Republic of Namibia

Ministry of Health and Social Services

National Tuberculosis and Leprosy Programme

Annual Report: 2023-2024

Vision[1]:

Namibia free of TB and Leprosy - zero deaths, disease and suffering due to tuberculosis and Leprosy.

Mission statement

Deliver high-quality TB and Leprosy interventions with a focus on universal access, equity, gender sensitivity, key, and vulnerable populations.

National Tuberculosis and Leprosy Programme

Directorate of Special Programmes

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[1] Fourth National Strategic Plan for Tuberculosis and Leprosy 2023/24 – 2027/28

PREFACE

Namibia remains committed to the global fight against Tuberculosis (TB) and leprosy, with a clear focus on enhancing our efforts to reduce the burden of these diseases. In line with this commitment, we have actively participated in the United Nations High-Level Meeting on Tuberculosis, underscoring our dedication to addressing TB as the world's leading infectious disease. This annual report provides a valuable opportunity to reflect on our progress and the strides we have made towards fulfilling our national health goals.

Our focus remains resolute: To decrease the burden of TB and eliminate Grade 2 disabilities among new leprosy cases. We aim to achieve this by enhancing early case finding and ensuring universal access to timely, quality prevention, diagnosis, and treatment of all forms of TB and leprosy. This strategic direction is critical as we work to close existing gaps in diagnosis, treatment, and prevention, ensuring that every Namibian has access to the care they need.

In 2023, Namibia continued to face significant challenges, ranking among the top 30 high-burden TB countries globally. However, we remain steadfast in our efforts to reduce the number of undiagnosed cases, with the World Health Organization estimating that 33% of TB cases in Namibia are still not detected. Our goal is to continue working closely with our partners to address these challenges and enhance our national TB and leprosy response.

We are grateful for the continued support from our partners, including the Global Fund to Fight HIV/AIDS, TB, and Malaria (GFATM), the World Health Organization (WHO), the United States

Centers for Disease Control and Prevention (CDC), and the Namibia Institute of Pathology (NIP). Their collaboration, along with the invaluable contributions of local health workers, regional coordinators, and volunteers, is central to the progress we have made in tackling TB and leprosy in Namibia.

As we continue to advance our national health agenda, I am confident that our collective efforts will help us achieve our ultimate goal of eliminating Tuberculosis and Leprosy in Namibia.

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MINISTRY OF HEALTH & SOCIAL SERVICES
14 MAY 2025
Special Programme
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Private Bag 13198, Windhoek

Ms. Julieth Karirao
Acting Director: Directorate Special Programmes

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ACSM	advocacy, communication, and social mobilisation
AFB	acid-fast bacilli
Am	amikacin
Amx/Clv	amoxicillin/clavulanate
ART	antiretroviral therapy
B+	Bacteriologically Negative
B-	Bacteriologically positive
CAA	Catholic AIDS Action
CBTBC	community-based tuberculosis care
CCRC	Central Clinical Review Council of the NTLP
CDC	United States Centres for Disease Control and Prevention
CHPO	Chief Health Programme Officer
CHW	Community health care workers
Clr	Clarithromycin
Cm	capreomycin
CMO	Chief Medical Officer
CMS	central medical stores
CNR	Case notification rate
CoAg	Cooperative Agreement
CoHeNa	Advanced Community Health Care Services Namibia
COVID-19	CoronaVirus Disease of 2019
CPT	co-trimoxazole preventive therapy
Cs	cycloserine
CSC	National Steering Committee
CSO	Civil Society Organisations
DAPP	Development Aid from People to People
DCC	District Coordinating Committee
DHIS2	District Health Information Software 2
DM	direct microscopy
DOT	Directly observed treatment
DOTS	directly observed treatment - short course (WHO strategy)
DRS	drug resistance survey
DR-TB	Drug-resistant tuberculosis
DSP	Directorate of Special Programmes
DST	Drug Susceptibility Testing
DS-TB	Drug Susceptibility Testing
DTLC	District Tuberculosis and Leprosy Coordinator
E	ethambutol

EPTB	Extra-Pulmonary TB
Eto	Ethionamide
ETR	Electronic system register
FDC	fixed-dose combination
FLD	first-line (anti-TB) drugs (or medicines)
GDP	Gross Domestic Product
GF	Global Fund
GFATM	Global Fund to fight HIV/AIDS, TB and Malaria
GUV	Germicidal Ultraviolet Lights
GRN	Government of the Republic of Namibia
H	isoniazid
HAART	highly active antiretroviral therapy
HCT	HIV counselling and testing
HCW	Health care workers
HIV	human immunodeficiency virus
IEC	information, education and communication
INH	isonicotinic acid hydrazide
IPT	isoniazid preventive therapy
ITECH	International Training and Education Centre for Health
IUATLD	International Union against Tuberculosis and Lung Disease (The Union)
KAP	knowledge, attitude, practices
Km	kanamycin
KNCV	Koninklijke Nederlandse Centrale Vereniging
LAM	Lipoarabinomannan
Lfx	levofloxacin
LF TB LAM	Lateral Flow Tuberculosis Lipoarabinomannan
LPA	Line Probe Assay
LTFU	Loss to Follow-Up
LTBI	Latent tuberculosis infection
Lzd	linezolid
MB	Multi-bacillary
MDR-TB	multi-drug-resistant tuberculosis
MDT	Multidrug therapy
Mfx	moxifloxacin
MHSS	Ministry of Health and Social Services
MSH	Management Sciences for Health
MTP-II	Second Medium-Term Plan (for tuberculosis and leprosy)
MTP-III	Third Medium-Term Plan (for tuberculosis and leprosy)
NANASO	Namibia Network of AIDS Service Organisations
N/R TB	New & Relapse TB

