.15	16.00	12.72	16.83	174	187	207	266	51.71	263
Kitutu Chache North	Kisii	6.52	16.00	8.26	20.87	122	187	255	235	51.65	264
Ijara	Garissa	3.86	16.00	7.83	23.71	286	187	268	195	51.40	265
Kwanza	Trans Nzoia	4.88	16.00	7.85	22.61	269	187	266	211	51.33	266
Tongaren	Bungoma	5.73	16.00	13.03	16.52	204	187	188	270	51.28	267
Wajir South	Wajir	6.20	16.00	9.05	19.81	169	187	244	246	51.05	268
Kisumu East	Kisumu	5.19	15.96	7.58	22.30	247	260	272	215	51.02	269
Ainabkoi	Uasin Gishu	5.51	18.47	12.77	14.25	217	148	204	276	51.00	270
Butere	Kakamega	6.33	15.97	7.14	21.23	153	252	279	232	50.66	271
Seme	Kisumu	4.42	15.97	7.06	23.03	282	253	280	206	50.47	272
Kiambaa	Kiambu	6.52	15.93	6.98	21.01	123	273	282	234	50.44	273
North Horr	Marsabit	5.81	21.00	13.24	10.29	197	1	176	289	50.34	274
Nyeri North	Nyeri	5.48	20.97	13.37	10.39	222	43	170	288	50.21	275
Lagdera	Garissa	4.58	16.00	7.84	21.64	279	187	267	227	50.06	276

		Scores				Ranking				Final Score	Overall Ranking
Sub County	**County**	**Timeliness**	**Accuracy**	**Completeness**	**QOC**	**Timeliness**	**Accuracy**	**Completeness**	**QOC**		
Kuria West	Migori	4.56	16.00	14.18	14.21	280	187	119	277	48.95	277
Nambale	Busia	5.79	16.00	12.42	14.60	198	187	223	274	48.81	278
Webuye East	Bungoma	6.81	15.85	6.90	19.20	84	286	286	250	48.75	279
Merti	Isiolo	4.29	16.00	7.25	20.29	285	187	277	240	47.83	280
East Pokot	Baringo	6.26	17.25	12.26	11.82	161	173	229	284	47.59	281
Marigat	Baringo	6.72	15.98	6.92	17.56	94	246	285	264	47.17	282
Mwingi Central	Kitui	7.54	15.98	8.45	15.06	19	241	253	273	47.03	283
Kilifi North	Kilifi	6.75	15.97	6.21	17.97	89	248	288	259	46.92	284
Bunyala	Busia	5.42	16.00	7.41	16.80	230	187	276	267	45.64	285
Matuga	Kwale	5.28	16.00	7.48	13.98	245	187	275	278	42.73	286
Mogotio	Baringo	6.13	16.00	6.93	10.85	176	187	284	287	39.91	287
Kilifi	Kilifi	1.92	5.00	6.23	24.00	289	288	287	193	37.16	288

Annex 4: Coverage of TPT sensitizations and the partner who supported

County	County level	Sub county level	Facility level
Kiambu	CHAI	CHAI	CHAI
Nairobi	USAID-TB ARC II	USAID-TB ARC II	USAID-TB ARC II
Machakos	USAID-TB ARC II	WHO	Global Fund
Kajiado	Global fund	Global Fund	Global Fund
Kitui	USAID-TB ARC II	Global Fund	Global Fund
Makueni	USAID-TB ARC II	Global Fund	Global Fund
Embu	USAID-TB ARC II	Global Fund	Global Fund
Kirinyaga	Global fund	Global Fund	Global Fund
Murang'a	Global fund	Global Fund	Global Fund
Nyeri	Global fund	Global Fund	Global Fund
Nyandarua	Global fund	Global Fund	Global Fund
Mombasa	USAID-TB ARC II	Stawisha Pwani	Stawisha Pwani
Kwale	USAID-TB ARC II	Stawisha Pwani	Stawisha Pwani
Kilifi	Stawisha Pwani	Stawisha Pwani	Stawisha Pwani
Taita Taveta	USAID-TB ARC II	Stawisha Pwani	Stawisha Pwani
Narok	Global Fund	Walter Reed	Walter Reed
Kericho	Global Fund	Walter Reed	Walter Reed
Nandi	Global Fund	Walter Reed	Walter Reed
Bomet	Global Fund	Walter Reed	Walter Reed
Uasin Gishu	Global Fund	AMPATH	AMPATH
West Pokot	Global Fund	AMPATH	AMPATH
Trans Nzoia	Global Fund	AMPATH	AMPATH
Elgeyo Marakwet	Global Fund	AMPATH	AMPATH
Kisumu	KCCB	USAID-TB ARC II	CDC
Homa Bay	KCCB	USAID-TB ARC II	CDC
Siaya	KCCB	USAID-TB ARC II	CDC
Nyamira	Global Fund	USAID-TB ARC II	CDC
Meru	USAID-TB ARC II	USAID-TB ARC II	USAID-TB ARC II
Tharaka Nithi	USAID-TB ARC II	USAID-TB ARC II	USAID-TB ARC II
Isiolo	Global Fund	USAID-TB ARC II	USAID-TB ARC II
Busia	KCCB	USAID- iNTP	USAID- iNTP
Bungoma	KCCB	USAID- iNTP	USAID- iNTP
Vihiga	KCCB	USAID- iNTP	USAID- iNTP
Kakamega	KCCB	USAID- iNTP	USAID- iNTP
Baringo	Global Fund	USAID- iNTP	USAID- iNTP

County	County level	Sub county level	Facility level
Kisii	KCCB	CDC	CDC
Migori	KCCB	No Partner Identified	No Partner Identified
Laikipia	Global Fund	No Partner Identified	No Partner Identified
Nakuru	Global Fund	No Partner Identified	No Partner Identified
Samburu	Global Fund	No Partner Identified	No Partner Identified
Turkana	Global Fund	No Partner Identified	No Partner Identified
Garissa	Global Fund	No Partner Identified	No Partner Identified
Mandera	Global Fund	No Partner Identified	No Partner Identified
Wajir	Global Fund	No Partner Identified	No Partner Identified
Lamu	USAID-TB ARC II	No Partner Identified	No Partner Identified
Tana River	USAID-TB ARC II	No Partner Identified	No Partner Identified
Marsabit	Global Fund	No Partner Identified	No Partner Identified

Key
Green- Training has been conducted
Yellow- Training has not been conducted

Annex 5: List of contributors

Name	Organization
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Maero Lutta	KCCB Komesha TB

COUNTY PROFILES

COUNTY PROFILES

Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	176	160	179	193	172	148	154
DSTB TSR	87.2	82.3	83	84.5	85.8	84.3	-
DSTB Cure rate	78.4	70.1	71.1	67.7	73.4	79.4	-

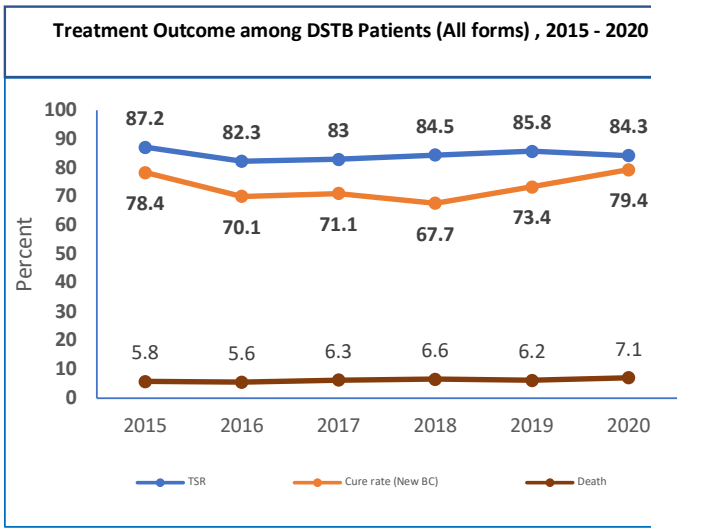
DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	80,118	74,398	83,394	94,496	84,504	72,659	77,854
TB among children (< 15)	6,708	6,250	7,296	9,718	8,412	5,954	7,852
Proportion of childhood TB	*8.4%*	*8.4%*	*8.7%*	*10.3%*	*10.0%*	*8.2%*	*10.1%*

DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	37,931	39,995	43,164	43,127	43,413	38,679	39,335
New Clinically Diagnosed	22,117	17,328	21,901	31,271	24,631	18,299	22,610
Previously Treated	5,932	4,155	5,105	6,551	6,739	5,927	5,978
Extra Pulmonary	14,138	13,224	13,224	13,547	11,721	10,117	9,931
Totals	**80,118**	**74,702**	**83,394**	**94,496**	**86,504**	**73,022**	**77,854**

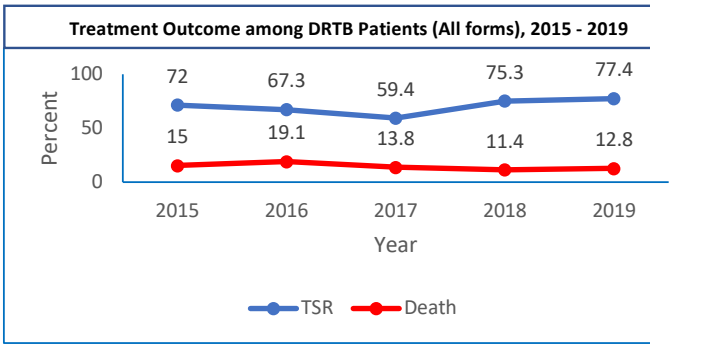
Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	18.2	17.9	22.2	18	18.7	20.5	19.7

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	97.4	96.5	97.1	97.8	100	98.7	97.1
TB/ HIV Co- infection rate	32.6	30.5	28.2	26.9	26.2	24.9	23.3
ART uptake	95.9	95.5	96.6	96.9	96.4	97.5	96.4
CPT Uptake	99.5	98.6	99	98.9	99	96.9	98

Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	42.8	41.8	37.6	39.8	46.2	45.5	47.1
Proportion of malnourished on food support (RUTF/FBF)	20.3	21.7	27	28.7	28.2	17	14.5



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	95	158	238	370	368	437	388
MDR	200	154	124	113	134	154	77
Mono Resistant	131	120	143	178	168	341	328
PDR	23	7	5	8	8	17	7
Pre XDR	**0**	1	3	11	8	9	4
XDR	1	1	3	1	1	1	0
Total	**450**	**441**	**516**	**681**	**687**	**959**	**804**



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	41,903	43,021	46,647	47,170	39,689	43,487	44,346
Number of <5 on TPT	5,691	8,565	10,270	7,698	7,774	8,755	6,274
TPT Uptake among <5 (%)	40.7	59.7	66	48.9	58.7	60.3	42.4

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	130	97	91	109	149	94	97

BARINGO

Baringo County

Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	93	94	90	112	108	106	118
DSTB TSR	86.2	81.9	81.3	81.3	81.7	84.7	-
DSTB Cure rate	76	60.4	53.9	45.9	54.3	55.2	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	620	645	648	841	786	724	832
TB among children (< 15)	58	51	51	73	91	85	104
Proportion of childhood TB	*9.4%*	*7.9%*	*7.9%*	*8.7%*	*11.6%*	*11.7%*	*12.5%*

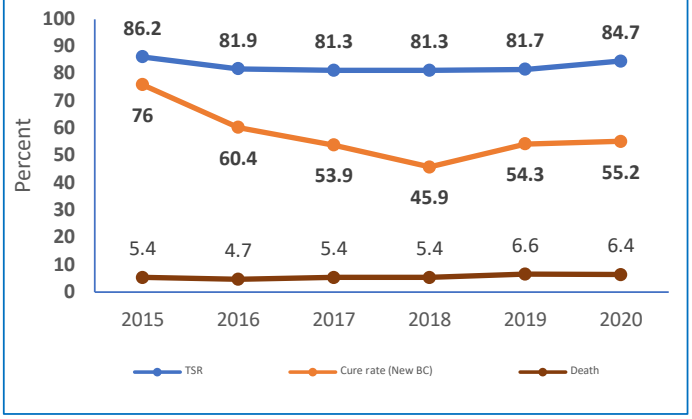
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	297	405	408	498	478	425	499
New Clinically Diagnosed	141	88	77	165	159	147	186
Previously Treated	54	44	55	60	88	74	79
Extra Pulmonary	128	108	108	118	110	81	68
Totals	620	645	648	841	835	727	832

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	2.4	2.4	4.3	4.9	3.3	3	5.5

TBHIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	91.6	85.5	88.8	92.3	100	94.6	98.1
TB / HIV Co- infection rate	25.8	19.5	17.5	17.7	15.6	13.1	16.8
ART uptake	94.3	95.2	99.1	93.9	95.1	90.5	93.5
CPT Uptake	98.7	100	99.1	96.6	96.7	80	97.8

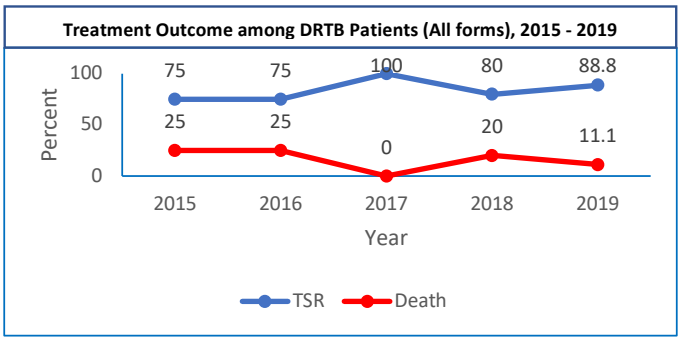
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	50.3	46.3	50.4	54.5	63.1	64.2	65
Proportion of malnourished on food support (RUTF/FBF)	35.4	23.7	29.6	32.6	36	28.5	35.3

Treatment Outcome among DSTB Patients (All forms), 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	1	6	8	5	7	5	2
MDR	2	0	2	0	0	1	2
Mono Resistant	1	2	1	0	2	4	6
PDR	0	0	0	0	0	0	0
Pre XDR	0	0	0	0	0	0	1
XDR	0	0	0	0	0	0	0
Total	4	8	11	5	9	10	11

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	339	443	453	539	330	488	556
Number of <5 on TPT	35	103	49	39	44	81	126
TPT Uptake among <5 (%)	30.9	69.7	32.4	21.7	40	49.7	67.9

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	0	0	2	1	2	0	0

BOMET

Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	2015	2016	2017	2018	2019	2020	2021
CNR	185	152	166	176	190	186	183
DSTB TSR	89.7	88	81	87.1	89.8	84.9	-
DSTB Cure rate	71.6	63.4	66.5	63.3	74.1	76.5	-

DSTB Cases Notified, 2015 - 2021							
Type of TB	2015	2016	2017	2018	2019	2020	2021
New Bacteriologicall y Confirmed	624	657	895	885	1,009	930	875
New Clinically Diagnosed	465	368	352	524	428	338	468
Previously Treated	44	37	91	105	108	99	79
Extra Pulmonary	326	209	209	255	261	310	270
Totals	**1,459**	**1,271**	**1,547**	**1,769**	**1,806**	**1,677**	**1,692**

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	2015	2016	2017	2018	2019	2020	2021
HIV Testing	97	94.1	96.7	97.2	100	97.9	91.2
TB / HIV Co- infection rate	24.1	22.6	18.4	21.7	21.2	23.3	19.6
ART uptake	93.2	95.9	97.9	95.8	97.8	96.9	99.3
CPT Uptake	99.1	100	99.6	99.2	99.7	97.4	99

Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	2015	2016	2017	2018	2019	2020	2021
Proportion Malnourished (<18.5)	40.5	41.7	43.6	39.8	43.7	43.6	43.2
Proportion of malnourished on food support (RUTF/FBF)	20.3	21.6	41.6	32.8	25.3	12.6	14.8

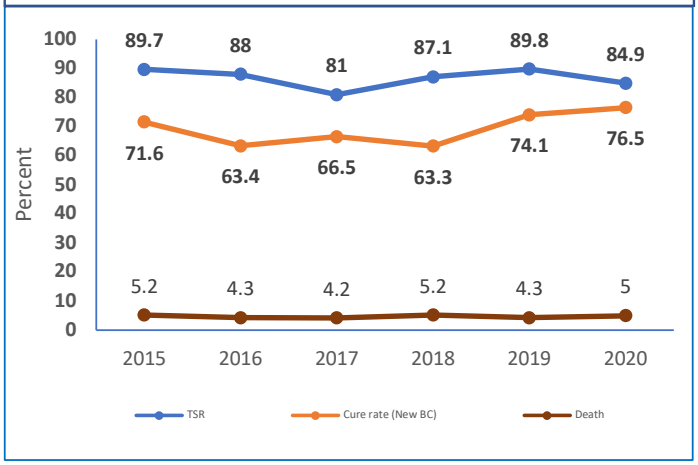
DRTB Cases Notified, 2015-2021							
Resistant Patterns	2015	2016	2017	2018	2019	2020	2021
Rifampicin Resistant	0	1	1	7	6	12	10
MDR	5	1	4	0	0	1	0
Mono Resistant	0	0	2	5	2	2	1
PDR	0	0	0	0	0	0	0
Pre XDR	1	0	1	0	2	0	0
XDR	0	0	0	0	0	0	0
Total	**6**	**2**	**8**	**12**	**10**	**15**	**11**

TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	2015	2016	2017	2018	2019	2020	2021
Number PTB BC	648	678	959	956	688	1,013	939
Number of <5 on TPT	11	121	311	188	253	303	119
TPT Uptake among <5 (%)	5	53.5	97.2	58.9	110.3	89.7	38

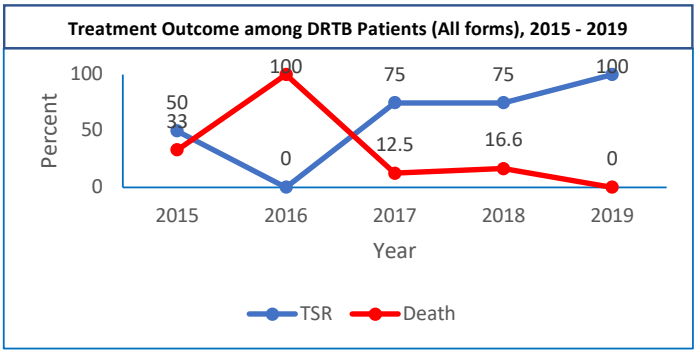
DSTB Cases Notified, 2015 - 2021							
Category	2015	2016	2017	2018	2019	2020	2021
All cases	1,459	1,322	1,547	1,769	1,728	1,673	1,692
TB among children (< 15)	134	113	132	183	157	127	177
Proportion of childhood TB	*9.2%*	*8.5%*	*8.5%*	*10.3%*	*9.1%*	*7.6%*	*10.5%*

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	2015	2016	2017	2018	2019	2020	2021
Contribution by Private Sector (%)	4.1	4.1	13.6	21	27.6	30.7	27.4

Treatment Outcome among DSTB Patients (All forms), 2015 - 2020



Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	2015	2016	2017	2018	2019	2020	2021
Number of Leprosy Cases	0	0	0	1	0	0	1

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	93	108	118	118	94	71	77
DSTB TSR	87.5	85	85.5	85.2	83.6	80.9	-
DSTB Cure rate	81.5	76.6	76.3	58.9	71.3	77.4	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	1,511	1,847	2,083	2,049	1,585	1,217	1,374
TB among children (< 15)	172	186	244	223	174	131	174
Proportion of childhood TB	*11.4%*	*10.1%*	*11.7%*	*10.9%*	*11.0%*	*10.8%*	*12.7%*

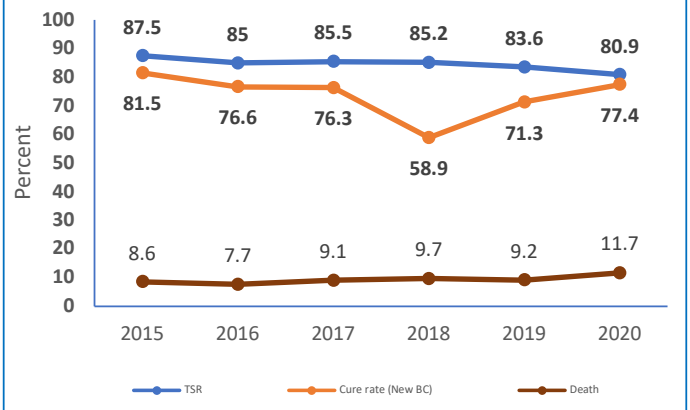
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	646	947	908	930	907	763	820
New Clinically Diagnosed	422	442	683	699	355	216	293
Previously Treated	114	140	155	135	149	110	117
Extra Pulmonary	329	337	337	285	200	138	144
Totals	**1,511**	**1,866**	**2,083**	**2,049**	**1,611**	**1,227**	**1,374**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	3.9	2.9	21.5	15.2	13.7	11.4	12

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	98.4	97.2	97.7	98.1	100	99	93.7
TB/HIV Co- infection rate	31.1	29.1	27.2	25	24.4	23.8	23.7
ART uptake	97.6	96.4	97.8	94.5	95.8	94.8	92.9
CPT Uptake	100	99.6	99.6	97.8	99.4	95.1	94.8

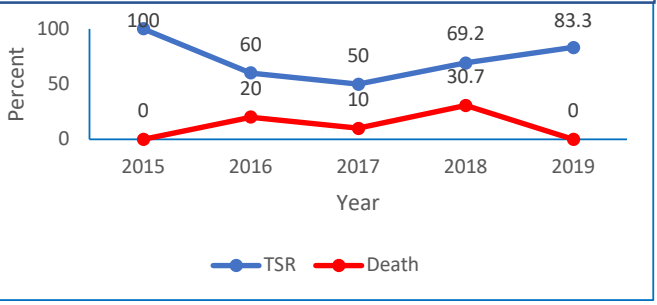
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	42.1	39.2	36.6	35.3	41.7	45.4	46.2
Proportion of malnourished on food support (RUTF/FBF)	19.7	19.7	23.3	27.1	23.4	17.5	24.4

Treatment Outcome among DSTB Patients (All forms), 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	0	6	5	8	10	5	7
MDR	3	0	2	1	5	2	0
Mono Resistant	2	4	2	4	3	6	4
PDR	0	0	0	0	0	1	0
Pre XDR	0	0	0	0	0	4	0
XDR	0	0	0	0	0	0	0
Total	**5**	**10**	**9**	**13**	**18**	**18**	**11**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	737	1,046	988	1,006	757	843	918
Number of <5 on TPT	107	252	236	250	260	232	159
TPT Uptake among <5 (%)	43.5	72.2	71.6	74.5	103	82.5	51.9

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	2	1	6	1	3	2	1

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	137	107	153	148	126	80	100
DSTB TSR	85.4	83.8	83.3	83.7	83.3	84.1	-
DSTB Cure rate	79	69.5	74	65.1	77	82.2	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	1,185	941	1,300	1,285	1,098	734	948
TB among children (< 15)	112	93	130	137	100	49	99
Proportion of childhood TB	*9.5%*	*9.9%*	*10.0%*	*10.7%*	*9.1%*	*6.7%*	*10.4%*