NGO	non-governmental organisation
NIP	Namibia Institute of Pathology
NSP	new smear-positive
NTLP	National Tuberculosis and Leprosy Programme
OLD	Occupational lung disease
OPD	Out-Patient Departments
OR	Operational Research
PB	Paucibacillary leprosy
PLHIV	People Living with HIV
PTB	pulmonary tuberculosis
R	rifampicin
RACCOC	Regional AIDS Coordinating Committees
RMT	Regional Management Team
RR	Rifampicin Resistance
RTLC	Regional TB and leprosy coordinator
RTLC	Regional Tuberculosis and Leprosy Coordinator
Rx	Treatment
S	streptomycin
SHPO	Senior Health Programme Officer
SLD	second line (anti-TB) drugs/medicines
SOP	Standard Operating Procedure
SNT	sputum not tested
TAF	Treatment After Failure
TALFU	Treatment After Lost to Follow-up
TB	Tuberculosis
TB-IC	TB Infection Control
TB-IPC	Tuberculosis Infection Prevention and Control
TAC	Technical Advisory Committee
THU	Treatment history unknown
TIMS	TB in the Mining Sector
TIPC	Therapeutics Information and Pharmacovigilance Centre
TPT	Tuberculosis Preventive Therapy
TSR	Treatment success rate
ULO	Unknown last outcome
UNHLM	United Nations High-Level Meeting
UNAM	University of Namibia
USAID	United States Agency for International Development
VMMC	Voluntary Medical Male Circumcision
WHO	World Health Organisation
Z	pyrazinamide

EXECUTIVE SUMMARY

The 2023 annual report presents a comprehensive overview of Namibia's efforts in TB and leprosy control across all regions of the country. It includes data on TB case finding, treatment outcomes, and a detailed analysis of TB/HIV co-infection, drug-resistant TB (DR-TB), and other key program activities conducted during the year.

Namibia reported a total of 9,200 drug-susceptible TB (DS-TB) cases in 2023, reflecting a 6.9% increase compared to the previous year. The case notification rate (CNR) for all forms of active TB was 304 cases per 100,000 population, a slight decrease from 335 per 100,000 in 2022. The World Health Organization (WHO) tracks new and relapse TB cases to monitor epidemiological trends, with Namibia reporting 8,988 new and relapse TB cases in 2023, yielding a notification rate of 297 per 100,000 population. The incidence of drug-resistant TB (DR-TB) saw a rise in 2023, with 311 DR-TB cases reported, up from 265 in 2022. Of these, 305 cases had rifampicin resistance.

The treatment success rate for all forms of DS-TB was 87% for the 2022 treatment cohort, with a similar success rate observed for the 2021 cohort. The treatment success rate for new and relapse TB patients was 88% for 2022 cohort. Additionally, the death rate among TB patients on treatment decreased from 8% to 7% for all forms of DS-TB.

Treatment success for DR-TB also improved, increasing from 69% to 75% for the 2020 and 2021 treatment cohorts, with a death rate of 12%. HIV counselling and testing for new and relapse TB patients remained high, with 99% of TB patients knowing their HIV status. The prevalence of HIV infection among DS-TB patients rose from 30% to 33%, and 99% of the 2,904 new and relapse TB patients who tested HIV positive were initiated on antiretroviral therapy (ART).

In conclusion, the number of new leprosy cases reported in 2023 decreased slightly from 34 to 30 cases. This report underscores Namibia's continued commitment to controlling TB and leprosy, highlighting notable achievements while also identifying areas that require ongoing attention, particularly in maintaining high treatment success rates and addressing challenges related to drug-resistant TB and HIV co-infection.

1 NATIONAL OVERVIEW

1.1 Background

Namibia is a Southern African country covering approximately 800,000 square kilometres (km²), making it the fifth-largest country on the African continent. It shares borders with Angola to the north, Botswana to the east, South Africa to the south, Zambia to the northeast, and the Atlantic Ocean to the west. The country has a semi-arid climate, with frequent droughts that pose significant threats to its water and food security. Only about 1% of Namibia's land is considered arable, limiting agricultural development. As of 2023, Namibia's population stands at 3,022,401 people. These individuals are spread across 14 administrative regions and 35 districts. The population is diverse, with various ethnic groups and communities.