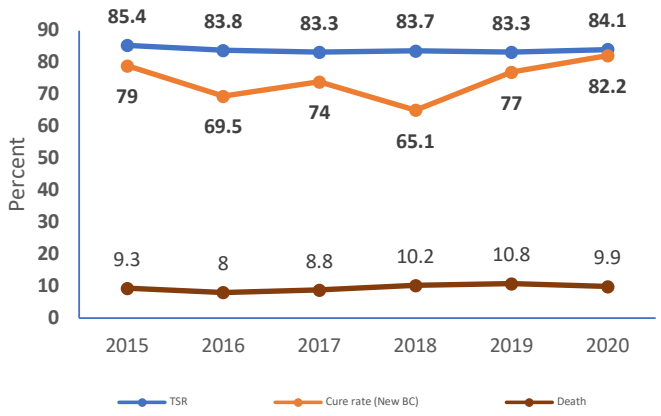
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	425	476	663	588	480	422	455
New Clinically Diagnosed	427	253	392	447	451	185	355
Previously Treated	120	68	80	96	83	43	62
Extra Pulmonary	213	165	165	154	97	86	76
Totals	**1,185**	**962**	**1,300**	**1,285**	**1,111**	**736**	**948**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	10.8	15	17	10.1	12.1	14	16

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	99	96.4	98.6	98.7	100	98.7	96.8
TB / HIV Co- infection rate	46.4	43.5	41.4	40.6	37.9	34.7	32.3
ART uptake	98.9	98.5	99.8	98	97.8	97.6	93.4
CPT Uptake	99.4	98.7	99.8	99.2	98.8	84.7	95.7

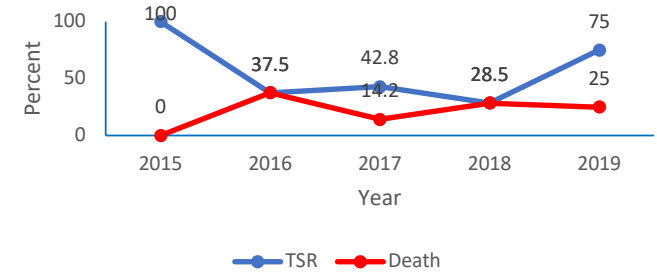
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	40.7	41.2	31.7	35.1	43.8	46.3	46.3
Proportion of malnourished on food support (RUTF/FBF)	29.7	33.4	40.8	33.6	31.7	13.7	18.2

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	2	1	3	6	2	5	4
MDR	1	2	2	0	1	5	1
Mono Resistant	1	5	2	1	0	3	9
PDR	0	0	0	0	1	0	0
Pre XDR	1	0	0	0	0	0	1
XDR	0	0	0	0	0	0	0
Total	**5**	**8**	**7**	**7**	**4**	**13**	**15**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	479	524	713	639	568	453	495
Number of <5 on TPT	129	165	254	157	175	133	91
TPT Uptake among <5 (%)	80.7	94.4	106.8	73.7	92.4	88	55.1

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	6	6	10	9	14	7	7

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	116	112	121	115	116	92	112
DSTB TSR	90.1	86.8	87.6	84.1	84.8	80.6	-
DSTB Cure rate	66.6	47.7	51.1	67.1	55.6	64	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	505	514	586	592	588	431	542
TB among children (< 15)	54	59	48	64	58	33	51
Proportion of childhood TB	*10.7%*	*11.5%*	*8.2%*	*10.8%*	*9.9%*	*7.7%*	*9.4%*

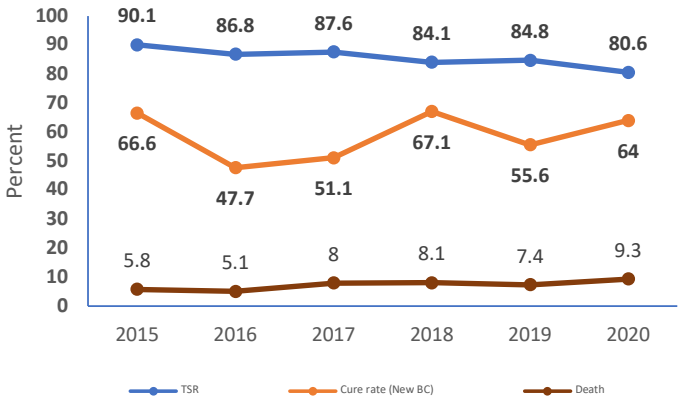
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	249	245	340	274	338	281	354
New Clinically Diagnosed	131	134	107	152	121	67	103
Previously Treated	25	24	27	38	35	37	33
Extra Pulmonary	100	112	112	128	102	49	52
Totals	**505**	**515**	**586**	**592**	**596**	**434**	**542**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	1.7	2.3	12.1	10.4	11.9	10.9	11.2

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	95.8	98.8	98.6	97.8	100	100	99.4
TB/ HIV Co-infection rate	22.5	20.2	21.1	18	17.6	20.6	16.2
ART uptake	95.6	100	98.3	97.1	99	94.3	96.5
CPT Uptake	99.1	99	99.1	99	99	98.8	100

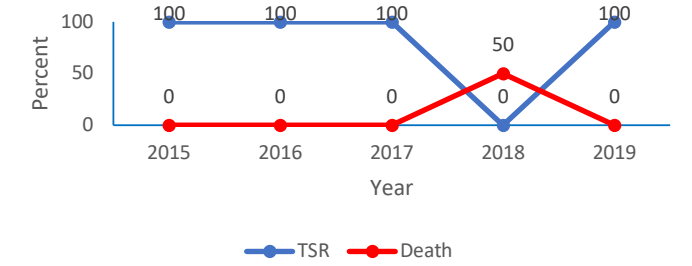
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	49.7	52.7	48.2	51.6	55.9	57.5	59.4
Proportion of malnourished on food support (RUTF/FBF)	27.5	26.8	36.3	36.1	24.4	14.3	35.4

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	0	0	1	0	3	5	5
MDR	2	1	1	2	1	0	0
Mono Resistant	1	1	1	0	1	1	0
PDR	0	0	0	0	0	0	0
Pre XDR	0	0	0	0	0	0	0
XDR	0	0	0	0	0	0	0
Total	**3**	**2**	**3**	**2**	**5**	**6**	**5**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	269	268	364	305	243	311	383
Number of <5 on TPT	111	68	81	44	50	43	45
TPT Uptake among <5 (%)	123.7	76.1	66.7	43.2	61.7	41.4	35.2

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	0	0	0	0	0	0	0

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	269	233	287	337	281	214	239
DSTB TSR	89.4	84.3	77.3	76.9	85.4	83	-
DSTB Cure rate	87.2	73.3	65.2	67.3	74.7	93.2	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	1,483	1,306	1,620	1,976	1,590	1,329	1,518
TB among children (< 15)	192	137	198	387	270	184	330
Proportion of childhood TB	*12.9%*	*10.5%*	*12.2%*	*19.6%*	*17.0%*	*13.8%*	*21.7%*

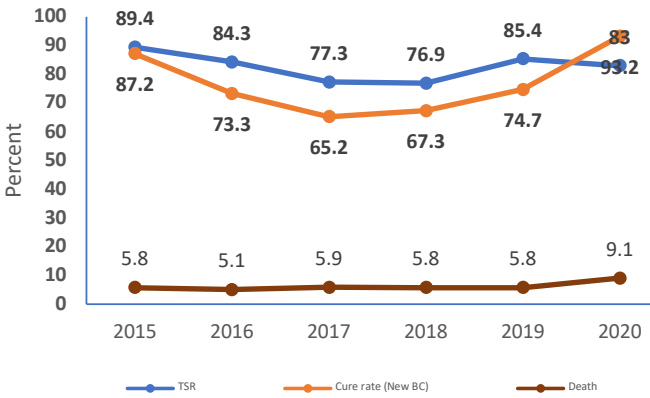
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	754	768	801	763	769	640	651
New Clinically Diagnosed	471	300	479	880	596	325	532
Previously Treated	81	56	112	117	129	141	124
Extra Pulmonary	177	228	228	216	165	226	211
Totals	**1,483**	**1,352**	**1,620**	**1,976**	**1,659**	**1,332**	**1,518**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	7.9	9.2	11.7	6.4	11	15.9	16.5

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	97.3	95.5	90.8	92.6	100	98.7	95.6
TB/ HIV Co- infection rate	19.5	18.8	15.8	15.1	15	16.4	13
ART uptake	95.5	99.1	91.4	92.3	94.1	95.8	94.9
CPT Uptake	99.6	99.5	96.4	91.9	96.6	98.1	96.9

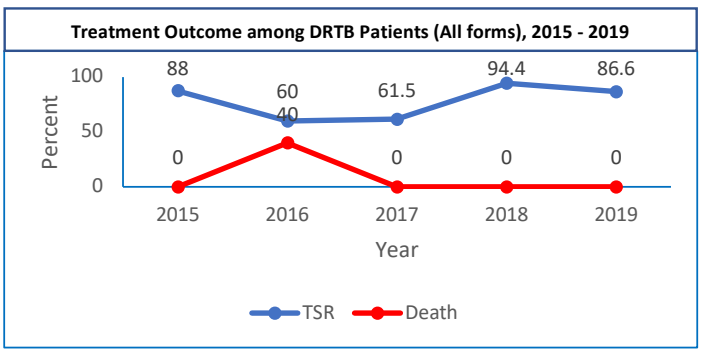
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	41.7	42.2	26.2	37.6	51.1	50.7	51.3
Proportion of malnourished on food support (RUTF/FBF)	9.3	19.4	22.2	20.5	16.3	8.7	11.3

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	2	2	4	8	5	5	10
MDR	3	5	1	0	4	4	6
Mono Resistant	3	3	8	9	6	42	41
PDR	0	0	0	0	0	1	0
Pre XDR	0	0	0	1	0	0	0
XDR	0	0	0	0	0	0	0
Total	**8**	**10**	**13**	**18**	**15**	**52**	**57**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	818	816	883	850	660	772	762
Number of <5 on TPT	323	51	82	42	44	118	140
TPT Uptake among <5 (%)	118.4	18.7	27.8	14.8	20	45.8	55.1

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	0	2	0	3	0	0	1

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	131	129	133	145	132	75	62
DSTB TSR	91.7	88.9	89.4	79.6	86.7	86.8	-
DSTB Cure rate	76.5	75.2	68.5	77.7	74.6	75.7	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	840	864	928	1,056	878	868	791
TB among children (< 15)	136	109	129	144	99	105	94
Proportion of childhood TB	*16.2%*	*12.6%*	*13.9%*	*13.6%*	*11.3%*	*12.1%*	*11.9%*

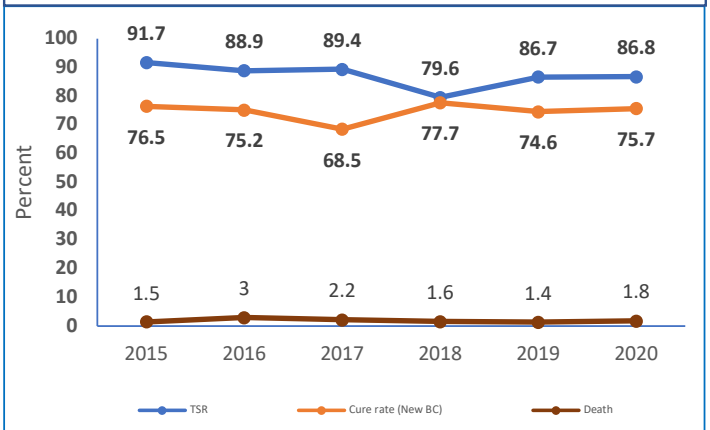
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	392	433	385	462	490	446	379
New Clinically Diagnosed	210	188	272	313	244	217	208
Previously Treated	28	40	39	42	28	19	15
Extra Pulmonary	210	232	232	239	230	187	189
Totals	**840**	**893**	**928**	**1,056**	**992**	**869**	**791**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	37.6	36.6	33.6	25.6	30.8	28.1	27.4

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	86	97.9	96.9	90.5	100	96.6	81.2
TB/ HIV Co- infection rate	5.1	3.7	3	2.9	2.7	2.8	1.8
ART uptake	69.7	96.8	89.2	87	79.1	92	100
CPT Uptake	95.3	100	100	96.7	95.8	84	73.3

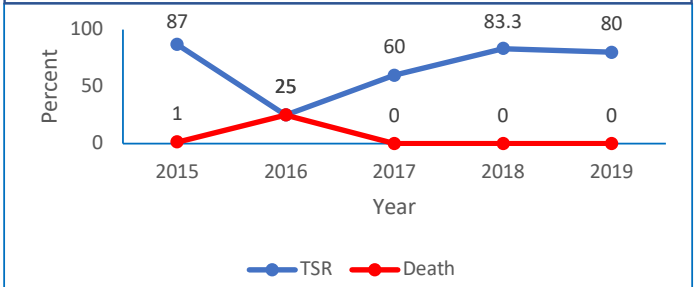
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	49.2	48.9	45.6	47.9	52.7	45.9	51.3
Proportion of malnourished on food support (RUTF/FBF)	54.1	38	38.2	30.2	36.3	35.9	32.8

Treatment Outcome among DSTB Patients (All forms), 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	0	0	1	5	3	2	5
MDR	40	2	3	1	2	1	2
Mono Resistant	29	2	1	0	0	1	6
PDR	0	0	0	0	0	0	0
Pre XDR	0	0	0	0	0	0	0
XDR	0	0	0	0	0	0	0
Total	**69**	**4**	**5**	**6**	**5**	**4**	**13**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	411	459	408	485	467	461	391
Number of <5 on TPT	42	125	76	54	117	81	52
TPT Uptake among <5 (%)	30.6	81.6	55.8	33.4	75.1	52.7	39.8

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	0	0	0	0	0	0	1

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	191	172	187	191	184	181	187
DSTB TSR	82.5	82.2	88.3	88.8	92.4	93.4	-
DSTB Cure rate	76.2	70.5	84.6	87.4	87.4	97	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	2,149	1,978	2,147	2,242	2,230	2,112	2,251
TB among children (< 15)	169	174	200	205	226	191	237
Proportion of childhood TB	*7.9%*	*8.8%*	*9.3%*	*9.1%*	*10.1%*	*9.0%*	*10.5%*

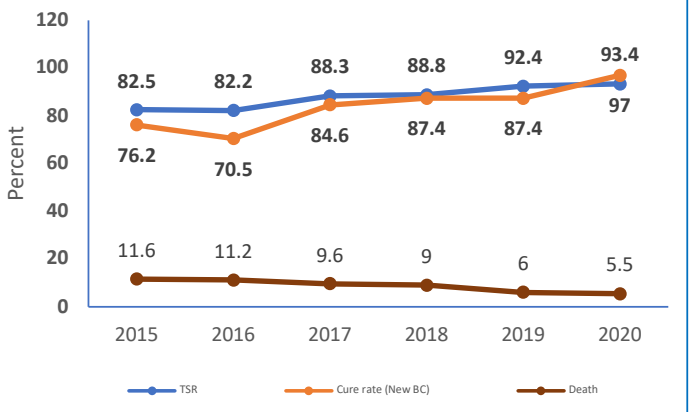
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	943	910	920	846	775	740	817
New Clinically Diagnosed	617	572	667	819	728	822	900
Previously Treated	126	91	138	137	129	123	85
Extra Pulmonary	463	422	422	440	598	445	449
Totals	**2,149**	**1,995**	**2,147**	**2,242**	**2,230**	**2,130**	**2,251**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	21.1	19.4	20.7	15.8	18.9	22.6	24.7

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	99.9	99.6	99.7	99.9	100	100	100
TB/ HIV Co- infection rate	69.1	63.5	60.8	59.4	62.3	54.6	50.1
ART uptake	99.2	98.4	99.2	99.5	99.4	99.6	100
CPT Uptake	99.6	100	99.5	99.9	99.7	98.7	97.8

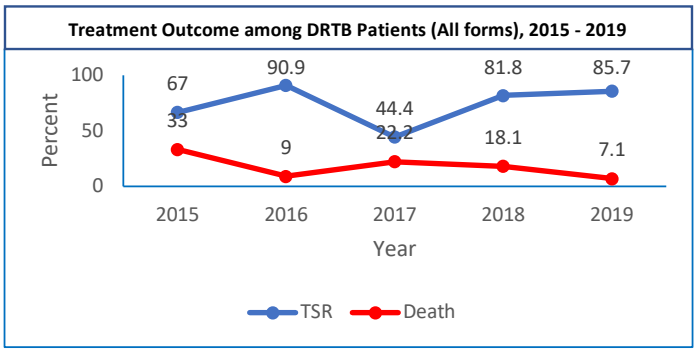
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	41.1	40.6	37.9	37.5	39.5	33.7	35.3
Proportion of malnourished on food support (RUTF/FBF)	27.8	35.5	47.9	43.5	36.2	24.7	27.3

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	2	7	5	4	1	5	6
MDR	8	1	4	5	7	5	3
Mono Resistant	5	3	0	2	5	4	15
PDR	0	0	0	0	1	1	0
Pre XDR	0	0	0	0	0	0	0
XDR	0	0	0	0	0	0	0
Total	**15**	**11**	**9**	**11**	**14**	**15**	**24**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	1,028	966	997	919	1,010	812	862
Number of <5 on TPT	717	155	438	331	347	661	505
TPT Uptake among <5 (%)	209.2	48.1	131.7	108	103	244.2	175.7

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	8	8	4	5	5	7	4

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	315	295	345	398	334	209	198
DSTB TSR	92.2	88.2	91.4	81.5	91.8	88.7	-
DSTB Cure rate	80.6	66.2	76.7	64	80.4	76.9	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	544	527	622	756	528	558	558
TB among children (< 15)	83	64	73	87	82	57	63
Proportion of childhood TB	*15.3%*	*12.1%*	*11.7%*	*11.5%*	*15.5%*	*10.2%*	*11.3%*

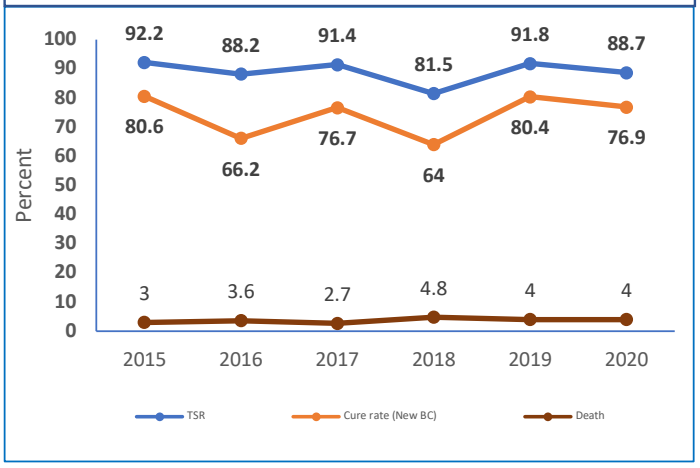
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	217	270	284	264	282	278	294
New Clinically Diagnosed	119	107	177	377	263	192	176
Previously Treated	25	24	14	66	37	35	37
Extra Pulmonary	183	147	147	49	57	55	51
Totals	**544**	**548**	**622**	**756**	**639**	**560**	**558**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	6.2	9.2	11	6.3	7.5	4.1	4.3

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	90.2	95.6	89.5	96.2	100	99.1	75.9
TB/ HIV Co- infection rate	25.3	21.2	14.7	18.1	19.8	20	11.6
ART uptake	97.1	100	98.9	98.5	99	100	98.4
CPT Uptake	98.5	99.1	98.9	99.2	100	99.1	100

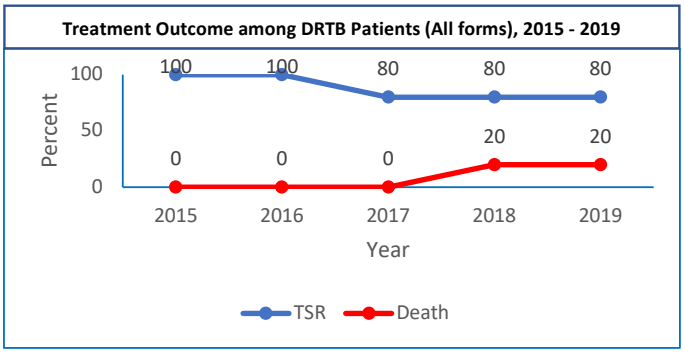
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	48.7	55.4	51.6	36.3	67.2	57.3	58.2
Proportion of malnourished on food support (RUTF/FBF)	45	48.9	41.9	41.4	49	6.8	2.5

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	0	0	1	0	1	7	5
MDR	3	1	1	0	1	1	2
Mono Resistant	1	4	3	5	2	3	5
PDR	0	0	0	0	0	0	0
Pre XDR	0	0	0	0	1	0	0
XDR	0	0	0	0	0	0	0
Total	**4**	**5**	**5**	**5**	**5**	**11**	**12**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	224	283	292	292	204	299	332
Number of <5 on TPT	-	43	44	81	5	38	15
TPT Uptake among <5 (%)	0	45.5	45.2	83.2	7.3	38.1	13.5

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	0	0	0	0	0	0	0

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	192	181	217	185	168	121	115
DSTB TSR	88.2	85	86.2	82.9	81.2	78.5	-
DSTB Cure rate	75.3	69.3	73.1	71.6	70.1	65.7	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	1,603	1,491	1,573	1,735	1,576	1,385	1,357
TB among children (< 15)	171	137	159	224	143	113	115
Proportion of childhood TB	*10.7%*	*9.2%*	*10.1%*	*12.9%*	*9.1%*	*8.2%*	*8.5%*

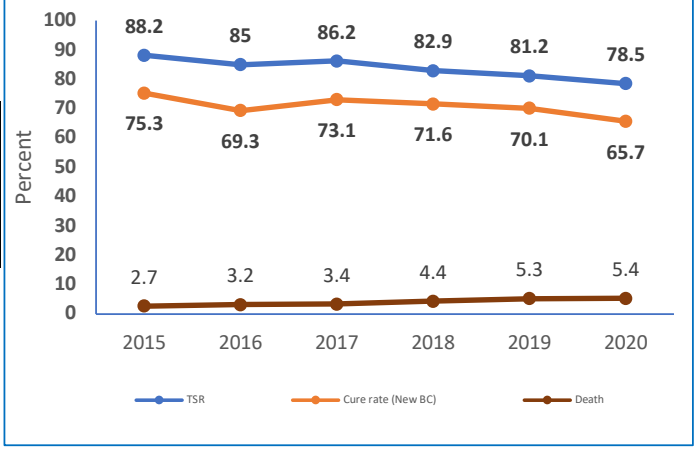
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	755	769	831	810	888	815	813
New Clinically Diagnosed	490	433	477	605	401	306	310
Previously Treated	100	89	90	108	125	108	100
Extra Pulmonary	258	175	175	212	204	165	134
Totals	**1,603**	**1,466**	**1,573**	**1,735**	**1,618**	**1,394**	**1,357**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	17.5	23.8	24.6	17.2	20	24.2	21