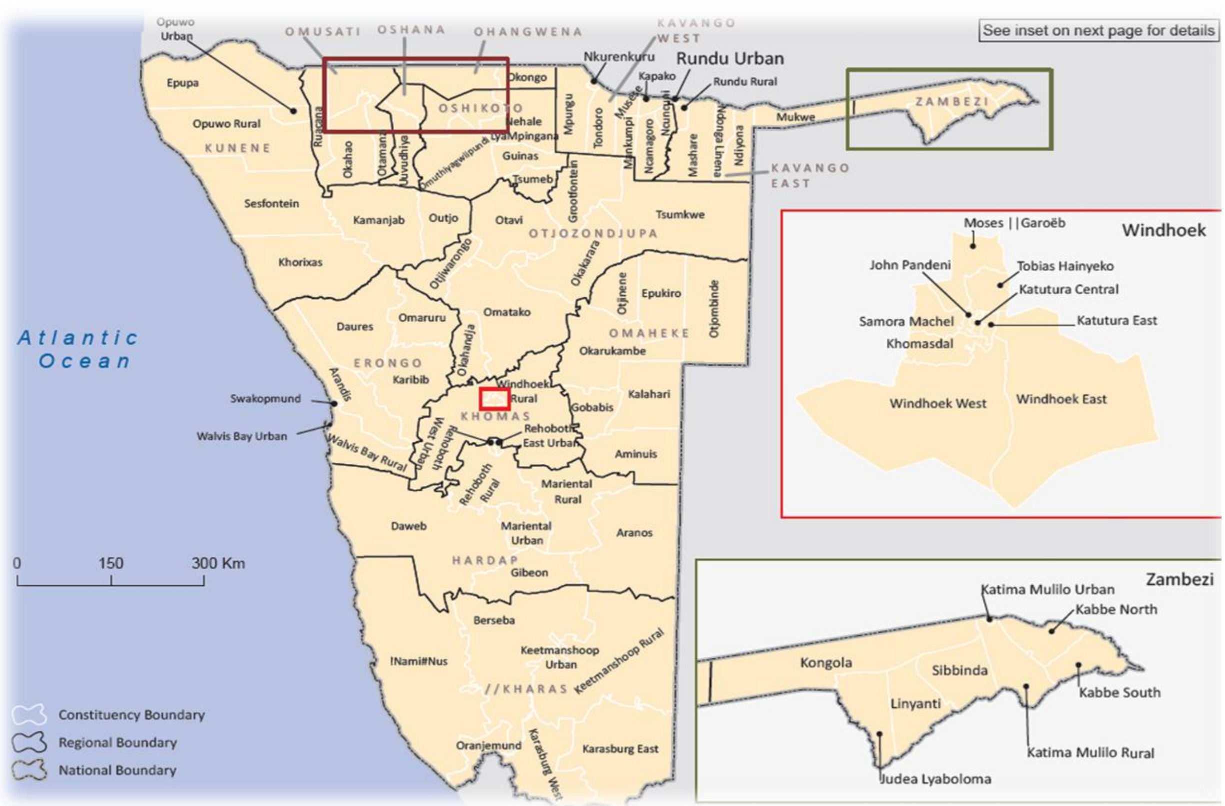


Figure 1: Administrative map of Namibia

1.2 The National TB and Leprosy Programme

The figure below shows the National TB and Leprosy Programme (NTLP) structure and the relationships among the different levels of the program. This diagram illustrates how the NTLP operates at the national level, highlighting key roles and their interactions.

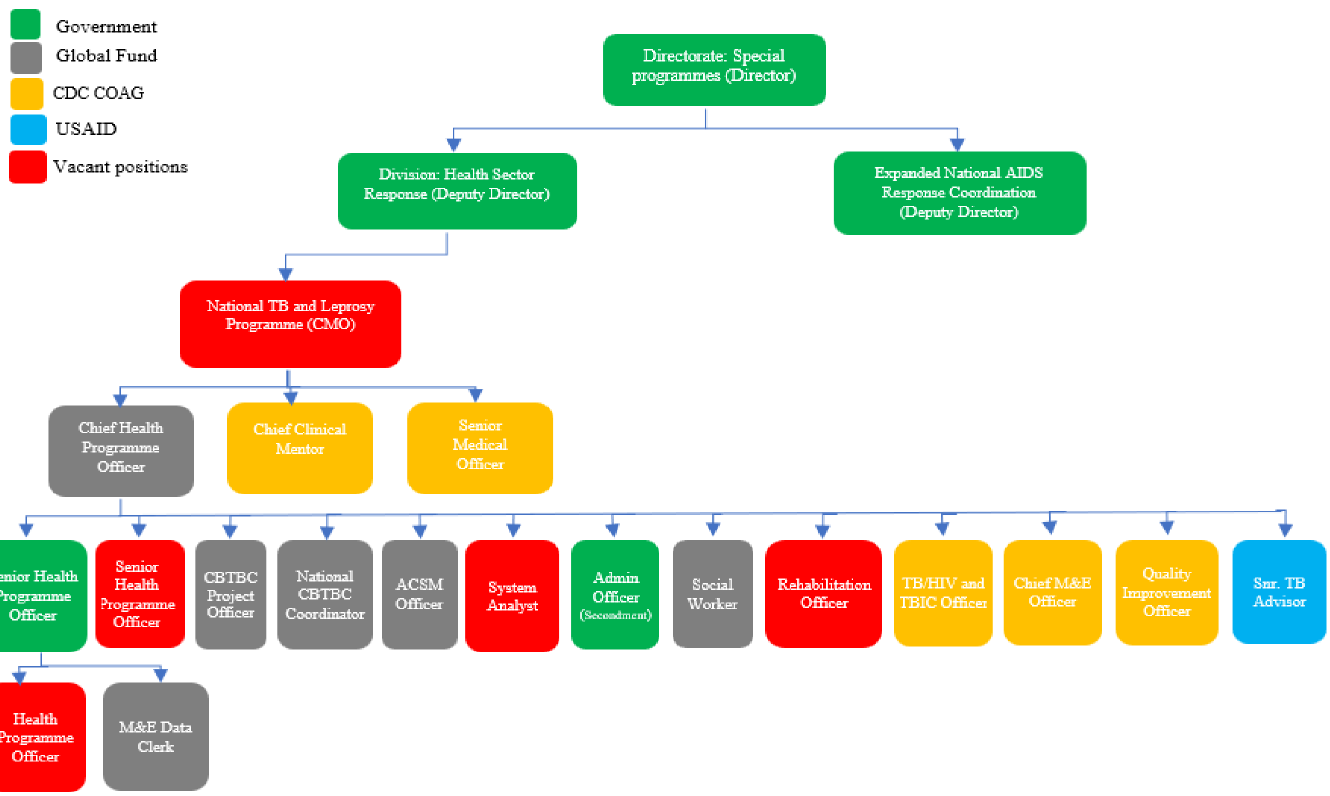


Figure 2: NTLP structure in the Directorate for Special Programmes

Despite the above structured approach, the NTLP has faced significant human resource challenges in recent years. These challenges include shortages of trained personnel, high turnover rates, and inadequate training and support for existing staff. These issues impact the program's ability to effectively manage and control TB and leprosy, leading to gaps in service delivery.

Addressing these human resource challenges is critical for the NTLP to achieve its goals. This may involve strategies such as increasing funding for hiring and training staff, implementing retention programs to reduce turnover, and enhancing the support systems for health workers at all levels. Strengthening the human resource capacity will enable the NTLP to operate more efficiently and effectively, ensuring better management of TB and leprosy across the country.

National Level: At the national level, the NTLP functions as a subdivision within the Directorate of Special Programmes. The leadership is headed by a Chief Medical Officer, who oversees the entire program and ensures that national policies and strategies are effectively implemented. This level is crucial for setting guidelines, securing funding, and coordinating with international health organizations.

While the diagram above outlines the NTLP's structure at the national level, the following sections detail the roles and responsibilities at the regional, district, facility, and community levels:

Regional Level: The NTLP operates across 14 regions, each managed by a Regional TB and Leprosy Coordinator. These coordinators are responsible for implementing the national strategies at the regional level, monitoring the progress of TB and leprosy control activities, and providing technical support to district coordinators. They also facilitate communication between the national and district levels, ensuring that regional challenges and successes are reported and addressed.

District Level: At the district level, the NTLP is organized into 36 districts, each with a designated District TB and Leprosy Coordinator (DTLC). The DTLCs are critical in translating regional plans into actionable district-level activities. They manage local services, oversee patient care and case management, and ensure that TB and leprosy services are accessible to all facilities and communities. They also work closely with health facilities and community workers to ensure that diagnoses, treatments, and follow-ups are carried out efficiently. The district level also plays a key role in monitoring and reporting data on TB and leprosy cases to the regional level.

Facility Level: At the facility level, led by nurse in charge, health care workers play an essential role in diagnosing and treating TB and leprosy patients. This includes offering direct patient care, ensuring correct case management, administering treatments, and conducting routine follow-ups to monitor patient progress. Health facilities are crucial for providing diagnostic services, including laboratory testing, and for implementing infection control measures. The coordination between district and facility levels ensures continuous patient care and data reporting.

Community Level: The community level involves local health workers and volunteers who are the frontline in the fight against TB and leprosy. These individuals are essential for conducting door-to-door screening, raising awareness, and providing direct support to patients. They report back to health facilities' in charge on the ground realities, enabling a bottom-up flow of information.

In summary, the NTLP operates through a multi-level structure that covers national, regional, district, facility, and community levels, each with specific roles and responsibilities. While the program has made important progress in addressing TB and leprosy, it still faces significant human resource challenges at all levels, which affect its ability to sustain and expand these efforts. Strengthening the capacity of staff and ensuring better support systems will help the NTLP manage and improve TB and leprosy more effectively.

1.3 TB and Leprosy key indicators

Namibia is making steady progress toward achieving its national TB targets through the dedicated efforts of the Ministry of Health and Social Services (MoHSS) and its partners. The table below summarizes key indicators based on figures reported in 2023.

The table below shows that approximately 98% of the 9,200 drug-susceptible TB (DS-TB) cases that began treatment in 2023 were new or relapse TB patients. Additionally, 99% of TB patients had their HIV status known, with an HIV prevalence rate of 33%. The case notification rate for DS-TB was 304 per 100,000 population. A total of 305 rifampicin-resistant TB (RR-TB) cases were notified. The treatment success rate for new and relapse TB cases (2022 cohort) was 88%, while the treatment success rate for rifampicin-resistant TB (2021 cohort) was 75%. Lastly, the DS-TB case fatality rate for the 2022 cohort stood at 7%.

Table 1: Summary of key indicators

INDICATORS	NEW	RELAPSE
Pulmonary, bacteriologically confirmed[2]	5 008	1 035
Pulmonary, clinically diagnosed	1 365	347
Extra pulmonary	1 104	129
Totals	7 477	1 511
New and relapse	8 988	
Previously treated, excluding relapses	212	
Totals cases notified (all forms)	9 200	
Case notification rate (per 100,000)	304	
HIV known status	99%	
Prevalence of HIV	33%	
Rifampicin resistant TB notified	305	
Treatment success rate new and relapse (2022 cohort)	88%	
Treatment success rate rifampicin resistant TB (2021 cohort)	75%	
DS-TB case fatality rate (2022 cohort)	7%	

[2] A bacteriologically confirmed DS-TB case: a biological specimen is positive by smear microscopy, culture, or Xpert MTB/RIF. A clinically diagnosed TB case: not bacteriologically confirmed but diagnosed with active TB by a clinician or other medical practitioner who has decided to give the patient a full course of TB treatment.

1.4 TB Incidence and Mortality Trends

The graph below illustrates key trends in the tuberculosis (TB) burden, focusing on three critical metrics: National Drug-Sensitive Tuberculosis (DS-TB) cases notified, estimated TB cases, and the incidence rate per 100,000 population.

In 2023, significant improvements were observed in the availability of TB services, particularly in diagnostic capabilities. A total of 9,200 DS-TB cases were notified in 2023, marking a noteworthy 6.9% increase compared to 2022. Of these, 8,988 cases were classified as new and relapse cases.

The data highlights a marked decline in TB notifications from 2019 to 2020, with a 15% drop largely attributable to the disruptions caused by the COVID-19 pandemic. While notifications increased slightly between 2020 and 2021, a more substantial rise occurred in 2022 and 2023. These trends reflect the immediate impact of the pandemic on TB case detection and the subsequent recovery, which was supported by enhanced availability of TB diagnostic and treatment services. The notable rise in notifications in 2022 and 2023 signifies the positive effects of these improvements in TB care delivery.