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	96.3	96.5	98.9	98.7	100	98.7	93.8
TB/ HIV Co- infection rate	29.6	29.4	27.7	28.2	24.5	23.8	22.9
ART uptake	95.1	95.6	97.9	96.5	96.3	93.6	94.2
CPT Uptake	99.5	99.7	98.8	98.9	100	98.4	98.7

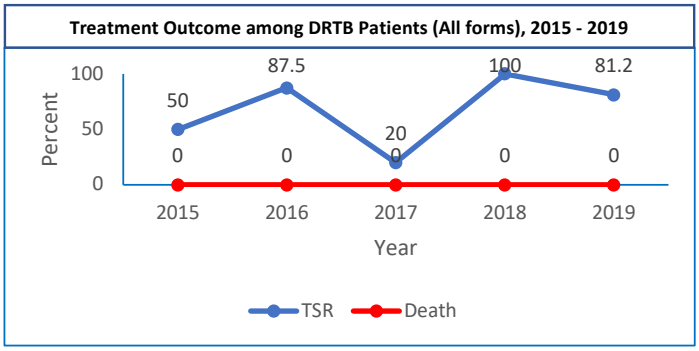
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	40.7	41.1	40.2	41.4	45.8	44.6	45.1
Proportion of malnourished on food support (RUTF/FBF)	18.9	18.1	24	24.8	21.7	8	5

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	0	3	5	8	10	10	10
MDR	2	3	2	1	2	4	1
Mono Resistant	2	2	1	1	4	8	3
PDR	0	0	1	0	0	0	0
Pre XDR	0	0	0	0	0	0	0
XDR	0	0	0	0	0	0	0
Total	**4**	**8**	**9**	**10**	**16**	**22**	**14**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	817	831	882	866	755	903	880
Number of <5 on TPT	19	39	135	61	128	115	31
TPT Uptake among <5 (%)	6.9	14	45.9	21.1	50.8	38.2	10.5

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	1	0	0	0	0	1	0

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	114	92	128	130	122	104	96
DSTB TSR	85.9	86.2	86	85.2	85.3	80.1	-
DSTB Cure rate	78.2	81.5	81	69.6	81.4	75.1	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	2,196	1,804	2,436	2,535	2,336	1,987	1,899
TB among children (< 15)	210	149	244	248	192	125	125
Proportion of childhood TB	*9.6%*	*8.3%*	*10.0%*	*9.8%*	*8.2%*	*6.3%*	*6.6%*

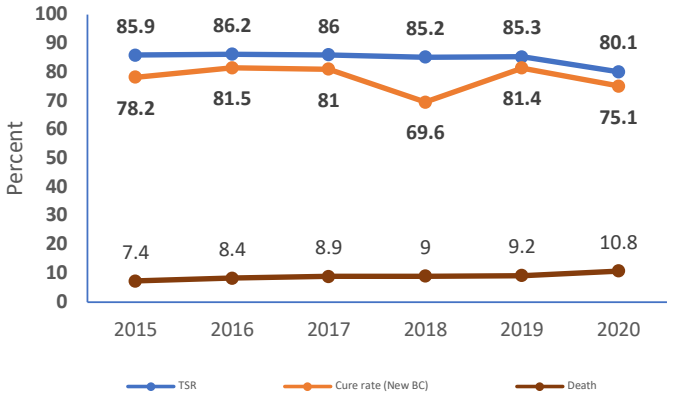
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	900	987	1,091	1,053	1,060	866	902
New Clinically Diagnosed	768	496	885	1,068	894	808	660
Previously Treated	150	66	143	162	173	142	204
Extra Pulmonary	378	317	317	252	240	178	133
Totals	**2,196**	**1,866**	**2,436**	**2,535**	**2,367**	**1,994**	**1,899**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	12.2	16.1	19.7	14.9	17.4	20.2	21.6

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	98.1	98	99.3	99.3	100	99.6	97.3
TB/ HIV Co- infection rate	35.2	36.4	33.6	32.5	31.8	30.2	30.8
ART uptake	96.2	98.3	99.3	99.2	97.3	99.5	98.8
CPT Uptake	99.4	99.8	99.5	99.7	99.4	99.6	99.4

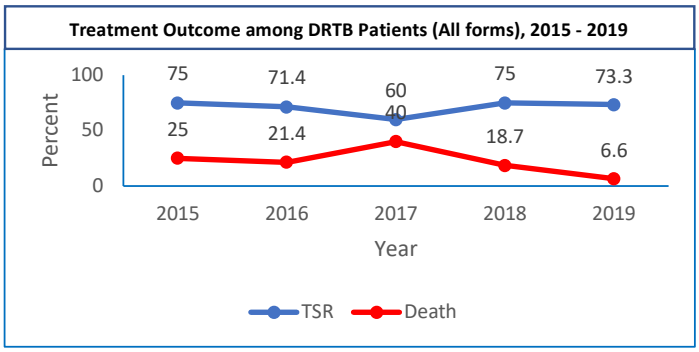
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	38.2	40.2	27.8	31.7	41.3	38.8	43.3
Proportion of malnourished on food support (RUTF/FBF)	22.9	28.8	30.8	29	25.9	16.6	11.3

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	1	7	4	9	10	12	8
MDR	2	5	5	5	3	3	1
Mono Resistant	1	2	1	1	2	8	2
PDR	0	0	0	0	0	0	1
Pre XDR	0	0	0	1	0	0	0
XDR	0	0	0	0	0	0	0
Total	**4**	**14**	**10**	**16**	**15**	**23**	**12**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	1,000	1,031	1,174	1,137	993	942	1,031
Number of <5 on TPT	95	358	148	113	99	119	48
TPT Uptake among <5 (%)	28.5	104.1	37.8	29.8	29.9	37.8	13.9

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	2	3	2	5	3	1	1

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	183	149	183	223	197	200	211
DSTB TSR	90.6	89.2	88.9	90.5	87.5	87.4	-
DSTB Cure rate	85.4	73.2	79.7	61.7	77.1	83	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	1,700	1,431	1,723	2,234	2,024	1,858	2,019
TB among children (< 15)	149	126	116	224	187	124	187
Proportion of childhood TB	*8.8%*	*8.8%*	*6.7%*	*10.0%*	*9.2%*	*6.7%*	*9.3%*

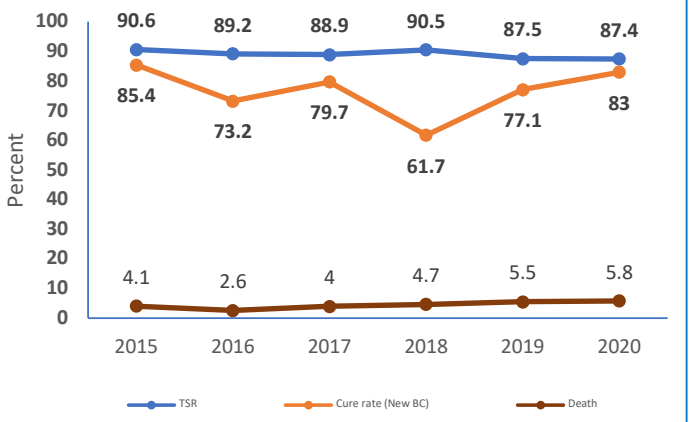
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	939	900	1,126	1,161	1,265	1,168	1,162
New Clinically Diagnosed	431	336	351	795	497	380	513
Previously Treated	71	59	65	101	113	104	125
Extra Pulmonary	259	181	181	177	201	212	219
Totals	**1,700**	**1,476**	**1,723**	**2,234**	**2,076**	**1,864**	**2,019**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	6.2	6	19.2	14.7	14.4	21.3	18.6

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	98.7	96.9	96.6	97.4	100	98.4	98.4
TB/ HIV Co- infection rate	29.1	24.3	24.8	23.8	21.3	22.5	24.5
ART uptake	94.1	94.8	91.1	95.8	89.8	97.3	93.3
CPT Uptake	99.7	99.7	99.5	99.4	99.7	99.2	98.5

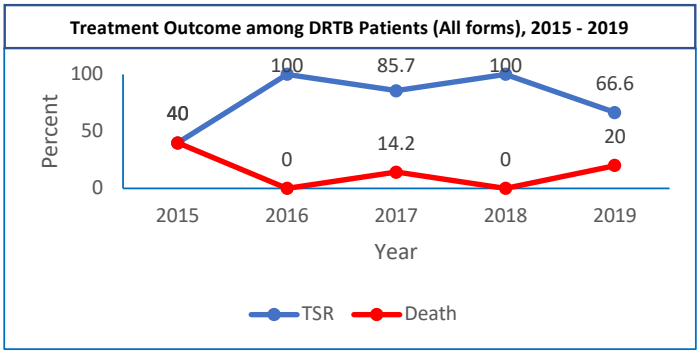
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	46.2	45.7	41	40.5	45.9	43.5	46.9
Proportion of malnourished on food support (RUTF/FBF)	35.1	35.1	35.5	29	17.3	6.6	14.1

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	1	2	3	0	8	11	9
MDR	1	0	1	1	4	4	4
Mono Resistant	2	0	2	1	2	10	6
PDR	0	0	0	0	0	0	0
Pre XDR	1	0	0	0	1	1	0
XDR	0	0	0	0	0	0	0
Total	**5**	**2**	**6**	**2**	**15**	**26**	**19**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	1,003	946	1,178	1,229	920	1,267	1,275
Number of <5 on TPT	52	235	342	225	322	312	192
TPT Uptake among <5 (%)	15.5	74.5	87	54.9	105	73.8	45.1

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	0	0	0	0	0	0	0

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	207	223	228	245	224	143	147
DSTB TSR	84	66.3	80.6	83.4	84.4	82.1	-
DSTB Cure rate	73.5	47.4	63.4	52.9	64.8	69.6	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	3,698	4,050	4,338	4,986	4,455	3,540	3,735
TB among children (< 15)	215	272	321	461	376	252	318
Proportion of childhood TB	*5.8%*	*6.7%*	*7.4%*	*9.2%*	*8.4%*	*7.1%*	*8.5%*

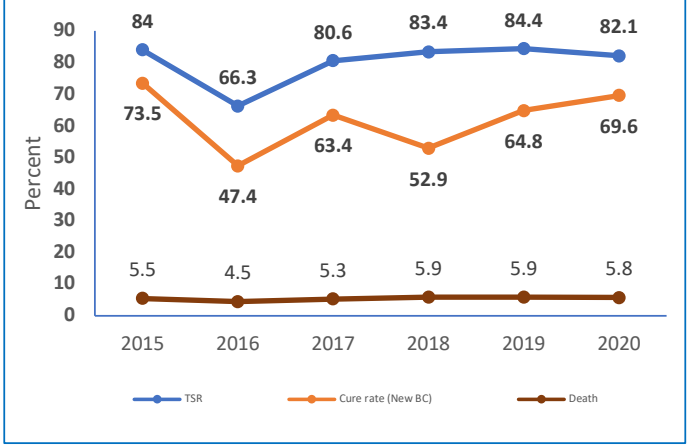
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	1,676	2,518	2,317	2,365	2,209	1,817	1,922
New Clinically Diagnosed	1,107	717	1,061	1,462	1,279	830	1,033
Previously Treated	340	211	243	350	306	315	249
Extra Pulmonary	575	717	717	809	747	605	531
Totals	**3,698**	**4,163**	**4,338**	**4,986**	**4,541**	**3,567**	**3,735**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	23.4	22.1	28.7	25.1	26.6	30	26.1

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	97.7	91.8	98.3	98.4	100	97.9	96.4
TB/ HIV Co- infection rate	28.9	25.5	26.7	24.8	24	22	21.4
ART uptake	94.5	82.3	93.3	93.6	89.2	97.1	90.8
CPT Uptake	99.8	89.8	99.6	99.5	99	99.6	99.3

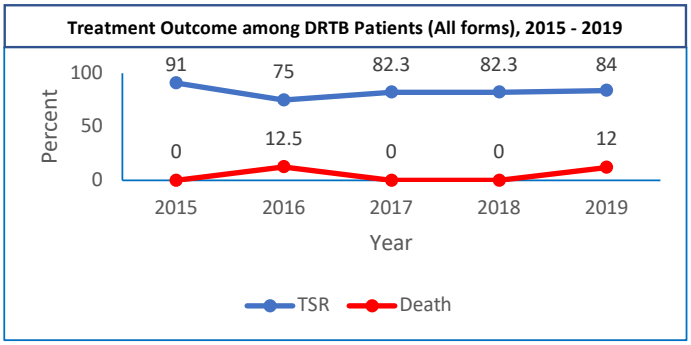
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	40.2	30.5	36.9	35.8	39.1	39	40.6
Proportion of malnourished on food support (RUTF/FBF)	9.7	7.7	21.3	21.4	17.5	9.9	2.7

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	6	6	8	19	15	19	11
MDR	3	4	0	5	5	4	2
Mono Resistant	2	6	7	10	5	7	3
PDR	0	0	0	0	0	0	0
Pre XDR	0	0	0	0	0	1	0
XDR	0	0	0	0	0	0	0
Total	**11**	**16**	**15**	**34**	**25**	**31**	**16**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	1,861	2,671	2,485	2,600	1,766	2,063	2,118
Number of <5 on TPT	96	148	426	292	322	278	266
TPT Uptake among <5 (%)	15.4	16.6	51.4	33.6	54.6	40.4	37.6

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	0	0	1	0	2	0	0

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	144	125	131	157	126	96	89
DSTB TSR	84.8	80.1	80.2	79	81.7	79.8	-
DSTB Cure rate	75.4	68	67.9	72.5	72.2	68.5	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	1,893	1,702	1,897	2,571	1,935	1,449	1,378
TB among children (< 15)	183	186	216	332	219	111	116
Proportion of childhood TB	*9.7%*	*10.9%*	*11.4%*	*12.9%*	*11.3%*	*7.7%*	*8.4%*

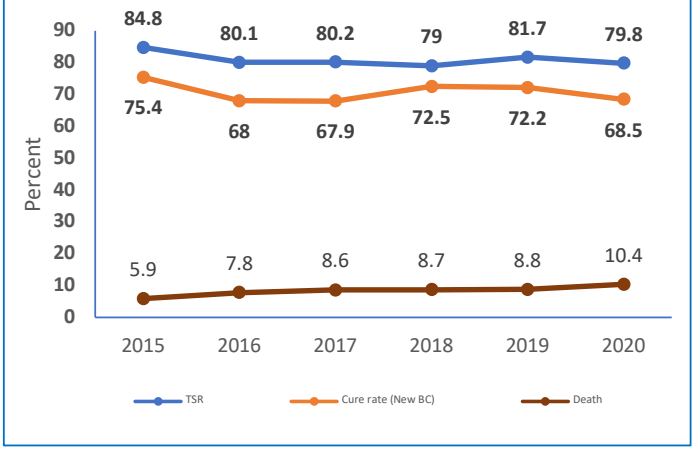
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	914	836	898	927	879	813	738
New Clinically Diagnosed	582	506	652	1,175	695	408	478
Previously Treated	169	124	141	187	167	107	71
Extra Pulmonary	228	206	206	282	210	132	91
Totals	**1,893**	**1,672**	**1,897**	**2,571**	**1,951**	**1,460**	**1,378**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	23.2	22.2	21.5	16.4	19.6	20.4	23.5

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	99.5	99.2	99.4	99.5	100	99.3	96.3
TB/ HIV Co- infection rate	28.2	30.4	25.5	27.4	25.3	24.7	19.9
ART uptake	98.5	97.6	98.1	99.5	97.3	98.3	86.5
CPT Uptake	99.6	99.8	99.3	99.8	99.1	98.6	97

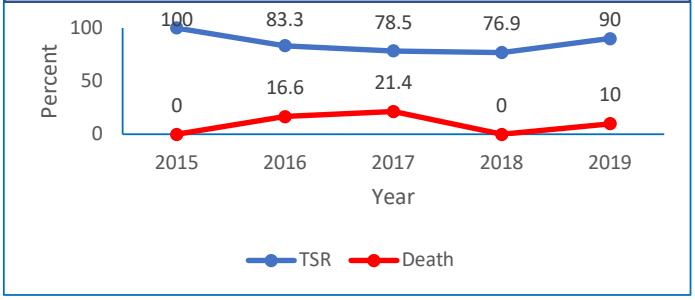
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	43.7	46.3	42.2	39.7	52	48.9	49.4
Proportion of malnourished on food support (RUTF/FBF)	22.6	21.8	33.4	29.6	22.6	10.8	5.3

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	5	6	8	7	7	8	6
MDR	2	4	1	0	0	3	0
Mono Resistant	3	2	5	5	3	3	1
PDR	0	0	0	0	0	1	0
Pre XDR	0	0	0	1	0	0	0
XDR	0	0	0	0	0	0	0
Total	**10**	**12**	**14**	**13**	**10**	**15**	**7**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	1,019	918	984	1,009	892	888	782
Number of <5 on TPT	171	172	300	212	185	180	22
TPT Uptake among <5 (%)	50.3	56.2	91.4	63	62.2	60.8	8.4

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	28	28	26	35	43	26	21

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	235	195	220	231	202	202	194
DSTB TSR	87.8	84.8	83.9	86.2	84.3	85.6	-
DSTB Cure rate	83.9	70.5	70.6	83.1	63.9	81.8	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	1,341	1,157	1,359	1,467	1,274	1,255	1,230
TB among children (< 15)	102	82	170	198	153	126	134
Proportion of childhood TB	*7.6%*	*7.1%*	*12.5%*	*13.5%*	*12.0%*	*10.0%*	*10.9%*

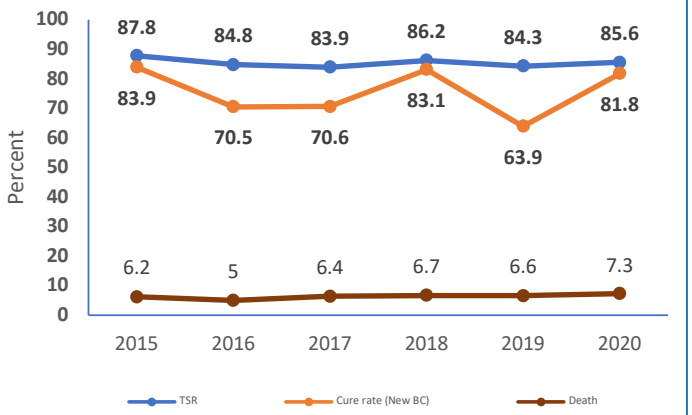
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	767	696	650	689	597	662	631
New Clinically Diagnosed	246	241	400	472	414	345	368
Previously Treated	152	94	130	153	146	127	129
Extra Pulmonary	176	179	179	153	132	131	102
Totals	**1,341**	**1,210**	**1,359**	**1,467**	**1,289**	**1,265**	**1,230**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	12.1	11.2	15.6	12.3	12.3	11.6	9.6

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	99.9	99.8	99.6	98.5	100	98	98.8
TB/ HIV Co- infection rate	19.8	18.7	16.7	16.8	17.3	16.7	13.4
ART uptake	98.1	96.3	95.1	98.3	95.4	96.6	90.9
CPT Uptake	99.6	100	99.1	97.9	98.1	99	100

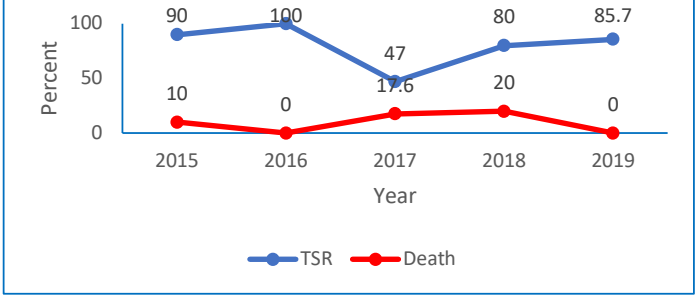
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	49.8	48.9	41.7	38.3	48.1	49.3	52.1
Proportion of malnourished on food support (RUTF/FBF)	19.5	24.2	22.8	15.9	13.8	0.3	0.8

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	4	0	5	5	10	2	10
MDR	2	8	0	2	1	2	1
Mono Resistant	3	1	9	7	3	7	3
PDR	0	0	0	0	0	0	0
Pre XDR	1	0	2	1	0	0	0
XDR	0	0	0	0	0	0	0
Total	**10**	**9**	**16**	**15**	**14**	**11**	**14**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	897	771	744	788	789	741	720
Number of <5 on TPT	80	104	161	143	72	89	70
TPT Uptake among <5 (%)	26.7	40.4	64.9	54.4	27.3	36	29.1

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	0	0	0	2	0	1	0

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	124	111	134	141	135	126	144
DSTB TSR	91.8	90.3	89.5	89.6	90.5	93.2	-
DSTB Cure rate	92.7	88.6	91	73.4	90.1	99.2	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	1,659	1,513	1,850	2,005	1,929	1,642	1,919
TB among children (< 15)	115	129	149	160	148	119	225
Proportion of childhood TB	6.9%	8.5%	8.1%	8.0%	7.7%	7.2%	11.7%

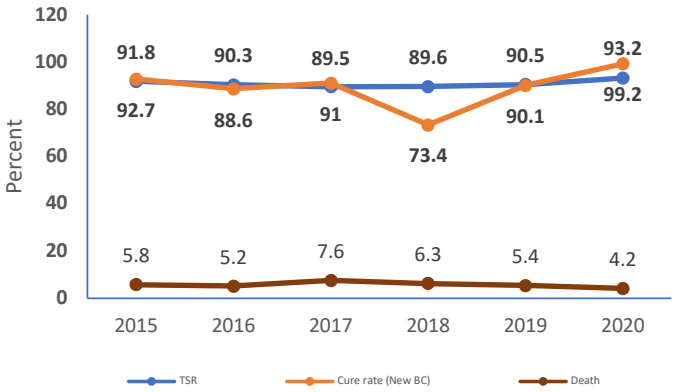
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	887	844	971	1,024	982	889	997
New Clinically Diagnosed	519	428	602	680	663	487	613
Previously Treated	79	55	60	106	87	80	81
Extra Pulmonary	174	217	217	195	208	189	228
Totals	**1,659**	**1,544**	**1,850**	**2,005**	**1,940**	**1,645**	**1,919**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	11.3	9.9	17.2	14.5	15	16.8	15.4

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	99.8	99.9	99.7	98.8	100	99.9	99.7
TB/ HIV Co- infection rate	35.8	35.2	35.2	30.9	29.9	28.3	23.9
ART uptake	99.1	99.4	99.6	98	98.6	97.6	99.3
CPT Uptake	100	99.8	100	99.8	99.4	95.2	98

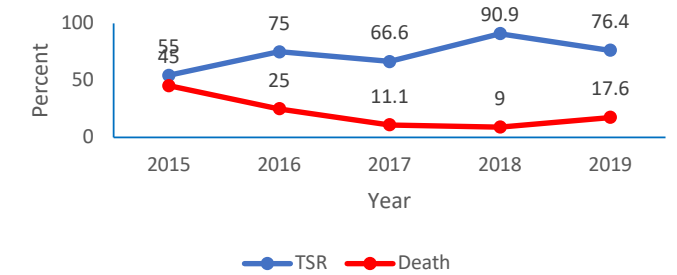
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	44.8	42.5	40.2	37.4	42.3	42.1	45
Proportion of malnourished on food support (RUTF/FBF)	26	24.3	22.5	24.4	20.5	17.1	13.9