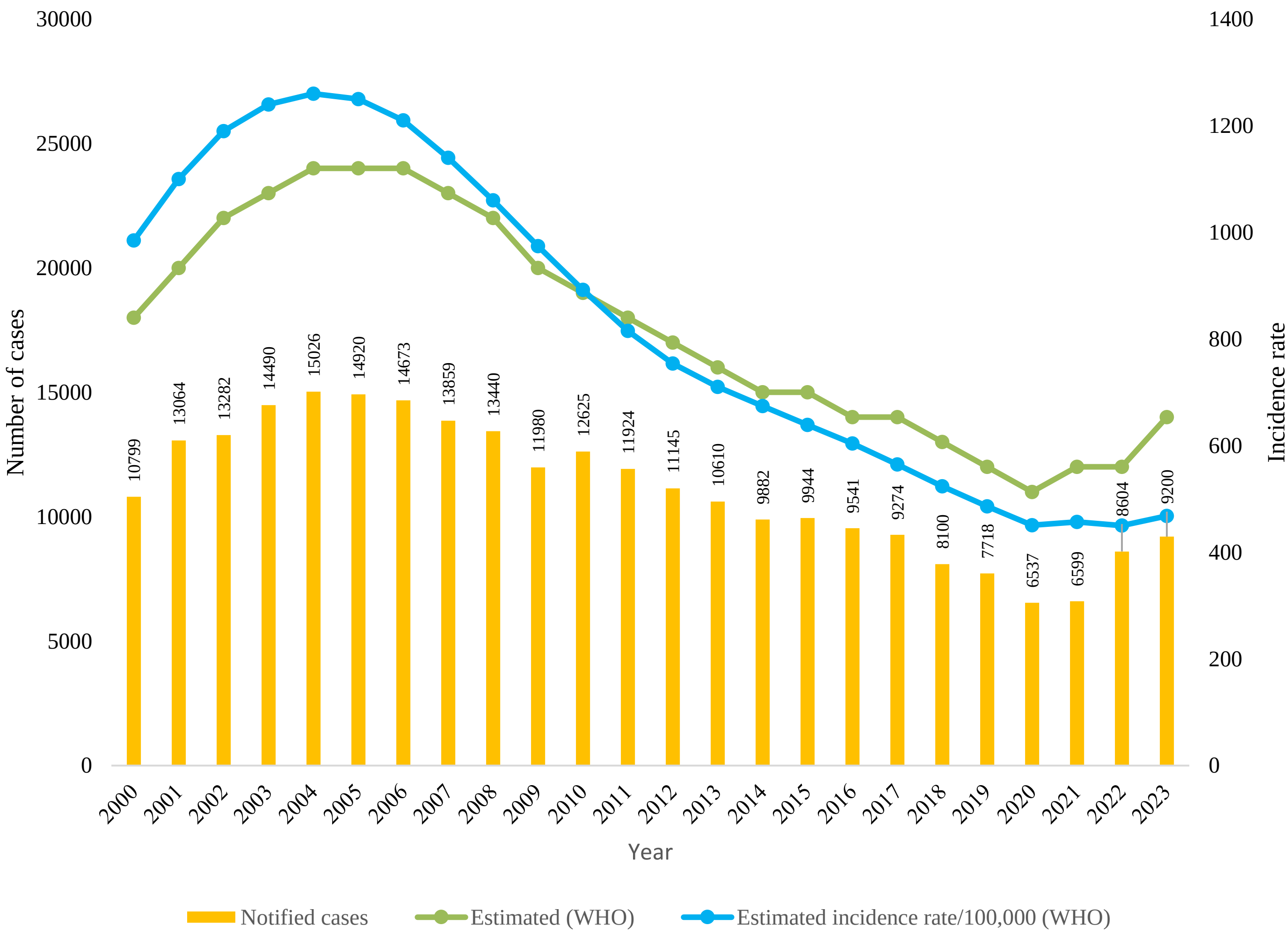


Figure 3: Trends of TB burden and estimated TB incidence rate; 2000-2023

The incidence and mortality rates for tuberculosis (TB) have been important indicators for assessing the burden of TB in the population. The graphs below show the trends in TB incidence and mortality rates over the past decade. Over the past decade, the TB incidence rate has generally shown a declining trend, with a slight increase observed in 2023. This increase could reflect a variety of factors, including disruptions in healthcare services due to the COVID-19 pandemic, which may have impacted TB diagnosis and treatment. While, the TB mortality rate has shown a consistent decrease over the years, with a constant 98% per 100,000 population in 2022 and 2023. The ongoing efforts in improving TB care, including better diagnostics, treatment regimens, and patient management, have contributed to this positive trend. However, the stagnation in mortality rate reduction in recent years highlights the need for continued focus on enhancing TB control strategies.

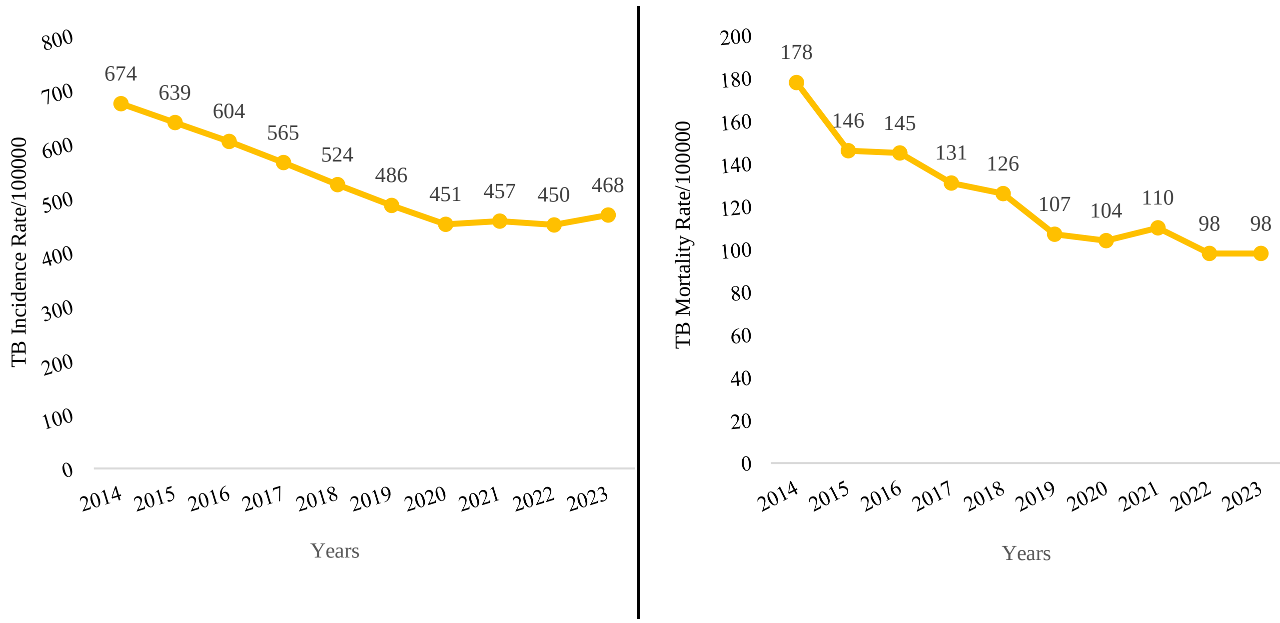


Figure 4: Trends of estimated TB incidence and TB mortality rate per 100, 000 populations

Although the country's TB incidence and mortality rates remain high, the trends indicate a steady decline over the past 10 years. This suggests that efforts to combat TB are having a positive impact, though there is still significant progress to be made.