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	4	2	5	3	6	13	5
MDR	5	1	3	4	1	4	3
Mono Resistant	2	1	1	4	10	4	3
PDR	0	0	0	0	0	0	0
Pre XDR	0	0	0	0	0	0	0
XDR	0	0	0	0	0	0	0
Total	**11**	**4**	**9**	**11**	**17**	**21**	**11**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	947	887	1,013	1,101	900	959	1,067
Number of <5 on TPT	97	226	311	208	268	256	214
TPT Uptake among <5 (%)	30.7	76.4	92.1	56.6	89.3	80	60.1

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	0	2	1	2	1	1	1

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	269	232	235	244	182	167	161
DSTB TSR	83.9	81.9	74.3	71.5	84.7	86.3	-
DSTB Cure rate	65.8	70.8	55.1	94.2	64.5	80.4	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	2,931	2,581	2,614	2,890	2,165	1,988	1,973
TB among children (< 15)	239	175	156	241	193	134	147
Proportion of childhood TB	*8.2%*	*6.8%*	*6.0%*	*8.3%*	*8.9%*	*6.7%*	*7.5%*

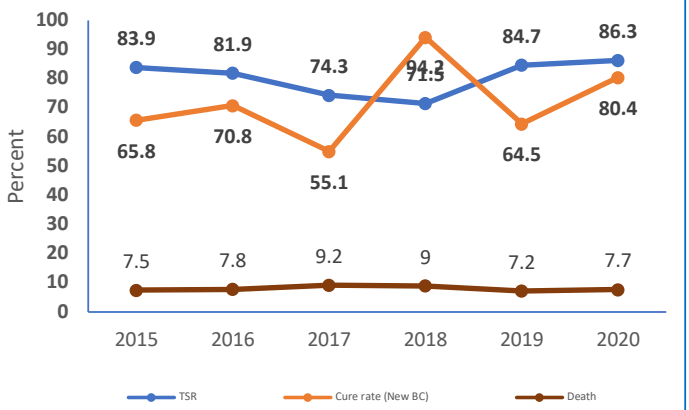
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	1,462	1,374	1,302	1,167	1,020	1,043	945
New Clinically Diagnosed	806	712	940	1,275	789	638	686
Previously Treated	240	155	130	214	170	129	124
Extra Pulmonary	423	242	242	234	243	185	218
Totals	**2,931**	**2,483**	**2,614**	**2,890**	**2,222**	**1,995**	**1,973**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	30.1	29.5	34.9	31.5	31.2	39.1	31.5

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	97.8	97.7	94	97.5	100	98.1	99.2
TB/ HIV Co- infection rate	61.7	59	51.6	49.6	51.3	48	44.3
ART uptake	93.8	92.7	96.1	94.9	93	95.6	93.7
CPT Uptake	99.6	99.7	98.5	98.1	98.9	86.9	95.6

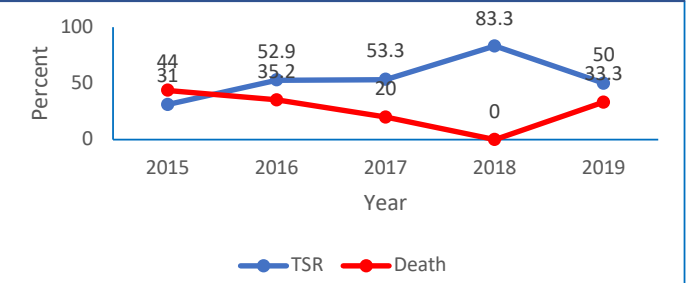
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	43.8	43.7	39.4	37.2	43.8	40.4	43.2
Proportion of malnourished on food support (RUTF/FBF)	15.2	14.8	12.9	21.7	24.7	14	24.2

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	2	5	3	2	4	7	6
MDR	8	2	4	1	0	2	2
Mono Resistant	5	10	6	3	2	1	1
PDR	0	0	0	0	0	0	1
Pre XDR	1	0	0	0	0	0	0
XDR	0	0	0	0	0	0	0
Total	**16**	**17**	**13**	**6**	**6**	**10**	**10**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	1,626	1,494	1,380	1,286	1,524	1,126	1,028
Number of <5 on TPT	143	215	372	169	126	214	117
TPT Uptake among <5 (%)	26.3	43.1	80.8	39.4	24.8	57	34.1

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	10	2	3	0	6	3	2

KITUI

Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	185	164	202	250	219	182	194
DSTB TSR	89.3	84.2	86.4	88	86.2	82.5	-
DSTB Cure rate	89.8	81.3	79.7	64.7	77.4	83.3	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	1,996	1,784	2,244	2,807	2,483	2,125	2,324
TB among children (< 15)	129	112	122	206	200	118	140
Proportion of childhood TB	*6.5%*	*6.3%*	*5.4%*	*7.3%*	*8.1%*	*5.6%*	*6.0%*

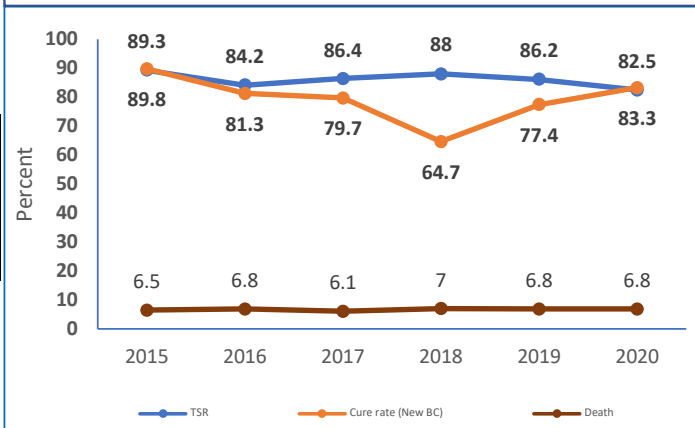
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	1,078	1,216	1,402	1,361	1,263	1,202	1,318
New Clinically Diagnosed	396	197	381	759	678	457	571
Previously Treated	145	103	115	170	185	156	170
Extra Pulmonary	377	346	346	517	359	322	265
Totals	**1,996**	**1,862**	**2,244**	**2,807**	**2,485**	**2,137**	**2,324**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	8.6	10.4	11.8	8.8	7.8	10.8	9.1

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	99.7	99.7	99.9	99.8	100	99.9	100
TB/ HIV Co- infection rate	25.8	22.3	21.5	22.7	22.7	21.4	16.6
ART uptake	99.4	99.2	99.3	99.6	98.5	97.3	98.1
CPT Uptake	99.8	100	99.7	99.8	100	99.1	99.4

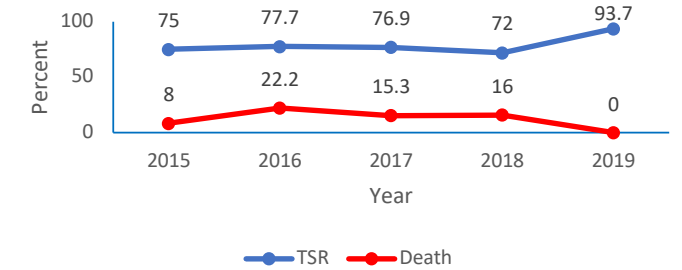
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	53.8	58.1	47.8	55.9	58.5	58.5	57.9
Proportion of malnourished on food support (RUTF/FBF)	13.9	16.3	29.6	37.1	41.6	32.5	25.7

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	2	2	3	10	9	10	10
MDR	7	4	4	5	1	5	3
Mono Resistant	2	3	4	7	4	8	4
PDR	0	0	0	0	1	0	0
Pre XDR	1	0	0	1	1	1	0
XDR	0	0	1	0	0	0	0
Total	**12**	**9**	**12**	**23**	**16**	**24**	**17**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	1,189	1,309	1,499	1,477	1,104	1,316	1,442
Number of <5 on TPT	215	211	406	283	282	233	177
TPT Uptake among <5 (%)	54.2	48.3	81.2	57.4	76.6	53.1	36.8

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	8	2	3	3	2	1	2

KWALE

Kwale County

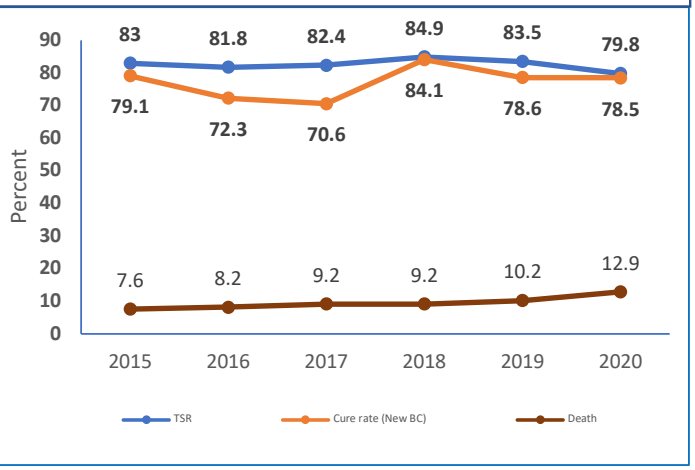
Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	151	136	106	127	104	90	96
DSTB TSR	83	81.8	82.4	84.9	83.5	79.8	-
DSTB Cure rate	79.1	72.3	70.6	84.1	78.6	78.5	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	1,154	1,078	898	1,183	908	807	890
TB among children (< 15)	134	127	127	169	102	62	115
Proportion of childhood TB	11.6%	11.8%	14.1%	14.3%	11.2%	7.7%	12.9%

DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	431	426	389	409	408	382	394
New Clinically Diagnosed	460	394	362	582	366	278	358
Previously Treated	71	74	37	74	67	72	56
Extra Pulmonary	192	110	110	118	101	78	82
Totals	**1,154**	**1,004**	**898**	**1,183**	**942**	**810**	**890**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	7.9	8.3	9	8.4	9.9	9.9	13.1

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020

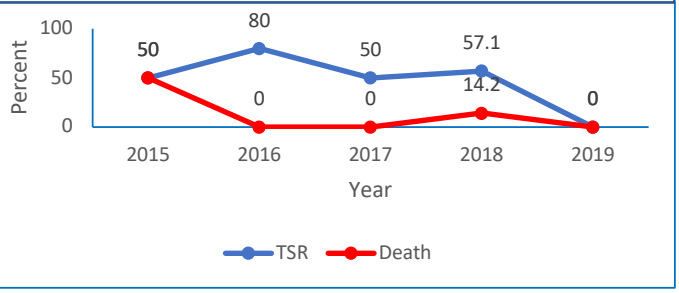


TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	95.7	95.6	95.4	95.8	100	99.3	98.5
TB/ HIV Co- infection rate	27.3	24.2	22	22.8	27.5	21	18.3
ART uptake	92.7	88.5	92.4	95.1	95.2	93.5	93.2
CPT Uptake	97.7	97.3	98.4	97.7	97.6	90	99.3

Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	37.3	41.6	29.2	36.6	45.4	44.6	44.3
Proportion of malnourished on food support (RUTF/FBF)	8.8	11.3	28	22.5	18.2	11.7	5.2

DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	0	0	1	4	3	13	2
MDR	4	4	1	1	1	2	0
Mono Resistant	0	1	0	2	2	0	0
PDR	0	0	0	0	0	0	0
Pre XDR	0	0	0	0	0	0	0
XDR	0	0	0	0	0	0	0
Total	**4**	**5**	**2**	**7**	**6**	**15**	**2**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	451	462	400	439	422	413	426
Number of <5 on TPT	30	83	72	54	62	43	62
TPT Uptake among <5 (%)	19.9	53.8	54	36.9	44	31.2	43.6

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	24	8	16	6	32	16	29

LAIKIPIA

Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	262	143	191	228	184	159	169
DSTB TSR	91.6	86.4	86	86.8	89.4	91.8	-
DSTB Cure rate	89.2	82.2	82.2	47	83.6	102	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	730	743	1,000	1,235	1,011	850	932
TB among children (< 15)	51	74	93	156	145	137	161
Proportion of childhood TB	*7.0%*	*10.0%*	*9.3%*	*12.6%*	*14.3%*	*16.1%*	*17.3%*

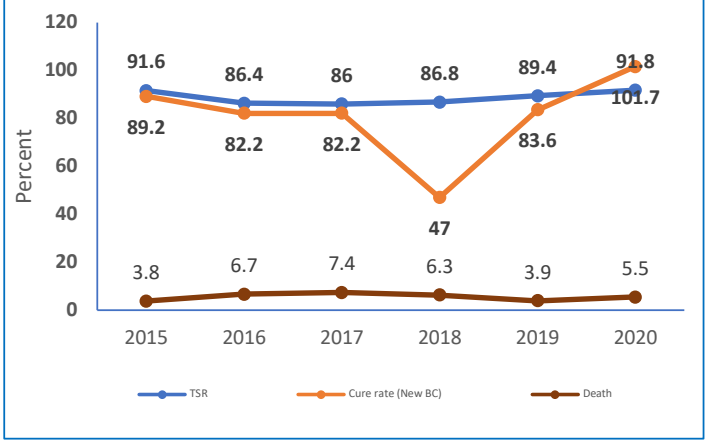
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	390	400	530	603	466	401	421
New Clinically Diagnosed	172	172	286	438	356	287	357
Previously Treated	65	69	74	69	89	64	58
Extra Pulmonary	103	110	110	125	111	102	96
Totals	**730**	**751**	**1,000**	**1,235**	**1,022**	**854**	**932**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	12.8	16.8	16.5	11.5	12.9	10.4	15.2

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	99	99	98.5	98.2	100	100	99.7
TB/ HIV Co- infection rate	28.3	30	22.8	25.8	23.4	18.2	20.4
ART uptake	96.1	98.6	98.6	97.1	95.7	100	100
CPT Uptake	100	100	98.6	99	95.7	99.3	100

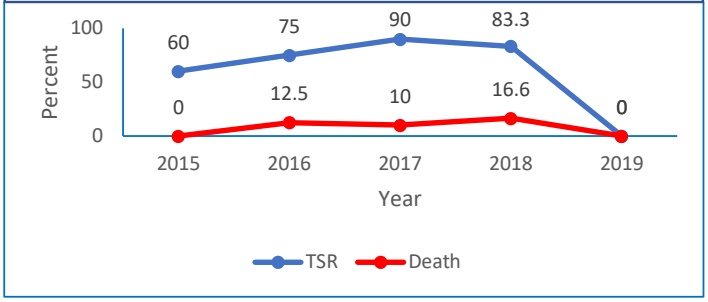
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	50.4	45.2	45.4	40.5	48.6	50.7	50.1
Proportion of malnourished on food support (RUTF/FBF)	19.4	27.9	27.3	27.8	32.6	28.8	23.2

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	3	1	4	4	5	7	5
MDR	1	4	3	0	0	0	0
Mono Resistant	0	3	3	2	3	4	3
PDR	0	0	0	0	0	0	0
Pre XDR	1	0	0	0	1	0	0
XDR	0	0	0	0	0	0	0
Total	**5**	**8**	**10**	**6**	**9**	**11**	**8**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	442	453	574	642	361	450	463
Number of <5 on TPT	54	80	119	172	101	114	95
TPT Uptake among <5 (%)	36.6	52.9	62.1	80.3	83.9	76	61.5

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	0	0	0	0	0	0	0

LAMU

Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	178	229	252	236	180	176	201
DSTB TSR	88.4	89.2	89.8	88.8	90.6	85.1	-
DSTB Cure rate	85.1	87.5	83.3	97	87.3	88	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	210	283	321	324	251	260	307
TB among children (< 15)	16	55	46	52	48	35	47
Proportion of childhood TB	7.6%	19.4%	14.3%	16.0%	19.1%	13.5%	15.3%

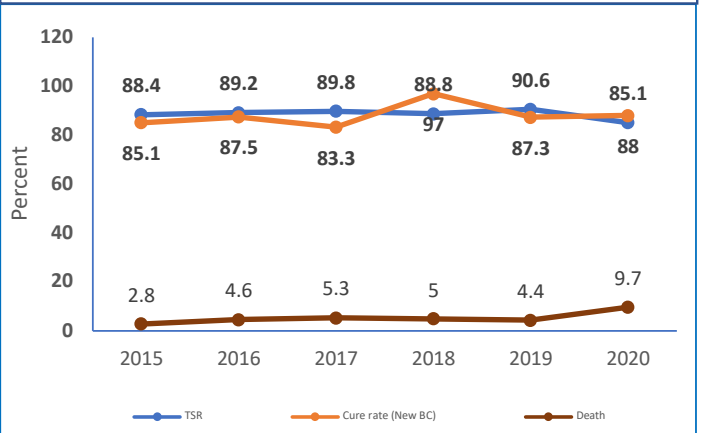
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	121	112	138	103	111	117	128
New Clinically Diagnosed	52	118	136	154	104	100	127
Previously Treated	10	12	10	16	12	8	19
Extra Pulmonary	27	37	37	51	27	36	33
Totals	**210**	**279**	**321**	**324**	**254**	**261**	**307**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	1.9	1.7	5.9	5.5	4.7	3	4.5

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	99	98.9	99	99.3	100	100	99
TB/ HIV Co- infection rate	23.3	15.5	13.3	11.7	11.9	14.2	10.7
ART uptake	95.9	100	97.6	97.3	96.6	100	93.9
CPT Uptake	97.9	100	100	97.3	96.6	97.2	96.9

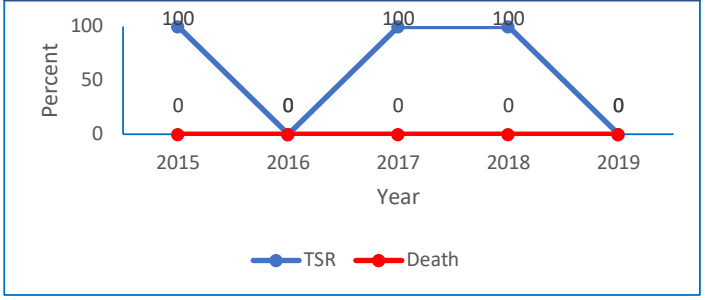
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	51.9	43.8	40.4	26.8	47.4	41.9	42.3
Proportion of malnourished on food support (RUTF/FBF)	21.9	30.7	43.9	33.9	39.4	40.3	26.7

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	0	0	1	1	0	0	0
MDR	1	0	0	0	0	0	0
Mono Resistant	0	0	0	2	0	0	1
PDR	0	0	0	0	0	0	0
Pre XDR	0	0	0	0	0	0	0
XDR	0	0	0	0	0	0	0
Total	**1**	**0**	**1**	**3**	**0**	**0**	**1**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	128	118	145	115	124	123	147
Number of <5 on TPT	19	172	138	23	27	13	21
TPT Uptake among <5 (%)	44.5	437.2	285.5	60	65.3	31.7	42.8

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	1	0	1	2	4	2	1

MACHAKOS

Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	183	177	220	266	224	153	151
DSTB TSR	88.4	86.4	86.8	82.6	87.7	87	0
DSTB Cure rate	86.6	80.7	78.3	60.3	78.2	88.8	0

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	2,223	2,126	2,639	3,253	2,756	2,226	2,247
TB among children (< 15)	125	128	128	302	170	111	146
Proportion of childhood TB	*5.6%*	*6.0%*	*4.9%*	*9.3%*	*6.2%*	*5.0%*	*6.5%*

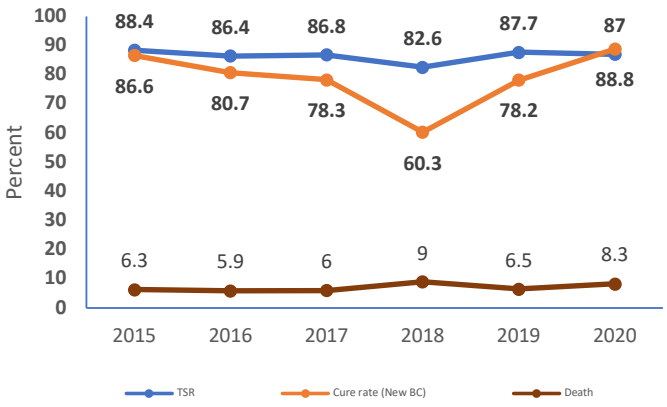
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	1,214	1,376	1,587	1,675	1,684	1,326	1,356
New Clinically Diagnosed	418	247	402	788	573	413	493
Previously Treated	145	103	176	251	201	194	160
Extra Pulmonary	446	474	474	539	324	301	238
Totals	**2,223**	**2,200**	**2,639**	**3,253**	**2,782**	**2,234**	**2,247**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	8	8.7	12.3	9.4	10.1	10.4	9.9

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	99.5	98.9	98.3	99.1	100	99	99.6
TB/ HIV Co- infection rate	26.6	23.4	24.2	25	21.8	22.5	21.6
ART uptake	96.6	96.9	99	97.5	94.6	98.2	98.9
CPT Uptake	99.4	99.5	100	99.3	99.3	100	99.5

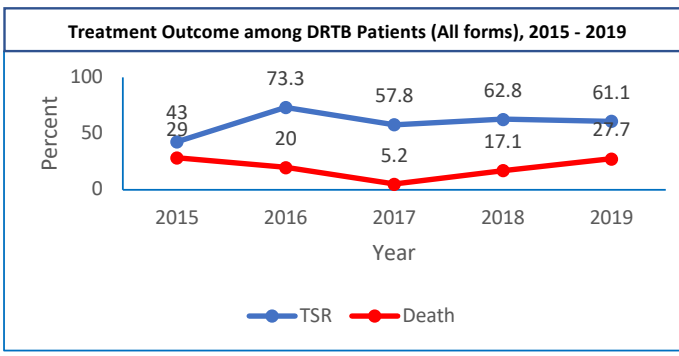
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	47.4	48.5	47.9	47.2	51.5	51.3	53.5
Proportion of malnourished on food support (RUTF/FBF)	22.4	30.1	36.6	39.3	37.9	24.6	21.1

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	0	4	7	11	6	7	7
MDR	5	8	4	3	5	3	1
Mono Resistant	2	3	8	19	7	18	9
PDR	0	0	0	0	0	0	0
Pre XDR	0	0	0	0	0	0	0
XDR	0	0	0	1	0	0	0
Total	**7**	**15**	**19**	**34**	**18**	**28**	**17**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	1,318	1,465	1,735	1,857	1,289	1,498	1,494
Number of <5 on TPT	383	205	309	256	204	269	159
TPT Uptake among <5 (%)	87.1	41.9	53.4	41.3	47.4	53.8	31.9

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	1	1	0	0	0	2	0

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	168	144	176	258	199	161	153
DSTB TSR	87.2	86.3	86.4	83.8	87.1	86.4	-
DSTB Cure rate	87.1	84.1	84.6	57	87	92.5	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	1,625	1,457	1,704	2,537	1,932	1,611	1,559
TB among children (< 15)	88	76	88	197	110	74	96
Proportion of childhood TB	*5.4%*	*5.2%*	*5.2%*	*7.8%*	*5.7%*	*4.6%*	*6.2%*