Despite these improvements, the World Health Organization (WHO) estimates that the country is still missing over 33% of its TB cases. This figure represents individuals who may be undiagnosed and/or untreated, highlighting a critical gap in the healthcare system that needs to be addressed to ensure that all TB cases are detected and properly managed. Addressing this gap will be crucial for further reducing TB incidence and mortality rates in the country.

1.5 Programmatic Achievements, Challenges and Recommendations

1.5.1 Achievements

The national TB program has made significant strides in improving TB care and control over the past year. Notable achievements include:

- **Treatment Success Rates**: Achieved commendable treatment success rates for Drug-Susceptible TB (DS-TB) at 87% and Drug-Resistant TB (DR-TB) at 75%.
- **Free Access to TB Care**: TB diagnosis and treatment remain available at no cost to patients in the public health sector.
- **Capacity Building**: Successfully trained all District Tuberculosis and Leprosy Coordinators (DTLCs), Monitoring & Evaluation (M&E) officers, and Data Clerks on the DHIS2 TB Tracker.
- **HIV Testing and ART Coverage**: Maintained consistently high HIV testing and Antiretroviral Therapy (ART) coverage rates, reaching 99%.
- **Adoption of WHO Guidelines**: Adopted World Health Organization (WHO)-recommended diagnostic algorithms and treatment regimens for both drug-susceptible and drug-resistant TB.
- **Preventive Measures**: Introduced shorter-term TB preventive treatment and new diagnostic tests for TB diagnosis among People Living with HIV (PLHIV).

- **Case Finding**: Scaled up case-finding activities to identify and treat missing TB cases.
- **Community Mass Screening**: Successfully implemented community mass screening programs, leading to the detection of previously undiagnosed TB cases.
- **TB in Mines**: Engaged in the TB in Mines (TIMS) Phase-III Project, contributing to better TB detection in mining communities.
- **National Strategic Plan**: The country finalized the 4th National Strategic Plan for TB and Leprosy, aligned with the End TB Strategy and other international guidance. A People-Centered Framework approach was adopted for the development of the NSP.
- **Global Fund Support**: A TB/HIV/Malaria grant application was submitted to and approved by the Global Fund, ensuring continued financial support for the program.

1.5.2 Challenges

Despite these achievements, Namibia continues to face several challenges in its efforts to control and eliminate TB:

- **Mortality and High-Risk Groups**:
    - High mortality rates, particularly among People Living with HIV (PLHIV), remain a major concern.
    - There is suboptimal case finding among high-risk groups, including miners, malnourished individuals, smokers, and alcoholics.
    - Data quality remains an issue, particularly with screening initiatives in correctional facilities and mining areas.

- **Nutritional Status**: There is limited availability of nutritional status data for TB patients, impacting the management of comorbidities.
- **Human and Financial Resources**:
    - The program faces challenges due to inadequate human resources and financial support, with dwindling external funding.
    - Community-based TB care services are increasingly affected by diminishing funding, making it difficult to sustain effective interventions.
- **TB Diagnostics**:
    - Challenges persist in the TB diagnostic network, particularly regarding logistics and the availability of diagnostic services.
- **Undiagnosed Cases**:
    - The country continues to struggle with undiagnosed TB cases. The WHO 2024 report estimates that over 33% of TB cases remain undiagnosed or untreated in 2023, highlighting a critical gap in TB detection and care.
- **High Catastrophic Costs**: TB-related treatment remains associated with high catastrophic costs at the household level, placing additional strain on vulnerable populations.

1.4.3 Recommendations

To address these challenges, the NTLP proposed the following recommendations:

- **Enhanced Case Finding**: Increase targeted case-finding efforts, especially among high-risk populations and in hard-to-reach areas, to ensure that no case is missed.

- **Improved Data Systems**: Strengthen data collection and monitoring systems, particularly within correctional facilities and mining communities, to ensure that data quality is improved.
- **Nutritional Support**: Integrate better nutritional support services for TB patients to improve treatment outcomes and reduce comorbidities.
- **Resource Mobilization**: Advocate for increased domestic and international funding to support TB care, particularly in community-based services.
- **Sustainability in Diagnostics**: Focus on engaging Namibia Institute of Pathology (NIP) to maintain the availability of TB diagnostic tools and ensure that there are no disruptions in testing capabilities.
- **Addressing Catastrophic Costs**: Develop strategies to reduce the financial burden on TB-affected households, such as improving access to financial support.

2 TB DIAGNOSTIC SERVICES

The Namibia Institute of Pathology (NIP) continues to serve as the primary provider of diagnostic services for patients accessing care through the public health system. The Ministry of Health and Social Services (MoHSS) remains dedicated to its commitment to providing these diagnostic tests at no cost to patients, ensuring that all individuals, regardless of their financial status, have access to vital diagnostic services that are essential for effective TB management and control.

Since 2017, Namibia has observed a significant increase in Drug Susceptibility Testing (DST) coverage. This improvement has been largely driven by the introduction of advanced diagnostic technologies such as GeneXpert and the Second Line Probe Assay (2nd Line LPA). GeneXpert is a rapid diagnostic test used as an initial screening tool, which not only detects *Mycobacterium tuberculosis* but also identifies resistance to rifampicin, a key first-line anti-TB drug. The 2nd Line LPA, meanwhile, is crucial for identifying resistance to second-line anti-TB drugs, aiding in the management of multi-drug resistant TB (MDR-TB). These innovations have greatly improved the accuracy and speed of TB diagnostics across the country.