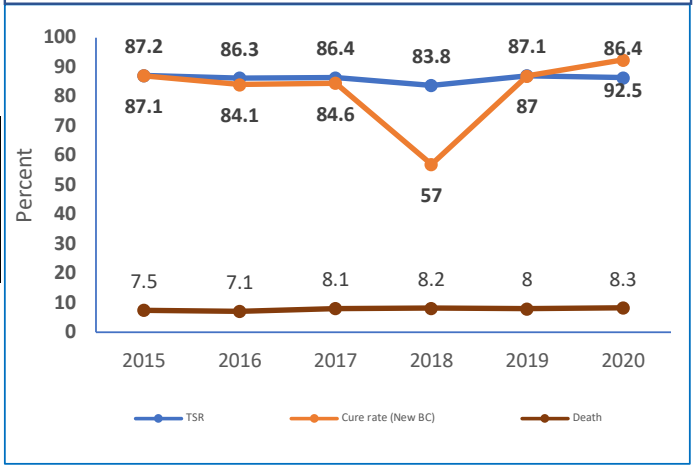
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	867	909	1,041	1,155	1,221	1,038	999
New Clinically Diagnosed	381	194	316	909	410	314	327
Previously Treated	129	82	107	143	130	102	92
Extra Pulmonary	248	240	240	330	197	167	141
Totals	**1,625**	**1,425**	**1,704**	**2,537**	**1,958**	**1,621**	**1,559**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	4.1	4.6	7.3	4.8	4.3	3.4	4.2

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	98.8	98.6	98.5	98.6	100	99.3	98.7
TB/ HIV Co- infection rate	27.8	28	26.1	24.5	24	21	20
ART uptake	97.3	97.5	98.8	99	96.1	99.4	96.7
CPT Uptake	99.1	99.5	99.7	100	98.9	97.9	98.3

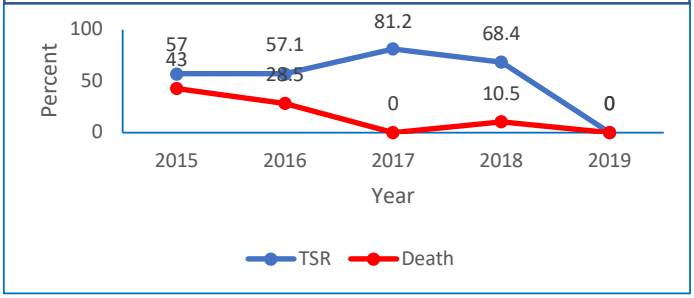
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	53.2	51.7	49.5	50.8	54.8	52.8	53.9
Proportion of malnourished on food support (RUTF/FBF)	28	29.3	40	39.5	36.3	20.2	17.8

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	4	4	3	11	7	14	13
MDR	1	3	6	3	2	1	1
Mono Resistant	2	0	7	5	2	3	1
PDR	0	0	0	0	0	1	0
Pre XDR	0	0	0	0	0	0	0
XDR	0	0	0	0	0	0	0
Total	**7**	**7**	**16**	**19**	**11**	**19**	**15**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	955	974	1,128	1,237	833	1,117	1,080
Number of <5 on TPT	203	134	353	209	127	191	66
TPT Uptake among <5 (%)	63.7	41.2	93.8	50.6	45.7	51.2	18.3

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	4	1	0	2	2	0	0

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	48	42	50	50	75	62	65
DSTB TSR	96.5	94.6	95	94.3	94.1	92.6	-
DSTB Cure rate	91.9	88.7	87.6	72.7	87.7	92.3	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	607	548	601	670	669	554	602
TB among children (< 15)	77	85	85	113	104	76	91
Proportion of childhood TB	*12.7%*	*15.5%*	*14.1%*	*16.9%*	*15.5%*	*13.7%*	*15.1%*

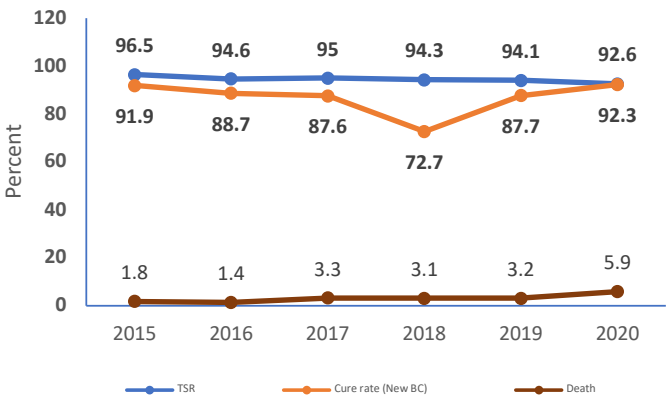
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	247	232	250	268	278	222	251
New Clinically Diagnosed	196	158	203	209	201	162	182
Previously Treated	34	13	20	22	31	23	17
Extra Pulmonary	130	128	128	171	160	149	152
Totals	**607**	**531**	**601**	**670**	**670**	**556**	**602**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	0	0.1	0	0.1	0	0	0

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	88.6	97.4	98.3	98.3	100	100	100
TB/ HIV Co- infection rate	1.1	1.6	2.6	3.5	3.5	2.1	3.1
ART uptake	100	77.7	100	100	100	100	100
CPT Uptake	100	100	93.7	100	100	100	100

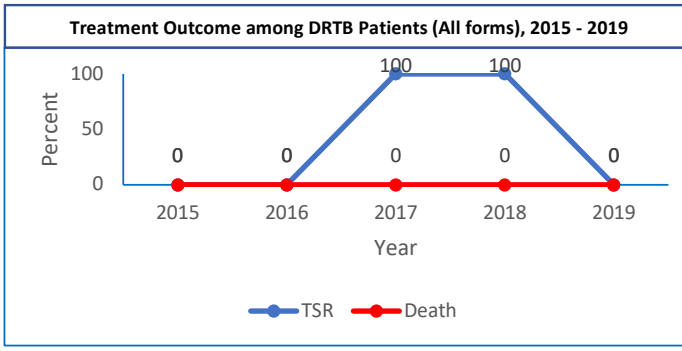
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	57.4	53.6	46.4	41.7	54.7	55.9	57.1
Proportion of malnourished on food support (RUTF/FBF)	59.8	43.6	59.2	51.9	49	47.8	29

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	0	0	1	2	6	2	5
MDR	0	0	0	2	0	1	1
Mono Resistant	0	0	1	0	1	0	1
PDR	0	0	0	0	0	0	0
Pre XDR	0	0	0	0	0	0	0
XDR	0	0	0	0	0	0	0
Total	**0**	**0**	**2**	**4**	**7**	**3**	**7**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	258	238	256	280	223	237	263
Number of <5 on TPT	-	6	31	104	186	161	110
TPT Uptake among <5 (%)	0	7.5	36.3	111.4	250.2	203.7	125.4

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	0	0	0	0	0	0	0

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	188	179	218	226	201	125	112
DSTB TSR	92.8	91	86.9	81.9	85.8	82.6	-
DSTB Cure rate	83.5	72.9	43.7	68.7	67.3	71.1	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	645	563	693	734	628	592	547
TB among children (< 15)	63	56	81	86	85	34	43
Proportion of childhood TB	*9.8%*	*9.9%*	*11.7%*	*11.7%*	*13.5%*	*5.7%*	*7.9%*

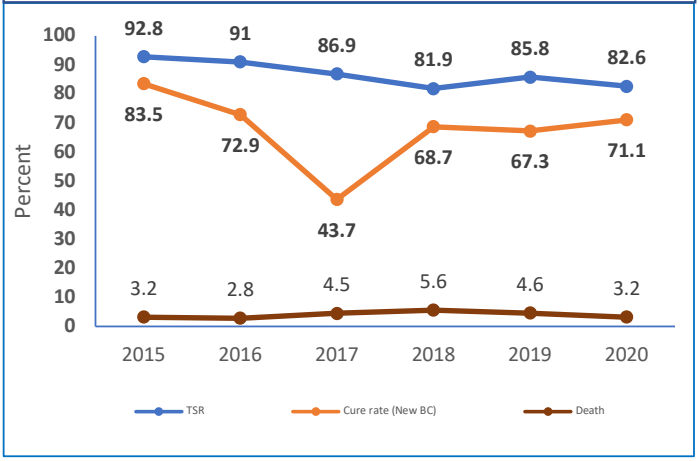
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	310	322	411	378	331	343	333
New Clinically Diagnosed	234	171	176	234	216	145	135
Previously Treated	23	14	30	34	45	52	40
Extra Pulmonary	78	76	76	88	65	54	39
Totals	**645**	**583**	**693**	**734**	**657**	**594**	**547**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	18.2	11.5	19.4	14.4	17.6	12.5	16.6

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	85.8	86.6	91.7	96.1	100	97.4	85.1
TB/ HIV Co- infection rate	8.2	10.1	11.3	8.1	9	11.1	8.9
ART uptake	96.2	100	94.9	98.3	98.2	90.9	97.9
CPT Uptake	100	100	97.4	100	98.2	93.9	100

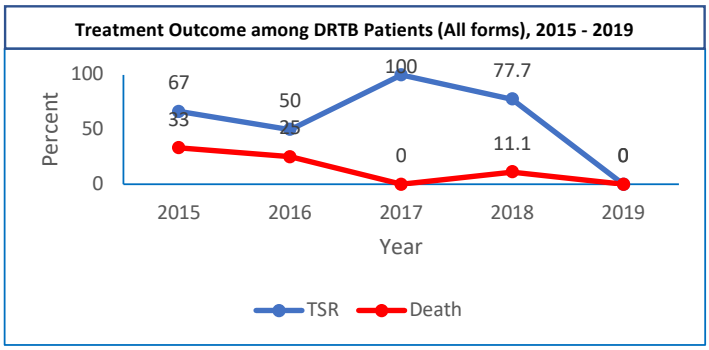
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	53.9	54.3	41.1	56.2	60.8	60.3	62.8
Proportion of malnourished on food support (RUTF/FBF)	18.7	12.6	24.5	51.9	61.7	42.9	28.5

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	0	2	0	5	1	2	5
MDR	2	1	1	4	3	4	2
Mono Resistant	1	1	0	0	0	6	3
PDR	0	0	0	0	0	1	0
Pre XDR	0	0	0	0	0	0	0
XDR	0	0	0	0	0	0	0
Total	**3**	**4**	**1**	**9**	**4**	**13**	**10**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	328	332	429	392	316	380	366
Number of <5 on TPT	16	27	75	99	42	46	5
TPT Uptake among <5 (%)	14.6	24.3	52.4	75.7	39.8	36.3	4

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	0	0	0	0	0	0	0

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	236	217	279	308	274	228	235
DSTB TSR	87.9	84.8	82.5	84.5	85.2	85.5	-
DSTB Cure rate	77.8	69.1	64.1	62.9	72.2	81.3	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	3,423	3,184	4,145	4,701	4,017	3,607	3,818
TB among children (< 15)	249	302	283	437	325	279	294
Proportion of childhood TB	*7.3%*	*9.5%*	*6.8%*	*9.3%*	*8.1%*	*7.7%*	*7.7%*

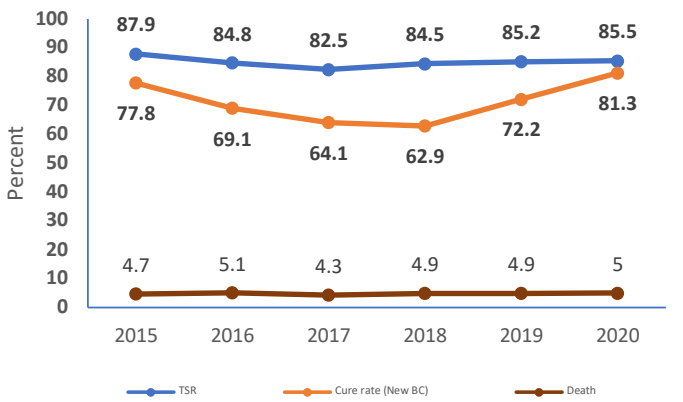
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	2,212	2,191	2,593	2,519	2,396	2,197	2,413
New Clinically Diagnosed	439	385	677	1,202	939	674	749
Previously Treated	228	167	287	402	386	330	295
Extra Pulmonary	544	588	588	578	440	421	361
Totals	**3,423**	**3,331**	**4,145**	**4,701**	**4,161**	**3,622**	**3,818**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	15.4	17.1	21.9	16.6	20.3	19.4	20.4

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	98.5	98.7	95.9	98	100	98.4	93.5
TB/ HIV Co- infection rate	16.7	17.5	17.9	16.1	17.4	16.1	15.8
ART uptake	96	94.2	95.5	94.7	93.9	98.1	93.5
CPT Uptake	99.3	98.2	98.6	98.4	97.5	99.3	98

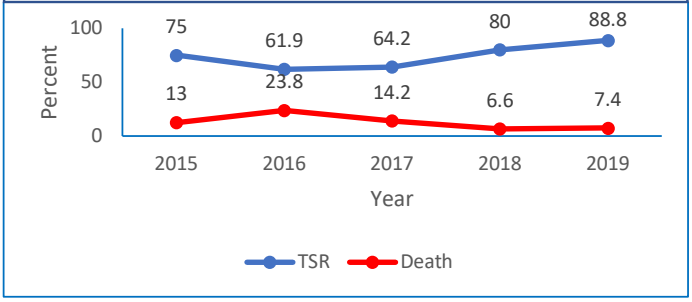
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	51.2	52.1	49.6	45.4	53.4	54.6	55.3
Proportion of malnourished on food support (RUTF/FBF)	11	11.5	18	24.3	24.2	12.2	10.6

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	2	13	7	18	6	13	24
MDR	3	6	8	10	3	9	2
Mono Resistant	3	2	13	11	17	50	54
PDR	0	0	0	5	0	0	0
Pre XDR	0	0	0	1	1	1	2
XDR	0	0	0	0	0	0	0
Total	**8**	**21**	**28**	**45**	**27**	**73**	**82**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	2,403	2,351	2,830	2,809	2,159	2,489	2,707
Number of <5 on TPT	460	359	511	545	504	504	458
TPT Uptake among <5 (%)	57.4	45.8	54.1	58.2	70	60.7	50.7

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	0	0	1	1	1	1	1

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	177	147	139	168	149	126	131
DSTB TSR	87.9	86.5	90.4	89.7	90.9	92.3	-
DSTB Cure rate	79.4	71.7	75.5	75	73.3	81.3	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	1,927	1,655	1,521	1,875	1,699	1,461	1,568
TB among children (< 15)	144	129	116	171	130	83	125
Proportion of childhood TB	*7.5%*	*7.8%*	*7.6%*	*9.1%*	*7.7%*	*5.7%*	*8.0%*

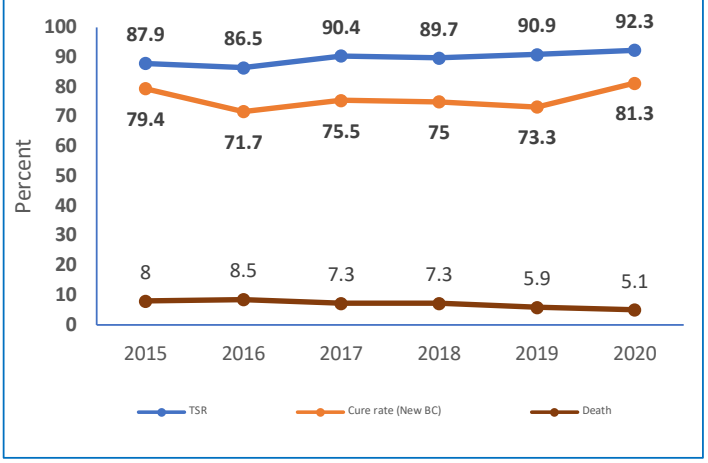
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	754	812	790	828	813	713	776
New Clinically Diagnosed	784	515	412	661	575	456	492
Previously Treated	81	21	58	72	56	87	101
Extra Pulmonary	308	261	261	314	264	208	199
Totals	**1,927**	**1,609**	**1,521**	**1,875**	**1,708**	**1,464**	**1,568**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	13.4	12.8	24.9	22	29	33.6	31.8

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	99.7	99.6	99.6	99.2	100	99.5	99.4
TB/ HIV Co- infection rate	53.8	51.9	47.5	44	42.3	41.7	37.3
ART uptake	98.3	98.6	99.7	99	99.5	100	99.6
CPT Uptake	99.9	100	99.8	99.7	99.8	96.7	95

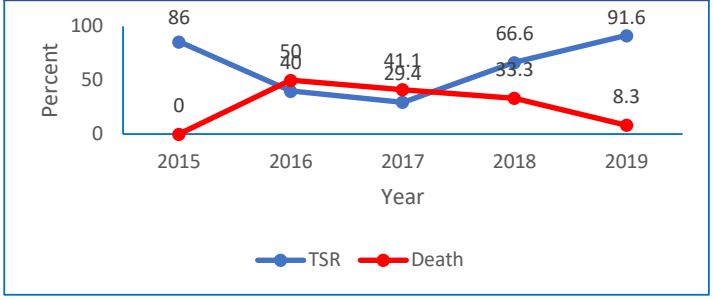
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	40	39.4	37.7	30.5	34.6	37.4	34.5
Proportion of malnourished on food support (RUTF/FBF)	44.8	46.2	32.2	18.7	17.5	14.1	10.7

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	2	4	12	7	5	17	10
MDR	5	4	3	1	5	2	2
Mono Resistant	0	2	1	1	2	5	5
PDR	0	0	0	0	0	0	0
Pre XDR	0	0	0	0	0	0	0
XDR	0	0	0	0	0	0	0
Total	**7**	**10**	**16**	**9**	**12**	**24**	**17**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	795	822	828	869	777	769	842
Number of <5 on TPT	15	254	369	84	171	245	264
TPT Uptake among <5 (%)	5.6	92.7	133.6	28.9	66	95.5	94

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	2	1	0	5	7	7	6

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	360	295	313	302	285	262	277
DSTB TSR	88.3	84	87.2	83.1	85.9	83.8	-
DSTB Cure rate	80.3	78.1	79.6	87.9	76.2	84.4	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	4,223	3,606	3,835	3,889	3,545	3,263	3,547
TB among children (< 15)	311	227	229	287	217	236	330
Proportion of childhood TB	*7.4%*	*6.3%*	*6.0%*	*7.4%*	*6.1%*	*7.2%*	*9.3%*

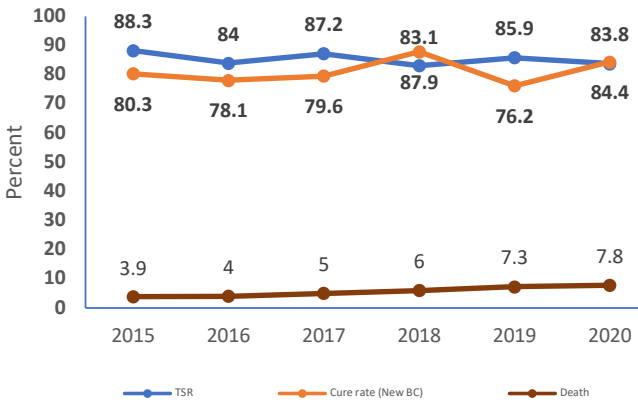
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	2,090	2,130	2,282	2,028	2,136	1,915	1,850
New Clinically Diagnosed	913	645	677	975	777	603	854
Previously Treated	468	245	340	378	439	414	499
Extra Pulmonary	752	536	536	508	391	340	344
Totals	**4,223**	**3,556**	**3,835**	**3,889**	**3,743**	**3,272**	**3,547**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	27.4	27.3	30.7	26.3	28.1	31.5	31

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	97.4	97	97.8	97.7	100	98.6	97.8
TB/ HIV Co- infection rate	28.1	29	28.5	27.8	28.8	26.1	22.1
ART uptake	98	97.6	97.6	97.5	96.2	96.8	93.7
CPT Uptake	99.4	99.4	99.1	99	99	99	97.7

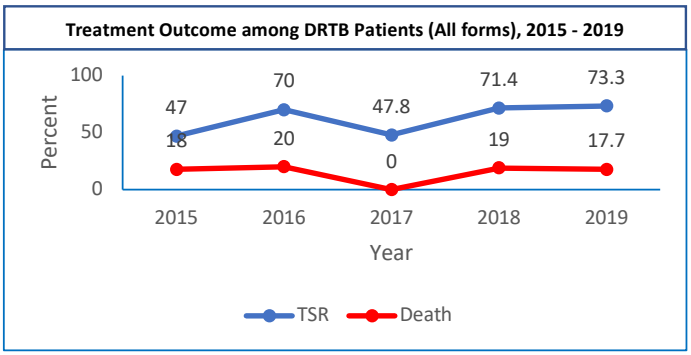
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	38.2	39.3	21.9	37.4	44.4	42.6	44.7
Proportion of malnourished on food support (RUTF/FBF)	7.6	8.7	19.9	33.5	19.7	17.4	12.4

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	8	3	16	25	25	25	35
MDR	6	10	4	5	15	14	6
Mono Resistant	2	7	3	11	5	24	14
PDR	0	0	0	1	0	0	1
Pre XDR	1	0	0	0	0	1	0
XDR	0	0	0	0	0	0	0
Total	**17**	**20**	**23**	**42**	**45**	**64**	**56**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	2,419	2,309	2,513	2,253	2,329	2,187	2,169
Number of <5 on TPT	223	264	247	277	281	360	216
TPT Uptake among <5 (%)	27.6	34.3	29.4	36.8	36.1	49.3	29.8

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	9	18	4	6	4	2	3

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	199	143	185	204	181	172	175
DSTB TSR	89.1	85.5	84.2	84	85.9	83.1	-
DSTB Cure rate	87.5	76.9	75.9	73.8	78.2	89.8	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	1,870	1,487	2,039	2,315	2,103	1,851	1,933
TB among children (< 15)	88	98	170	237	204	167	184
Proportion of childhood TB	*4.7%*	*6.6%*	*8.3%*	*10.2%*	*9.7%*	*9.0%*	*9.5%*

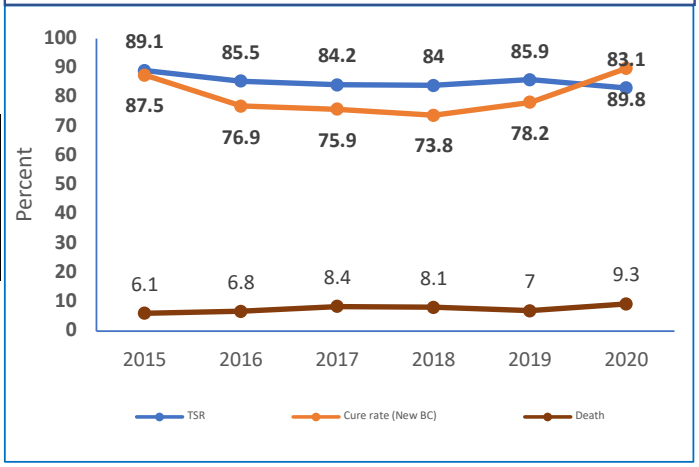
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	1,071	934	1,129	1,081	1,022	960	947
New Clinically Diagnosed	366	225	519	768	708	524	578
Previously Treated	170	106	165	211	230	207	216
Extra Pulmonary	263	226	226	255	164	171	192
Totals	**1,870**	**1,491**	**2,039**	**2,315**	**2,124**	**1,862**	**1,933**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	9.3	9.9	15.8	12	12.4	15.4	13.5

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	99.5	99.5	98.4	99	100	99.4	99.4
TB/ HIV Co- infection rate	23.2	22.2	19.3	20.6	19.3	16.8	15.6
ART uptake	96.7	98.1	98.4	96.6	98.2	98.7	98
CPT Uptake	100	99.3	99.2	98.9	99.5	99.3	99.6

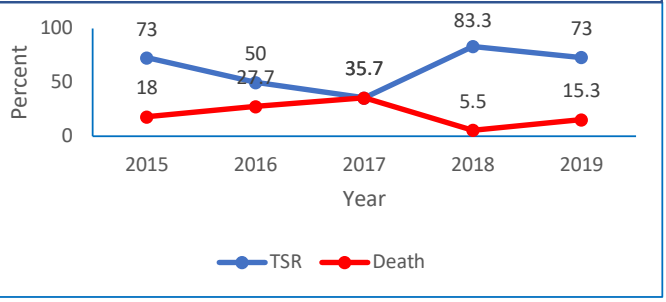
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	51.6	49.5	33.5	43.5	49.8	48.7	50.9
Proportion of malnourished on food support (RUTF/FBF)	30.8	28.9	26.9	23.4	15.5	6.9	1.5

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	6	12	4	14	10	12	7
MDR	0	2	5	0	6	6	1
Mono Resistant	2	4	4	4	6	8	13
PDR	0	0	0	0	3	0	0
Pre XDR	3	0	0	0	1	0	0
XDR	0	0	0	0	0	0	0
Total	**11**	**18**	**13**	**18**	**26**	**26**	**21**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	1,205	1,020	1,260	1,213	1,008	1,104	1,094
Number of <5 on TPT	163	131	263	168	186	229	207
TPT Uptake among <5 (%)	40.5	38.5	62.6	41.5	55.3	62.2	56.7

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	0	0	1	1	0	0	0

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	311	305	272	274	242	208	226
DSTB TSR	85.4	74.3	73.7	85.7	84.6	82.5	-
DSTB Cure rate	75.6	65.9	62.8	70.4	73.6	80.4	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	12,425	12,644	12,803	13,697	12,314	9,437	10,598
TB among children (< 15)	805	947	882	1,169	1,000	570	1,083
Proportion of childhood TB	*6.5%*	*7.5%*	*6.9%*	*8.5%*	*8.1%*	*6.0%*	*10.2%*

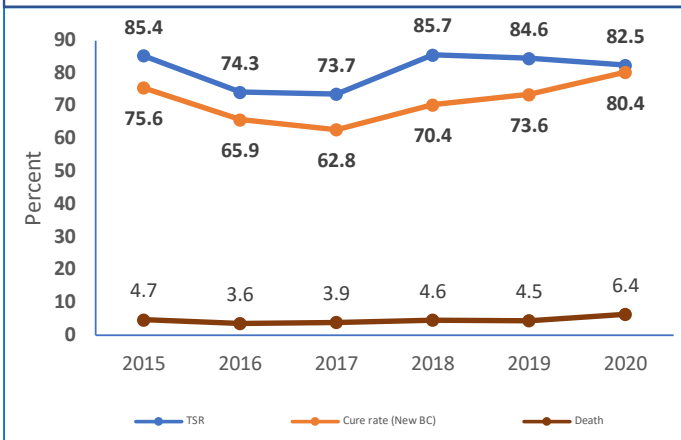
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	5,414	5,673	6,009	6,040	5,789	4,735	4,614
New Clinically Diagnosed	2,939	2,949	2,760	3,507	3,108	1,869	2,825
Previously Treated	1,131	849	837	1,120	1,115	902	976
Extra Pulmonary	2,941	3,197	3,197	3,030	2,494	2,011	2,183
Totals	**12,425**	**12,668**	**12,803**	**13,697**	**12,506**	**9,517**	**10,598**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	30.3	27.6	34.6	31.4	30.8	33	33.2

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	96	92.8	94.1	96.5	100	99	98.4
TB/ HIV Co- infection rate	34.5	32.3	30.4	29.5	29.5	27.6	25.7
ART uptake	93.6	92.6	92.9	95.4	97.2	96.8	97.4
CPT Uptake	99.2	97.2	97.5	98.3	99.2	98.5	98.2

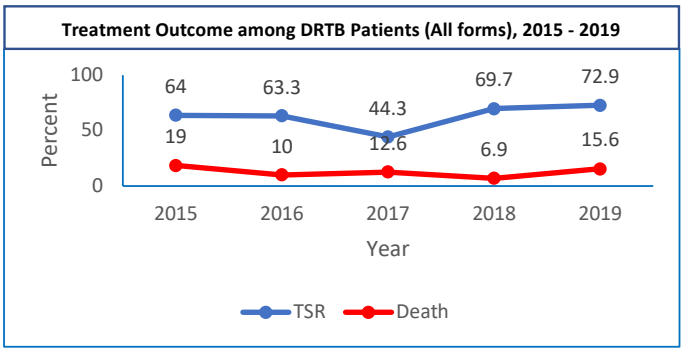
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	31.5	29.7	28.3	32	36.1	35.4	36.3
Proportion of malnourished on food support (RUTF/FBF)	12.6	12.8	15.1	19.9	26.7	19.9	16.5

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	20	16	30	40	42	55	35
MDR	36	25	27	18	29	19	9
Mono Resistant	21	15	9	25	24	33	51
PDR	0	1	1	2	0	2	0
Pre XDR	8	2	0	0	0	5	2
XDR	1	1	1	0	0	0	0
Total	**86**	**60**	**68**	**85**	**95**	**114**	**97**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	6,167	6,280	6,634	6,802	6,150	5,831	5,962
Number of <5 on TPT	349	801	1,083	1,135	786	750	484
TPT Uptake among <5 (%)	16.9	38.2	48.9	50	38.3	38.5	24.3

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	1	3	0	0	8	2	6

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	186	156	164	165	146	136	123
DSTB TSR	86.6	84.6	82.1	83.2	86.5	85.1	-
DSTB Cure rate	73.9	62.1	69.2	65.8	70.2	72.9	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	3,633	3,169	3,438	3,634	3,302	2,983	2,781
TB among children (< 15)	263	197	256	220	273	179	197
Proportion of childhood TB	*7.2%*	*6.2%*	*7.4%*	*6.1%*	*8.3%*	*6.0%*	*7.1%*

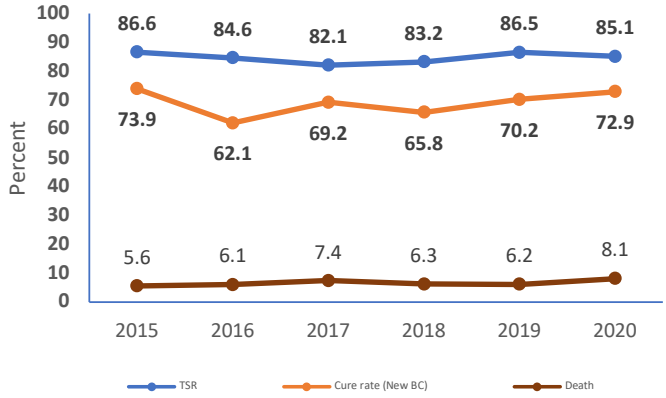
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	1,620	1,557	1,661	1,882	1,864	1,764	1,548
New Clinically Diagnosed	1,142	828	1,010	1,022	850	594	654
Previously Treated	302	211	224	248	281	276	206
Extra Pulmonary	569	543	543	482	369	360	373
Totals	**3,633**	**3,139**	**3,438**	**3,634**	**3,364**	**2,994**	**2,781**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	11.7	13.3	17.3	12.1	11.5	15.6	12.9

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	97.5	97.9	99.6	99.3	100	99.2	98.9
TB/ HIV Co- infection rate	36	32.2	30.4	27.9	25.3	24	23.5
ART uptake	94.6	98	99.1	99.4	97	97.9	98.1
CPT Uptake	100	99.7	99.8	99.7	98.5	98.1	99

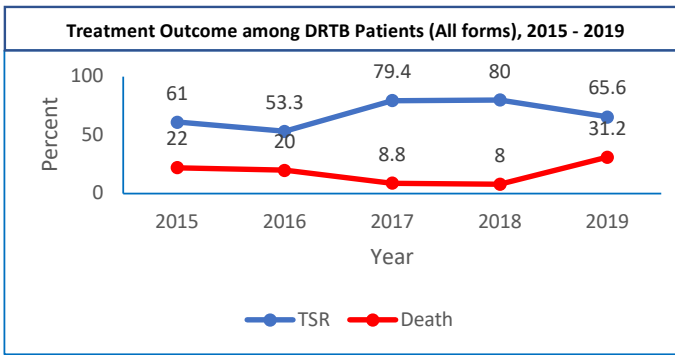
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	39.9	40.2	37	35.1	39	40.8	46.6
Proportion of malnourished on food support (RUTF/FBF)	20.2	23.7	26.7	29.6	18.3	8.8	7

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	0	4	16	10	22	25	17
MDR	13	7	4	6	2	8	1
Mono Resistant	4	4	11	9	8	14	12
PDR	0	0	0	0	0	0	0
Pre XDR	1	0	1	0	0	0	0
XDR	0	0	1	0	0	0	0
Total	**18**	**15**	**33**	**25**	**32**	**47**	**30**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	1,806	1,688	1,790	2,039	1,658	1,978	1,703
Number of <5 on TPT	446	1,224	445	183	186	229	149
TPT Uptake among <5 (%)	74	217.5	74.5	26.9	33.6	34.7	26.2

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	0	1	1	0	0	0	2

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	77	73	78	79	72	70	77
DSTB TSR	89.9	87.6	85.8	85.9	84.3	81.6	-
DSTB Cure rate	78.4	78.6	76.5	70.1	71.7	76.5	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	712	688	763	811	705	629	715
TB among children (< 15)	62	54	64	65	43	26	34
Proportion of childhood TB	*8.7%*	*7.8%*	*8.4%*	*8.0%*	*6.1%*	*4.1%*	*4.8%*

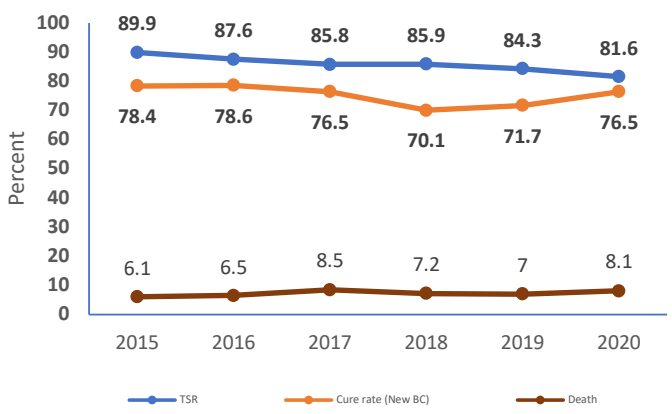
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	358	352	409	415	521	456	510
New Clinically Diagnosed	162	193	192	206	105	79	90
Previously Treated	48	41	50	54	41	37	47
Extra Pulmonary	144	112	112	136	88	59	68
Totals	**712**	**698**	**763**	**811**	**755**	**631**	**715**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	2.2	2.4	4	3.8	3.9	4.1	3

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	98.1	98.2	97.9	97.9	100	96.5	93.1
TB/ HIV Co- infection rate	35.9	29.6	26.9	27.4	25.2	23.8	26.4
ART uptake	98	97	95.1	96.8	94.3	96	93.6
CPT Uptake	99.2	99	99.5	100	98.8	99.3	97.3

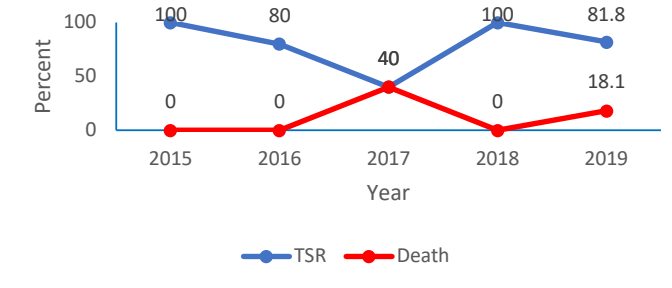
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	55.4	49.4	26	51.1	54.4	48.1	52.4
Proportion of malnourished on food support (RUTF/FBF)	25.8	26.7	33.4	40.4	38.5	8.2	24.3

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	0	2	3	2	8	4	4
MDR	0	0	0	0	1	1	0
Mono Resistant	1	3	1	2	2	5	1
PDR	0	0	1	0	0	0	0
Pre XDR	0	0	0	0	0	0	0
XDR	0	0	0	0	0	0	0
Total	**1**	**5**	**5**	**4**	**11**	**10**	**5**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	399	384	447	454	370	493	560
Number of <5 on TPT	51	94	193	94	112	104	44
TPT Uptake among <5 (%)	38.3	73.4	129.5	62.1	90.8	63.2	23.5

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	0	0	0	0	0	0	0

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	161	124	129	141	118	105	114
DSTB TSR	89.9	84.7	86.9	85.6	87.8	87.2	-
DSTB Cure rate	75.3	63.3	69.5	62.6	61	67.7	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	1,624	1,336	1,442	1,664	1,385	1,259	1,416
TB among children (< 15)	187	156	183	232	166	130	153
Proportion of childhood TB	*11.5%*	*11.7%*	*12.7%*	*13.9%*	*12.0%*	*10.3%*	*10.8%*

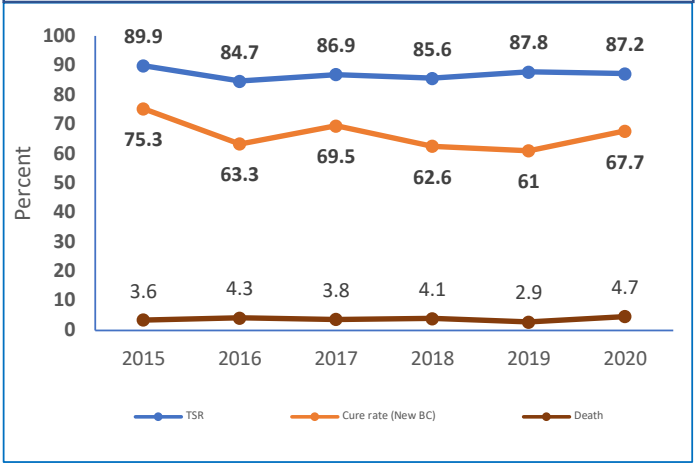
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	739	674	746	722	678	669	706
New Clinically Diagnosed	574	392	426	623	473	361	407
Previously Treated	75	59	89	116	94	71	84
Extra Pulmonary	236	181	181	203	173	159	219
Totals	**1,624**	**1,306**	**1,442**	**1,664**	**1,418**	**1,260**	**1,416**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	6.6	6.5	13.5	11.8	13	15.8	14.8

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	97.8	97.2	97.6	98.4	100	97.6	90.6
TB/ HIV Co- infection rate	26.9	24.2	20.3	20.2	18.4	17.3	18.2
ART uptake	93.3	95.6	96.9	94.3	95.3	94.9	97.6
CPT Uptake	98.8	99	99.6	98.5	98.8	95.8	96.5

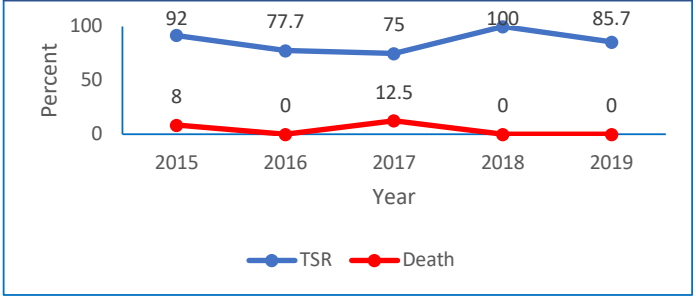
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	45.9	42.8	33.2	36.2	44.7	45.5	48.4
Proportion of malnourished on food support (RUTF/FBF)	16.8	30	28.2	28	27.4	18	23.1

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	1	5	4	9	5	6	5
MDR	0	2	0	0	1	0	0
Mono Resistant	8	1	4	3	1	3	3
PDR	0	0	0	0	0	0	0
Pre XDR	3	1	0	0	0	1	0
XDR	0	0	0	0	0	0	0
Total	**12**	**9**	**8**	**12**	**7**	**10**	**8**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	786	710	798	778	588	712	762
Number of <5 on TPT	51	241	117	124	37	81	53
TPT Uptake among <5 (%)	19.4	101.8	43.9	47.8	18.8	34.1	20.8

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	0	0	0	0	1	0	0

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	109	112	106	101	119	118	133
DSTB TSR	90.5	90	87.7	89.5	91.1	91.3	-
DSTB Cure rate	90.7	90	88.7	75.3	92	96.4	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	733	774	760	748	886	728	853
TB among children (< 15)	45	46	50	44	50	35	71
Proportion of childhood TB	*6.1%*	*5.9%*	*6.6%*	*5.9%*	*5.6%*	*4.8%*	*8.3%*

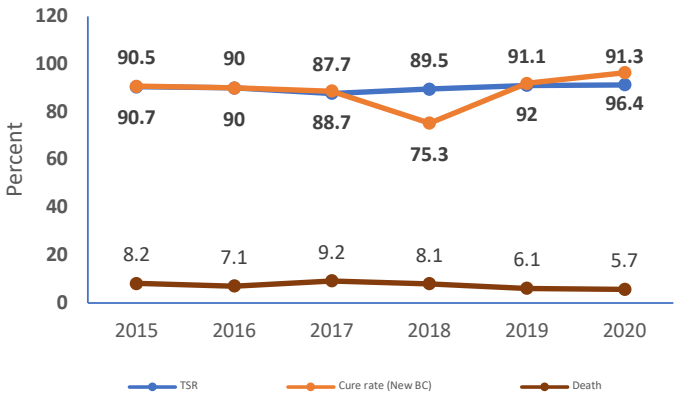
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	391	422	435	386	515	450	461
New Clinically Diagnosed	231	228	227	264	253	183	288
Previously Treated	21	27	27	33	43	34	44
Extra Pulmonary	90	71	71	65	75	63	60
Totals	**733**	**748**	**760**	**748**	**886**	**730**	**853**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	6.8	2.9	9	8	7.5	8.9	9.3

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	99.5	99.3	99.8	99.8	100	100	100
TB/ HIV Co- infection rate	37.3	35.4	33	31.6	31	29.8	26.7
ART uptake	98.1	99.6	100	99.5	100	100	100
CPT Uptake	100	100	100	99.5	100	99	100

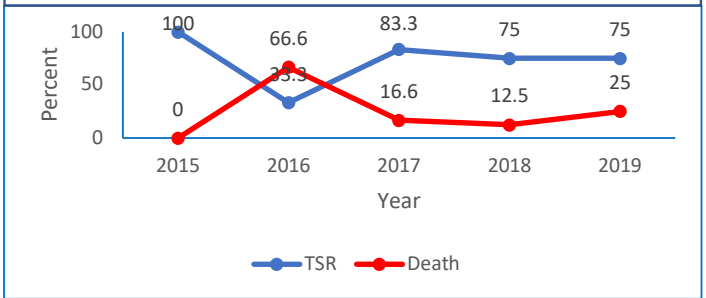
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	39	36	36.1	37	44.5	40.7	42.7
Proportion of malnourished on food support (RUTF/FBF)	17	20.8	40.9	34.6	39.2	16.3	21.4

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	0	1	2	6	5	6	4
MDR	5	0	2	1	3	1	2
Mono Resistant	0	2	1	1	0	0	3
PDR	0	0	0	0	0	0	0
Pre XDR	0	0	0	0	0	0	0
XDR	0	0	0	0	0	0	0
Total	**5**	**3**	**5**	**8**	**8**	**7**	**9**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	404	446	456	412	350	476	484
Number of <5 on TPT	40	111	149	84	118	180	183
TPT Uptake among <5 (%)	29.7	74.6	98	61.1	101.1	113.4	113.4

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	0	0	1	0	1	0	0

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	114	96	118	112	105	91	98
DSTB TSR	88.3	85.3	87.2	90.2	88.7	86.4	-
DSTB Cure rate	89.8	81.1	85.6	83.4	88.1	98.3	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	742	639	809	802	765	589	651
TB among children (< 15)	53	51	94	97	84	72	106
Proportion of childhood TB	*7.1%*	*8.0%*	*11.6%*	*12.1%*	*11.0%*	*12.2%*	*16.3%*

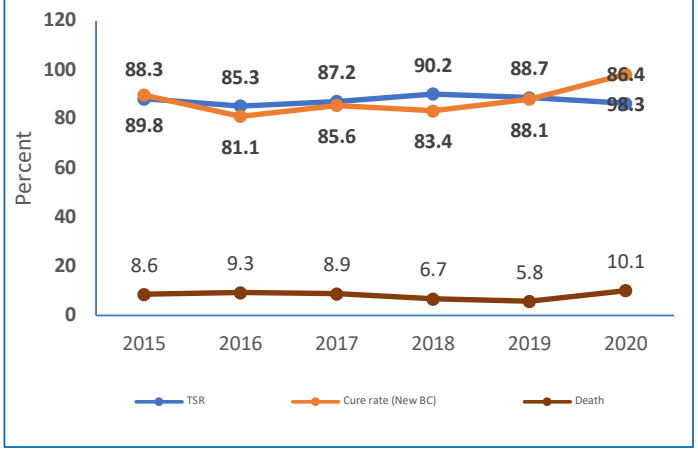
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	314	329	327	321	364	248	280
New Clinically Diagnosed	221	165	295	312	248	203	240
Previously Treated	63	35	50	50	46	57	41
Extra Pulmonary	144	137	137	119	109	83	90
Totals	**742**	**666**	**809**	**802**	**767**	**591**	**651**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	16.8	10.4	11.8	6.9	7.3	11.2	9.8

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	99.8	99.3	99.7	99.5	100	99.6	99.8
TB/ HIV Co- infection rate	37.6	33.4	31.5	24	22.8	20	19.9
ART uptake	97.1	99	94.9	95.8	99.4	99.1	98.4
CPT Uptake	100	100	99.6	99.4	100	100	98.4