Despite these advancements, the TB diagnostic program faced a significant challenge in 2019 due to a stockout of GeneXpert cartridges. This disruption had a major impact on the continuity and quality of TB diagnostics, highlighting vulnerabilities in the supply chain that could potentially derail progress in TB control efforts. As shown in the graph below, this interruption led to a temporary setback in the program's performance.

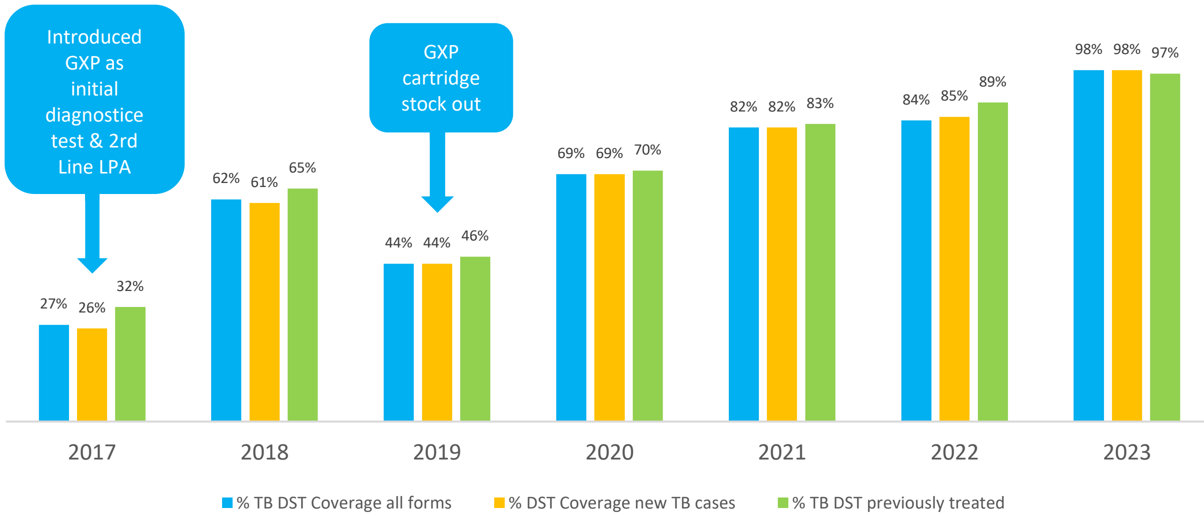


Figure 5: Trends of Drug Susceptibility Testing (DST) Coverage, 2017-2023

In conclusion, while the introduction of GeneXpert and the 2nd Line LPA has significantly strengthened Namibia's TB diagnostic services, the 2019 stockout underscores the critical need to address supply chain and logistical challenges. However, in 2023, Namibia achieved an important milestone by observing over 98% TB DST coverage for the first time since 2017. This accomplishment is a direct result of the maintained consistent and reliable supply of diagnostic tools, which is essential for sustaining the progress made in TB diagnosis and ensuring the continued success of the country's TB control program.

2.1 Provision of services by Namibia Institute of Pathology

The Namibia Institute of Pathology (NIP) is governed by a board of seven directors appointed by the Minister of Health and Social Services. This board has been in service since February 2020 and was reappointed to continue serving after the term ended on 31 March 2023. NIP operates an extensive network of 39 laboratories spread across the 14 regions of Namibia, providing essential diagnostic services to the public.

The laboratories under NIP cover a wide range of diagnostic disciplines, including Haematology, Clinical Chemistry, Serology, Microbiology (including TB diagnostics), Histology, Cytology, and Molecular Diagnostics. This comprehensive scope ensures that the population has access to diverse and critical medical testing services.

To maintain high standards of quality and competence, all laboratories within the NIP network adhere to the ISO 15189 International Standard for Medical Laboratories. This adherence guarantees that the laboratories meet stringent international requirements, ensuring reliable and accurate diagnostic results.