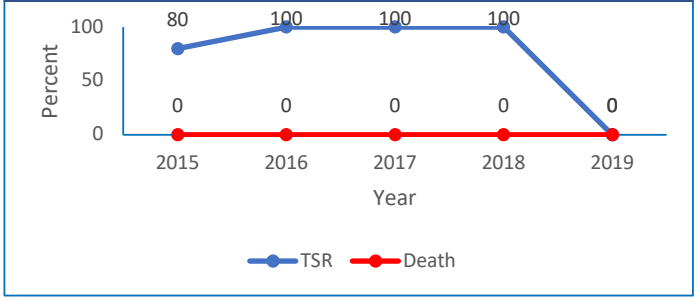
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	38.1	38	36.9	35.1	41.3	39.5	44.3
Proportion of malnourished on food support (RUTF/FBF)	12.5	36.6	37.8	37.5	35.8	12.5	20.8

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	5	1	1	2	5	2	6
MDR	0	1	1	1	1	2	0
Mono Resistant	0	0	1	1	1	3	1
PDR	0	0	0	0	0	0	0
Pre XDR	0	0	0	0	0	0	0
XDR	0	0	0	0	0	0	0
Total	**5**	**2**	**3**	**4**	**7**	**7**	**7**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	347	357	361	348	324	290	314
Number of <5 on TPT	17	170	113	50	82	56	70
TPT Uptake among <5 (%)	14.6	142.8	93.9	43.1	75.9	57.9	66.8

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	0	1	1	0	0	0	0

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	88	142	159	189	171	168	199
DSTB TSR	87.6	85	82.1	80.7	82.7	79.7	-
DSTB Cure rate	78.8	74.1	70.5	65.8	66.7	77.8	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	1,320	1,018	1,294	1,584	1,378	1,301	1,311
TB among children (< 15)	66	59	137	185	223	167	204
Proportion of childhood TB	5.0%	5.8%	10.6%	11.7%	16.2%	12.8%	15.6%

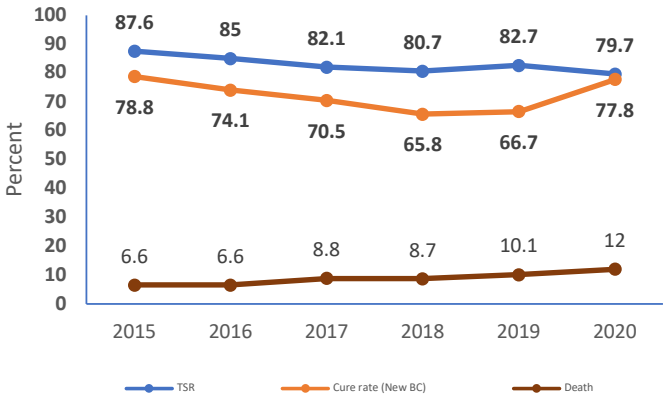
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	592	585	682	627	583	532	540
New Clinically Diagnosed	313	164	332	623	557	469	474
Previously Treated	162	92	115	143	115	105	117
Extra Pulmonary	253	165	165	191	205	206	180
Totals	**1,320**	**1,006**	**1,294**	**1,584**	**1,460**	**1,312**	**1,311**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	20	18.7	19	13.6	15	13.5	12.8

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	98.6	98.4	98.2	98.4	100	96.5	97.4
TB/ HIV Co- infection rate	30.1	29.2	28.5	22.2	20.1	20.2	17.7
ART uptake	93.7	94.2	95.9	95.1	92.4	91.6	93.5
CPT Uptake	99.2	97.9	97.8	97.4	95.3	95.4	93.9

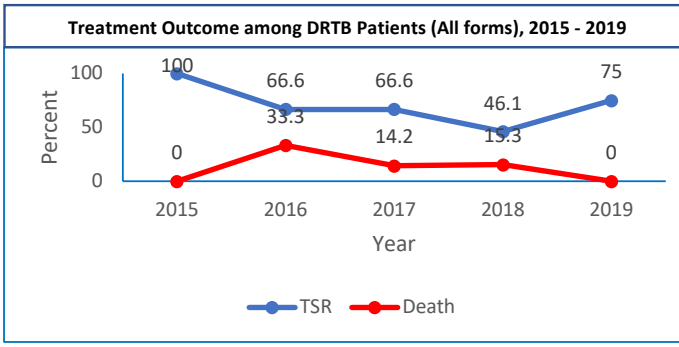
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	44.7	42.2	39.4	33.2	42.3	38.5	39.6
Proportion on food support (RUTF & FBF)	16.8	15.6	19	16.7	10	0.6	0.5

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	2	5	9	9	6	6	2
MDR	1	1	2	0	1	0	0
Mono Resistant	2	0	10	3	5	3	2
PDR	0	0	0	0	0	0	0
Pre XDR	0	0	0	1	0	0	0
XDR	0	0	0	0	0	0	0
Total	**5**	**6**	**21**	**13**	**12**	**9**	**4**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	708	658	747	707	563	604	614
Number of <5 on TPT	130	81	145	60	40	79	32
TPT Uptake among <5 (%)	55	36.9	58.2	25.4	21.3	39.2	15.6

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	0	0	1	0	0	0	0

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	221	212	205	235	251	192	203
DSTB TSR	87.5	90.6	86	83.5	85	83.9	-
DSTB Cure rate	77.7	73.1	75.6	60.7	68	78.1	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	590	583	587	698	731	620	679
TB among children (< 15)	69	72	89	117	106	71	76
Proportion of childhood TB	*11.7%*	*12.3%*	*15.2%*	*16.8%*	*14.5%*	*11.5%*	*11.2%*

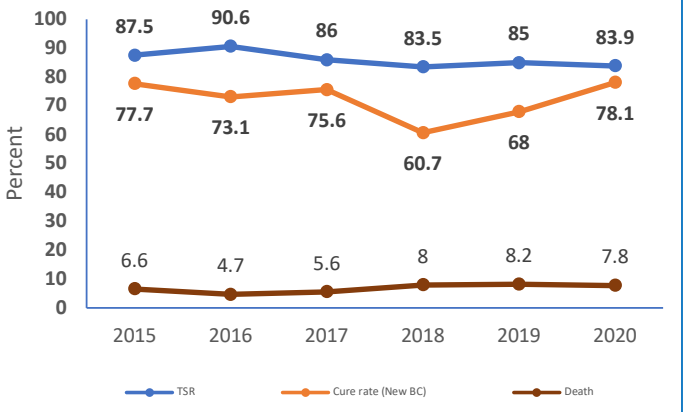
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	287	272	255	260	319	321	362
New Clinically Diagnosed	201	221	236	368	330	200	214
Previously Treated	33	20	34	20	65	70	61
Extra Pulmonary	69	62	62	50	51	30	42
Totals	**590**	**575**	**587**	**698**	**765**	**621**	**679**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	19.6	15.4	20.6	16.9	14.5	14.1	9.4

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	96.7	95.7	97.7	97.7	100	98.3	97.9
TB/ HIV Co- infection rate	21	21	20.2	14	18	15.3	13.8
ART uptake	94.3	96.7	91.5	95.9	98.4	98.9	96.8
CPT Uptake	100	96.7	94.9	97.9	98.4	100	97.8

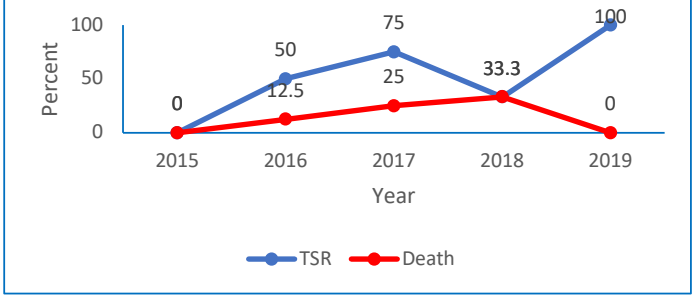
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	68.6	67.7	60.6	62.3	62.1	67.9	68.1
Proportion of malnourished on food support (RUTF/FBF)	35.2	26.5	54.8	34.5	43.9	40.3	21.2

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	0	2	4	2	1	3	2
MDR	0	5	0	1	0	0	0
Mono Resistant	0	1	0	0	1	5	3
PDR	0	0	0	0	0	0	0
Pre XDR	0	0	0	0	0	0	0
XDR	0	0	0	0	0	0	0
Total	**0**	**8**	**4**	**3**	**2**	**8**	**5**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	305	280	273	269	253	365	400
Number of <5 on TPT	1	28	7	22	30	136	91
TPT Uptake among <5 (%)	0.9	30	7.6	24.5	35.5	111.7	68.2

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	0	0	0	0	0	0	0

SIAYA

Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	205	175	189	209	203	212	276
DSTB TSR	82.9	80	78.9	81.3	86.8	86.1	-
DSTB Cure rate	76.8	72	74.8	70.3	83.3	90.5	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	1,931	1,676	1,824	2,128	2,048	2,168	2,902
TB among children (< 15)	151	111	152	191	199	153	232
Proportion of childhood TB	*7.8%*	*6.6%*	*8.3%*	*9.0%*	*9.7%*	*7.1%*	*8.0%*

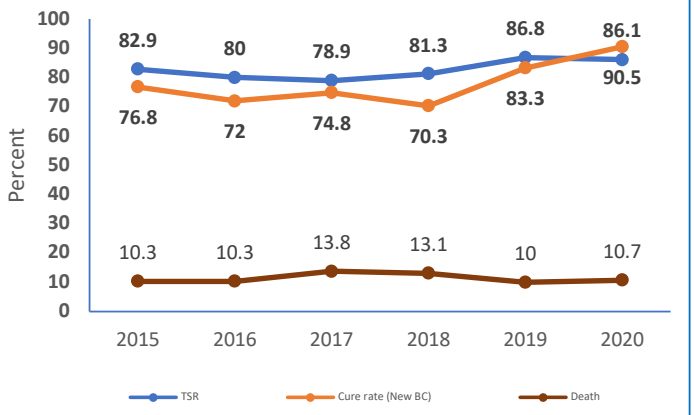
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	875	955	910	901	773	729	736
New Clinically Diagnosed	554	343	510	863	875	1,055	1,763
Previously Treated	157	115	128	128	152	158	167
Extra Pulmonary	345	276	276	236	269	234	236
Totals	**1,931**	**1,689**	**1,824**	**2,128**	**2,069**	**2,176**	**2,902**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	14.5	15.3	15.4	12	13.6	15.4	13.5

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	99.2	99.4	99.2	99.1	100	99.4	99.7
TB/ HIV Co- infection rate	66.2	62.7	57.5	53.7	55.1	54.8	49.5
ART uptake	97.7	97.7	95.8	97.9	97.5	98.5	98.5
CPT Uptake	99.6	99.5	100	99.8	99.9	96.6	99.8

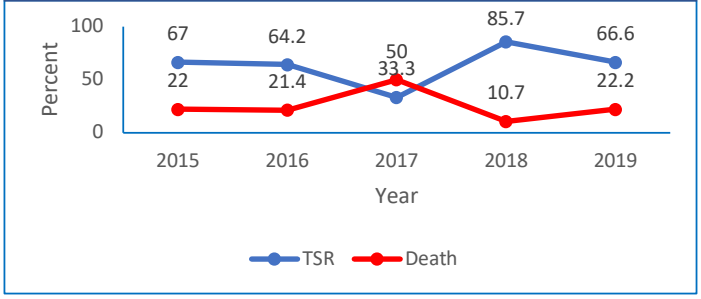
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	46.7	47.8	44	43.1	41.8	41.4	40.8
Proportion of malnourished on food support (RUTF/FBF)	27.9	38.4	28	22.7	20.9	14.1	11.6

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	1	3	4	22	13	6	6
MDR	1	5	2	2	2	10	2
Mono Resistant	7	6	3	4	3	3	4
PDR	0	0	0	0	0	0	0
Pre XDR	0	0	0	0	0	1	0
XDR	0	0	0	0	0	0	0
Total	**9**	**14**	**9**	**28**	**18**	**20**	**12**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	972	1,042	986	976	887	826	816
Number of <5 on TPT	87	263	351	340	336	311	292
TPT Uptake among <5 (%)	26.8	75.7	106.7	104.5	113.6	112.9	107.3

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	12	5	6	12	7	6	5

TAITA TAVETA

Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	153	153	139	164	132	138	143
DSTB TSR	84.7	84.3	83.1	82.5	80	84.1	-
DSTB Cure rate	64.4	61.7	62	68	59.5	78.1	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	504	527	511	633	506	481	511
TB among children (< 15)	58	51	43	72	48	35	31
Proportion of childhood TB	*11.5%*	*9.7%*	*8.4%*	*11.4%*	*9.5%*	*7.3%*	*6.1%*

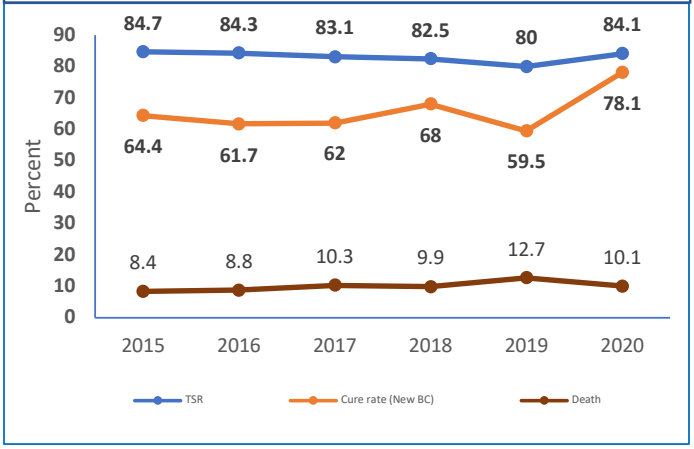
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	245	316	287	291	235	284	229
New Clinically Diagnosed	153	126	106	201	153	96	198
Previously Treated	34	28	47	70	86	56	46
Extra Pulmonary	72	71	71	71	48	47	38
Totals	**504**	**541**	**511**	**633**	**522**	**483**	**511**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	10.5	15.1	8.8	8.2	7.7	13.7	19.1

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	95.8	96.7	95.3	97.7	100	95.6	97
TB/ HIV Co- infection rate	27.9	28.8	23.4	28.1	22.5	19.9	21.7
ART uptake	92.9	95.3	92.5	96.6	96.4	91.6	91.8
CPT Uptake	98.5	99.3	95.8	96.6	95.6	92.7	96.3

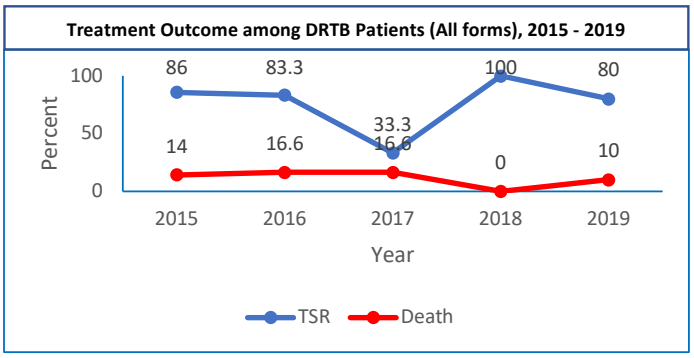
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	42.8	46.1	31.7	43.9	50.9	46.7	42.2
Proportion of malnourished on food support (RUTF/FBF)	13.4	37.1	36.3	41	43.2	32.4	20.9

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	3	2	3	3	5	4	1
MDR	4	2	0	0	2	1	0
Mono Resistant	0	1	3	0	3	2	4
PDR	0	0	0	0	0	0	0
Pre XDR	0	1	0	0	0	1	0
XDR	0	0	0	0	0	0	0
Total	**7**	**6**	**6**	**3**	**10**	**8**	**5**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	266	340	322	325	278	322	257
Number of <5 on TPT	128	158	41	40	28	32	11
TPT Uptake among <5 (%)	144.3	139.4	38.1	36.9	30.2	29.8	12.8

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	2	0	0	2	0	1	0

TANA RIVER

Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	143	146	131	152	127	107	119
DSTB TSR	86.3	88.9	85.7	90.8	91.1	87.7	-
DSTB Cure rate	76.2	72.8	70	70.4	64.7	70.5	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	407	430	410	517	409	352	404
TB among children (< 15)	58	48	63	105	84	80	80
Proportion of childhood TB	*14.3%*	*11.2%*	*15.4%*	*20.3%*	*20.5%*	*22.7%*	*19.8%*

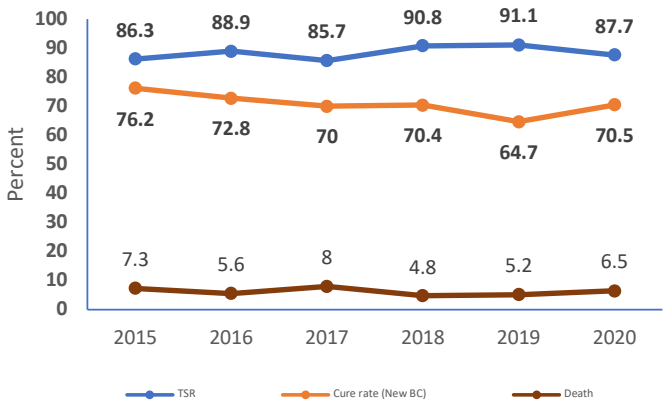
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	177	232	207	186	196	153	167
New Clinically Diagnosed	141	132	151	255	155	161	188
Previously Treated	32	8	10	6	18	14	12
Extra Pulmonary	57	42	42	70	58	27	37
Totals	**407**	**414**	**410**	**517**	**427**	**355**	**404**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	4.4	8.1	5.1	2.3	2.9	1.9	1.7

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	96.8	97.4	98	96.3	100	99.7	91.8
TB/ HIV Co- infection rate	11.3	10.9	8.2	7.3	7	5.3	6.6
ART uptake	97.8	95.7	97	100	100	100	92.5
CPT Uptake	97.8	100	100	100	96.5	100	96.2

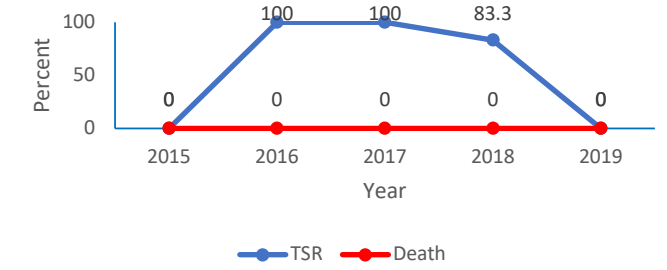
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	48.6	44.4	40.4	39	56.9	48.5	50.7
Proportion of malnourished on food support (RUTF/FBF)	24.8	16.5	17.8	29.4	14.1	31.8	12.3

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	0	2	3	3	1	3	2
MDR	0	0	0	0	0	1	0
Mono Resistant	0	0	0	2	1	0	0
PDR	0	0	0	1	0	0	0
Pre XDR	0	0	0	0	0	0	0
XDR	0	0	0	0	0	0	0
Total	**0**	**2**	**3**	**6**	**2**	**4**	**2**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	194	235	212	188	173	161	174
Number of <5 on TPT	50	378	122	93	67	44	38
TPT Uptake among <5 (%)	77.3	482.5	172.6	148.4	116.1	81.9	65.5

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	1	1	0	0	0	0	0

THARAKA NITHI

Tharaka Nithi County

Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	239	238	290	335	265	240	227
DSTB TSR	91.4	87.8	89.3	89.5	90.1	88.8	-
DSTB Cure rate	86.6	79.6	79.3	68.4	83.7	97.3	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	990	1,009	1,245	1,507	1,192	967	941
TB among children (< 15)	114	162	173	286	196	108	128
Proportion of childhood TB	*11.5%*	*16.1%*	*13.9%*	*19.0%*	*16.4%*	*11.2%*	*13.6%*

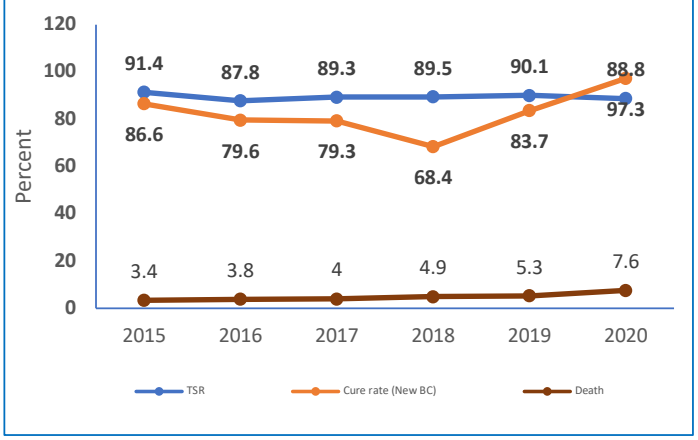
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	457	497	626	526	577	482	484
New Clinically Diagnosed	271	249	344	699	415	313	260
Previously Treated	54	53	42	90	83	71	90
Extra Pulmonary	208	233	233	192	131	107	107
Totals	**990**	**1,032**	**1,245**	**1,507**	**1,206**	**973**	**941**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	33.3	33.9	40.5	26.6	22.7	22.8	18.4

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	98.7	96.9	94.6	95.6	100	99.7	99.4
TB/ HIV Co- infection rate	23.4	22.6	20.3	17.3	16.1	15.8	14.3
ART uptake	99.5	99.1	97.2	99.6	97.9	99.3	100
CPT Uptake	99.1	100	98.8	100	98.4	99.3	100

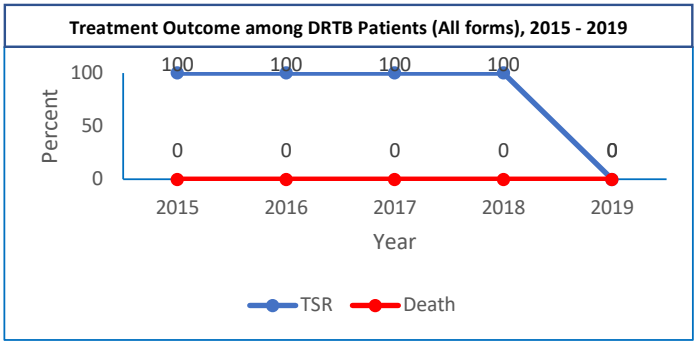
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	40.3	35.7	17.9	33.5	49.8	51.9	54.1
Proportion of malnourished on food support (RUTF/FBF)	8.2	11	12.5	15.5	35.9	10.4	1.1

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	2	3	1	5	3	0	8
MDR	0	0	0	1	1	2	0
Mono Resistant	1	1	0	0	5	9	9
PDR	0	0	0	0	0	1	0
Pre XDR	0	0	0	1	0	0	1
XDR	0	0	0	0	0	0	0
Total	**3**	**4**	**1**	**7**	**9**	**12**	**18**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	499	531	653	575	434	532	554
Number of <5 on TPT	55	32	105	50	101	100	74
TPT Uptake among <5 (%)	33	18	48.2	26	69.8	56.3	40

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	1	1	1	0	0	0	0

TRANS NZOIA

Trans Nzoia County

Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	136	106	128	133	111	93	94
DSTB TSR	84.4	83.6	88.7	83.5	81.9	79.9	-
DSTB Cure rate	67.6	61.9	75.2	59.3	55.9	61.7	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	1,326	1,074	1,310	1,535	1,273	945	987
TB among children (< 15)	175	91	116	173	164	62	63
Proportion of childhood TB	*13.2%*	*8.5%*	*8.9%*	*11.3%*	*12.9%*	*6.6%*	*6.4%*

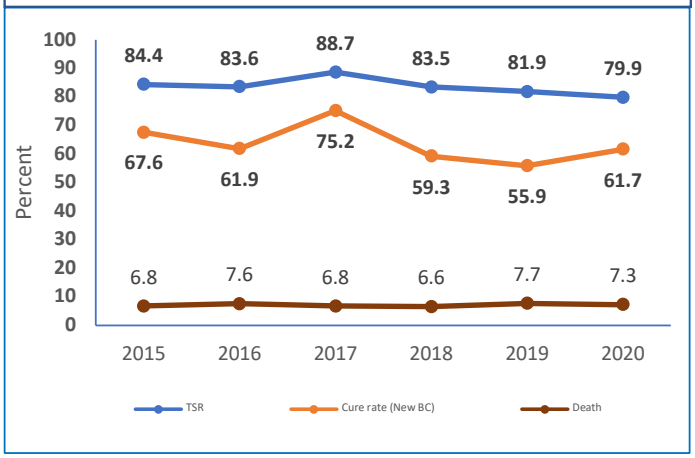
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	510	499	618	625	701	612	622
New Clinically Diagnosed	584	342	525	703	426	193	203
Previously Treated	70	49	48	67	52	72	73
Extra Pulmonary	162	119	119	140	97	69	89
Totals	**1,326**	**1,009**	**1,310**	**1,535**	**1,276**	**946**	**987**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	14.8	16.2	13.3	13.9	19.5	16.6	15.7

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	94.5	97.5	98.6	99.5	100	99.7	99
TB/ HIV Co- infection rate	32.5	29.4	29.7	29.5	28.2	32.4	31.9
ART uptake	90.9	93.6	98.4	98.6	98	98.6	100
CPT Uptake	98.8	99.6	99.2	99.7	100	82.7	96.5

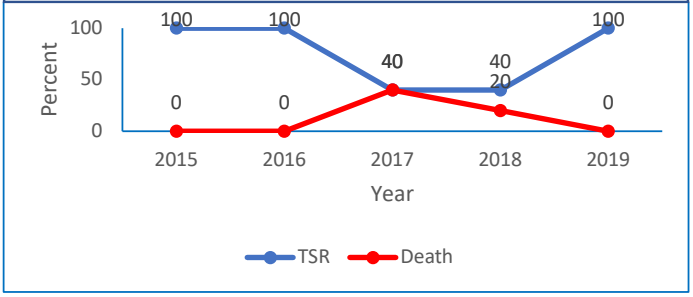
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	41.4	43.6	47.6	53.2	48.3	50.7	51.5
Proportion of malnourished on food support (RUTF/FBF)	24.2	27.5	30.2	27.1	34.3	9.7	4.1

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	1	1	1	7	3	7	6
MDR	0	2	2	3	2	1	3
Mono Resistant	1	0	2	0	1	2	4
PDR	0	0	0	0	0	0	0
Pre XDR	0	0	0	0	0	0	0
XDR	0	0	0	0	0	0	0
Total	**2**	**3**	**5**	**10**	**6**	**10**	**13**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	549	523	647	654	483	674	680
Number of <5 on TPT	92	171	196	94	154	188	39
TPT Uptake among <5 (%)	50.2	98	90.8	43.1	95.6	83.6	17.2

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	3	0	0	0	0	1	0

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	173	134	201	216	203	235	262
DSTB TSR	87.6	82.7	85.6	85.5	85	78.6	-
DSTB Cure rate	56	44.3	51	36.3	52.6	51.5	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	2,248	1,787	2,247	2,560	2,367	2,276	2,632
TB among children (< 15)	397	240	428	495	589	412	514
Proportion of childhood TB	*17.7%*	*13.4%*	*19.0%*	*19.3%*	*24.9%*	*18.1%*	*19.5%*

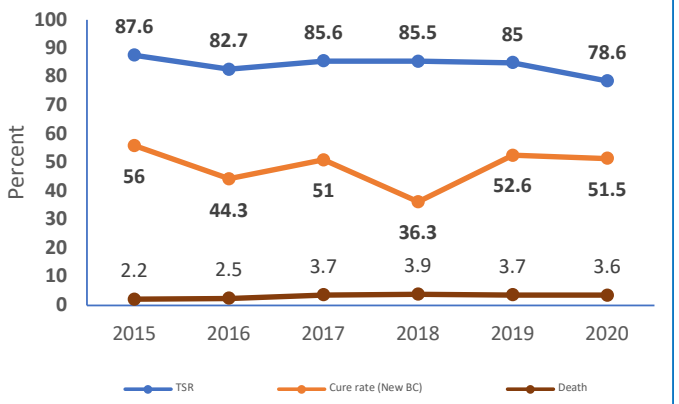
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	971	1,008	1,096	1,111	1,123	1,199	1,277
New Clinically Diagnosed	1,021	546	816	997	864	676	812
Previously Treated	77	62	108	201	231	187	279
Extra Pulmonary	179	227	227	251	239	223	264
Totals	**2,248**	**1,843**	**2,247**	**2,560**	**2,457**	**2,285**	**2,632**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	60	58.3	44	35.4	32.3	33.7	28.4

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	96	96.5	98	96.2	100	97.6	95.3
TB/ HIV Co- infection rate	27	26.8	21	19.7	18.3	16.6	15.7
ART uptake	98.6	97	98.5	97.4	96.3	98.9	91.8
CPT Uptake	99.3	98.7	99.3	98.8	98.3	99.4	96.1

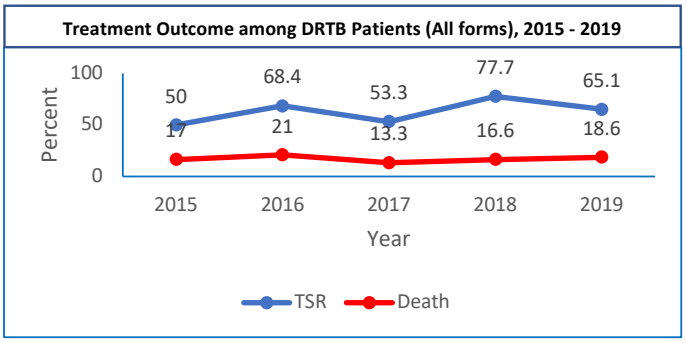
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	54.5	61.7	51.2	54.6	71.7	69.5	69.1
Proportion of malnourished on food support (RUTF/FBF)	38.3	41.8	44.9	61.7	75.8	41.3	28.3

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	1	8	12	11	26	29	23
MDR	1	4	3	4	9	6	1
Mono Resistant	4	7	0	3	7	7	2
PDR	0	0	0	0	1	0	0
Pre XDR	0	0	0	0	0	0	0
XDR	0	0	0	0	0	0	0
Total	**6**	**19**	**15**	**18**	**43**	**42**	**26**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	1,023	1,055	1,145	1,215	587	1,336	1,453
Number of <5 on TPT	-	100	144	220	251	408	255
TPT Uptake among <5 (%)	0	28.4	37.7	54.3	128.2	91.6	52.6

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	0	2	0	3	1	2	2

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	158	134	134	143	133	122	121
DSTB TSR	89.3	87.5	86.3	85.9	85.4	83	-
DSTB Cure rate	76.5	63.1	71.6	68.4	73.1	75.8	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	1,625	1,488	1,590	1,736	1,643	1,453	1,484
TB among children (< 15)	117	125	133	110	108	91	101
Proportion of childhood TB	*7.2%*	*8.4%*	*8.4%*	*6.3%*	*6.6%*	*6.3%*	*6.8%*

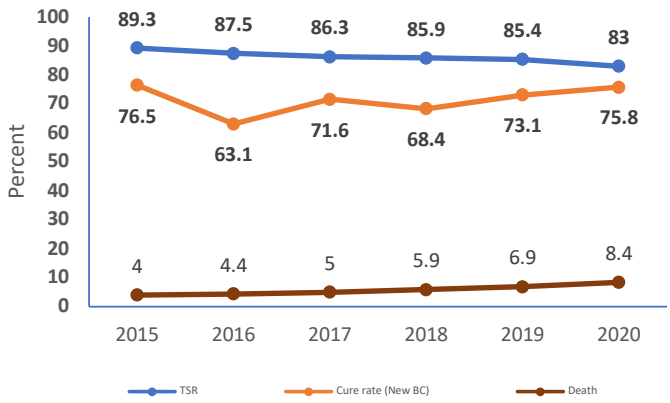
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	746	755	821	887	1,010	823	829
New Clinically Diagnosed	464	383	404	476	301	229	286
Previously Treated	72	63	73	78	84	75	66
Extra Pulmonary	343	292	292	295	289	332	303
Totals	**1,625**	**1,493**	**1,590**	**1,736**	**1,684**	**1,459**	**1,484**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	8	6.1	14.1	10.8	13.6	14.3	15.8

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	96.1	95.6	97.3	96.8	100	99	97.1
TB/ HIV Co- infection rate	40	32.4	33.1	30	30	25.1	25.8
ART uptake	96.4	97.5	98.4	97.3	96.9	99.1	96.3
CPT Uptake	99.8	98.9	99.8	98.2	98.5	96.4	98.4

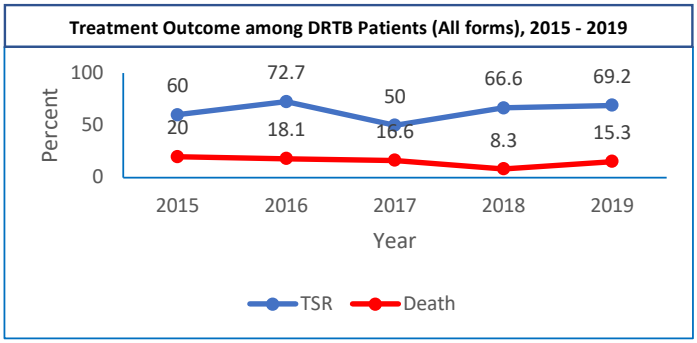
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	40.8	37.3	34.4	35.4	37.7	35	42.5
Proportion of malnourished on food support (RUTF/FBF)	13.2	26.7	23.8	16.8	11	5.8	2

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	0	0	6	12	11	7	4
MDR	5	8	0	0	1	0	1
Mono Resistant	0	2	0	0	0	8	5
PDR	0	0	0	0	1	0	0
Pre XDR	0	1	0	0	0	0	0
XDR	0	0	0	0	0	0	0
Total	**5**	**11**	**6**	**12**	**13**	**15**	**10**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	792	791	882	940	808	891	878
Number of <5 on TPT	145	125	178	86	174	121	206
TPT Uptake among <5 (%)	54.9	47.4	60.5	27.4	64.6	40.7	70.3

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	1	0	0	0	0	0	0

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	126	125	139	154	122	100	117
DSTB TSR	87.3	82.5	81.6	85	81.3	75	-
DSTB Cure rate	83.7	76.4	72.5	71.1	74.2	73.3	-

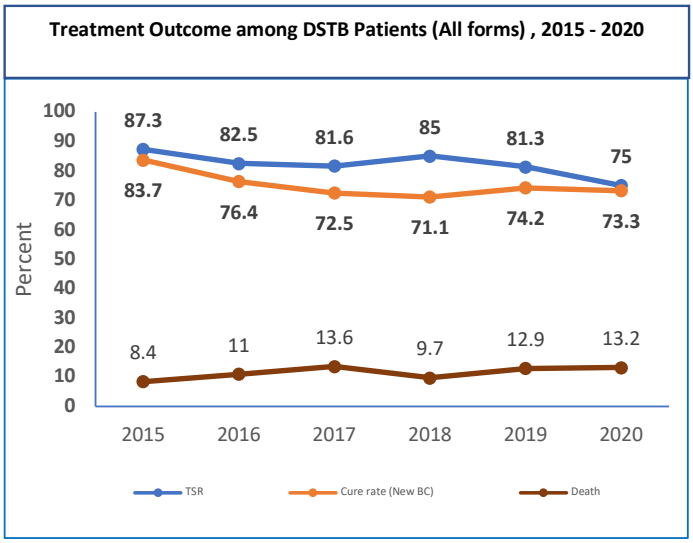
DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	818	823	875	1,000	805	606	730
TB among children (< 15)	57	63	63	78	52	36	44
Proportion of childhood TB	*7.0%*	*7.7%*	*7.2%*	*7.8%*	*6.5%*	*5.9%*	*6.0%*

DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	326	471	411	450	458	356	458
New Clinically Diagnosed	245	204	330	369	179	110	141
Previously Treated	86	48	64	88	100	59	81
Extra Pulmonary	161	70	70	93	79	82	50
Totals	**818**	**793**	**875**	**1,000**	**816**	**607**	**730**

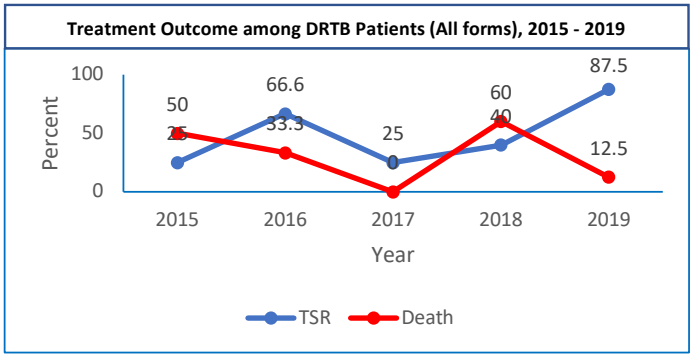
Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	19.3	17.4	22.7	12	14.1	20.2	27.1

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	97.1	98.7	98.4	98.9	100	98.8	98.6
TB/ HIV Co- infection rate	43.8	42.8	32.3	32.4	30	31	28.6
ART uptake	96.6	98.5	99.6	97.2	96.6	98.4	96.6
CPT Uptake	99.4	99.7	99.6	99.3	99.1	92	98.5

Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	37.8	39.4	45	38.2	47	48.1	50.6
Proportion of malnourished on food support (RUTF/FBF)	16.8	22.6	42.9	42.9	32.7	10.2	10.6



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	1	2	1	4	6	2	1
MDR	2	0	1	1	0	1	3
Mono Resistant	1	1	2	0	2	1	2
PDR	0	0	0	0	0	0	0
Pre XDR	0	0	0	0	0	0	0
XDR	0	0	0	0	0	0	0
Total	**4**	**3**	**4**	**5**	**8**	**4**	**6**



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	375	507	451	503	438	402	522
Number of <5 on TPT	36	59	161	95	122	106	70
TPT Uptake among <5 (%)	28.8	34.9	107	56.6	83.5	79.1	40.2

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	2	0	1	1	1	0	0

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	74	72	73	87	70	65	61
DSTB TSR	93.8	92.6	93.1	94.4	92.5	83.4	-
DSTB Cure rate	88.4	86.7	87.9	60	79	75.8	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	540	546	575	730	575	523	502
TB among children (< 15)	62	66	66	75	71	67	57
Proportion of childhood TB	*11.5%*	*12.1%*	*11.5%*	*10.3%*	*12.3%*	*12.8%*	*11.4%*

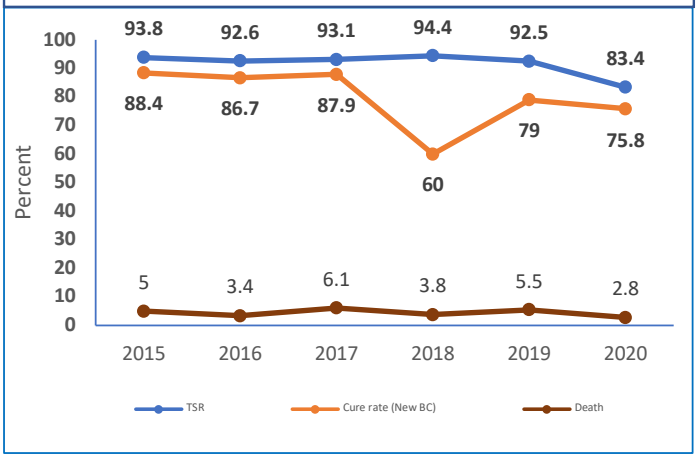
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	277	303	332	383	296	282	232
New Clinically Diagnosed	138	121	116	196	156	126	158
Previously Treated	28	9	27	20	22	8	7
Extra Pulmonary	97	100	100	131	106	107	105
Totals	**540**	**533**	**575**	**730**	**580**	**523**	**502**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	0	0	0	0	0	0.1	0

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	96.8	93.5	96.6	98.4	100	98.6	99
TB/ HIV Co- infection rate	1.8	1.6	1	0.5	1	1.1	0.5
ART uptake	100	100	83.3	100	83.3	100	100
CPT Uptake	100	100	100	100	83.3	100	100

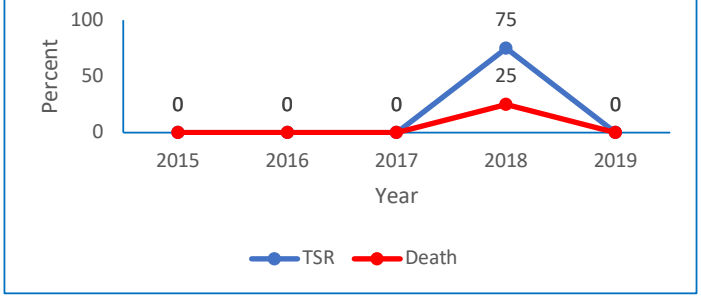
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	55.9	54.3	53	53.1	57.7	52.9	54.7
Proportion of malnourished on food support (RUTF/FBF)	54	15.2	50.7	65.8	59.6	36.5	3.5

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	0	0	0	3	3	1	4
MDR	0	0	0	1	0	0	0
Mono Resistant	0	0	0	0	0	0	0
PDR	0	0	0	0	0	0	0
Pre XDR	0	0	0	0	0	0	0
XDR	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**4**	**3**	**1**	**4**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	297	309	349	395	290	288	238
Number of <5 on TPT	4	23	61	45	66	45	28
TPT Uptake among <5 (%)	4	22.3	52.4	34.1	68.2	46.8	35.2

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	0	0	0	0	0	0	0

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Case Notification Rates, DSTB-TSR and DSTB-Cure rates (2015 - *2021)							
Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
CNR	226	219	236	281	218	213	217
DSTB TSR	84.5	81.8	85.3	85.3	76.8	76.9	-
DSTB Cure rate	51.3	49.7	47.6	46.8	61.1	65.5	-

DSTB Cases Notified, 2015 - 2021							
Category	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
All cases	1,391	1,386	1,586	1,978	1,513	1,385	1,467
TB among children (< 15)	245	230	266	333	248	182	210
Proportion of childhood TB	*17.6%*	*16.6%*	*16.8%*	*16.8%*	*16.4%*	*13.1%*	*14.3%*

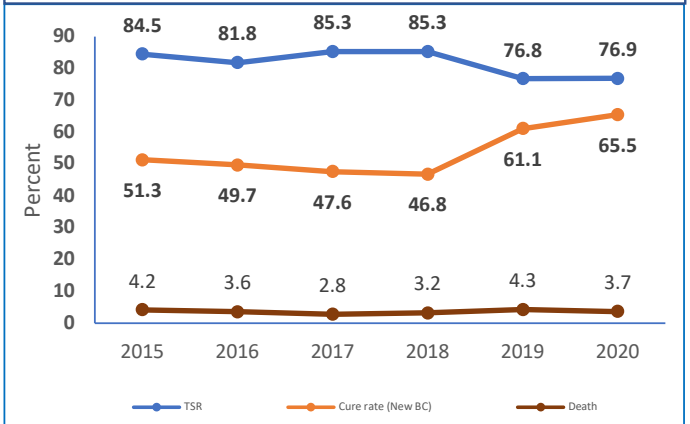
DSTB Cases Notified, 2015 - 2021							
Type of TB	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
New Bacteriologically Confirmed	609	709	829	943	854	770	840
New Clinically Diagnosed	384	346	357	559	303	258	304
Previously Treated	130	94	145	147	167	173	144
Extra Pulmonary	268	255	255	329	233	195	179
Totals	**1,391**	**1,404**	**1,586**	**1,978**	**1,557**	**1,396**	**1,467**

Contribution of Notified Cases by Private (Including FBOs) Sector,2015 - 2021							
Sector Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Contribution by Private Sector (%)	6.6	5.7	7.9	4.1	3.6	3.7	3.4

TB/HIV Care Cascade among DSTB (All forms)(%), 2015- 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
HIV Testing	94.4	96.3	97.2	98	100	97.4	97.2
TB/ HIV Co- infection rate	10.9	8.7	9.7	9.3	11.3	12.1	8.3
ART uptake	95.3	96.6	97.4	100	97.6	98.2	96.7
CPT Uptake	100	97.5	98.7	99.4	99.4	97	94.3

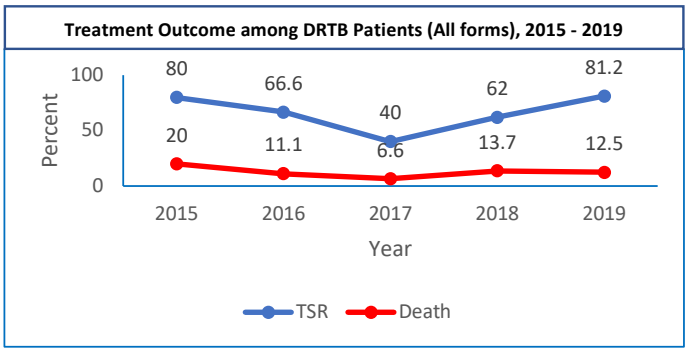
Nutrition Status among DSTB (All forms)(%), 2015 - 2021							
TBHIV Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Proportion Malnourished (<18.5)	51.7	54.1	48.1	46.5	59.6	59.6	64.2
Proportion of malnourished on food support (RUTF/FBF)	34.4	21.7	18.2	53.7	53.4	11.6	4.4

Treatment Outcome among DSTB Patients (All forms) , 2015 - 2020



DRTB Cases Notified, 2015-2021							
Resistant Patterns	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Rifampicin Resistant	1	2	9	12	12	16	16
MDR	5	3	5	12	1	8	6
Mono Resistant	4	2	0	3	3	3	5
PDR	0	0	0	2	0	0	1
Pre XDR	0	2	1	0	0	0	0
XDR	0	0	0	0	0	0	0
Total	**10**	**9**	**15**	**29**	**16**	**27**	**28**

Treatment Outcome among DRTB Patients (All forms), 2015 - 2019



TPT among <5 exposed to BC confirmed PTB, 2015 - 2021							
TPT Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number PTB BC	685	773	939	1,023	644	882	943
Number of <5 on TPT	14	81	130	186	94	124	103
TPT Uptake among <5 (%)	6.1	31.4	41.5	54.5	43.7	42.1	32.7

Notified Leprosy Cases, 2015 - 2021							
Leprosy Indicator	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Leprosy Cases	4	0	0	0	0	0	0

NATIONAL TUBERCULOSIS, LEPROSY
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