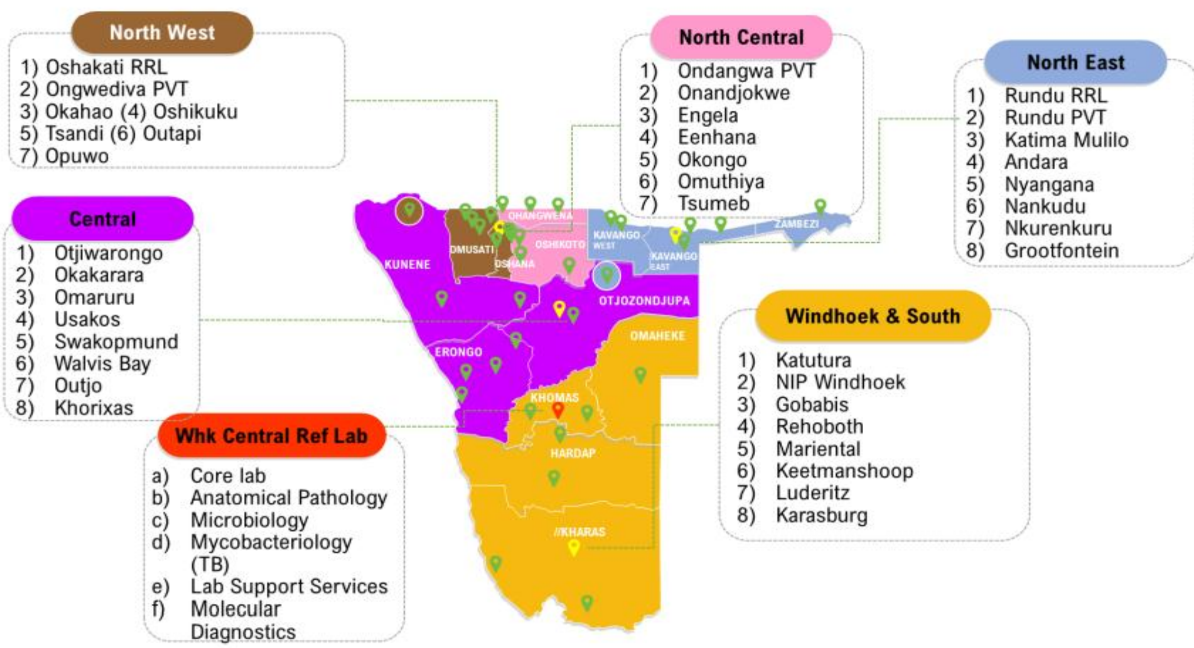


Figure 6: Namibia Institute of Pathology National Footprint

In 2023, the Namibia Institute of Pathology (NIP) conducted around 61,027 TB tests across its network of 39 laboratories, 33 of which are equipped for TB testing. These tests included smear microscopy, Xpert MTB/RIF, mycobacterial cultures, and line probe assays (LPA). All mycobacterial cultures and LPAs were carried out at the Windhoek Central Reference Laboratory, ensuring high-quality, specialized diagnostic services.

On the infrastructure front, NIP continued to operate 47 GeneXpert instruments for TB diagnostics, along with five Bactec™ MGIT 960 incubators for mycobacterial growth and detection. These key pieces of equipment are essential in providing precise and timely results, particularly in identifying both TB and drug-resistant strains.

However, there were significant challenges in the diagnostic process. Laboratory records show that 7,066 (10%) of the 68,093 Xpert MTB/RIF requests had no results. This highlights a critical gap in the diagnostic workflow that must be addressed to guarantee that all patients receive accurate and timely TB diagnoses.

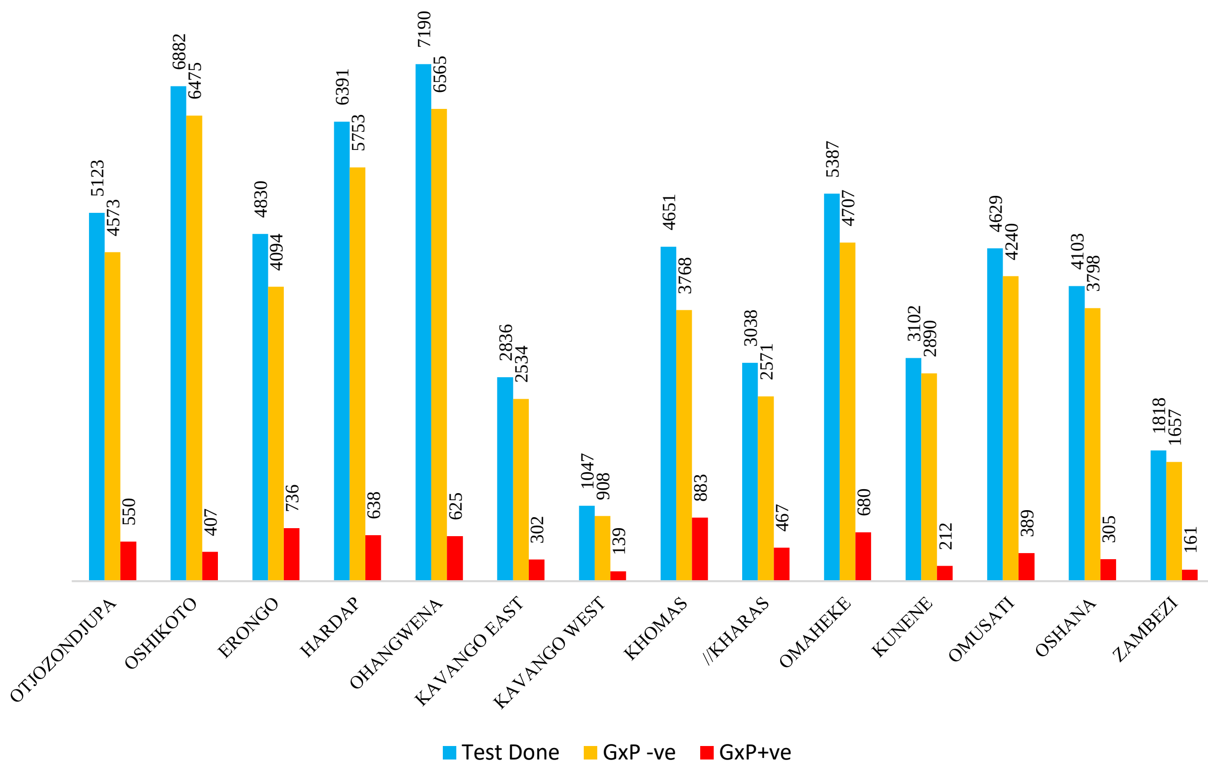


Figure 7: Number of Xpert MTB/RIF tests performed by Region, 2023

Despite the requirement for all TB patients to undergo a rapid molecular test like Xpert MTB/RIF, 11% of patients did not receive this test in 2023. Of the 9,200 patients with susceptible TB, only 86% (7,887) had Xpert MTB/RIF results. This gap reflects significant challenges related to the availability of laboratory supplies and issues with specimen link-up processes.

The Namibia Institute of Pathology (NIP) faced disruptions in the supply chain for essential laboratory materials and inefficiencies in matching specimens with the appropriate diagnostic tests. These difficulties contributed to gaps in the diagnostic workflow, as shown by the 7,066 (10%) Xpert MTB/RIF requests without results.

The following figures provide insight into the coverage of Xpert MTB/RIF testing across new, relapse, and all TB patient categories. These figures highlight the need for better logistics and resource management to ensure timely and comprehensive TB diagnostics for every patient. Addressing these issues is key to improving the country's TB control efforts and ensuring that all patients receive accurate and timely diagnoses, which is essential for effective treatment and the broader fight against tuberculosis in Namibia.

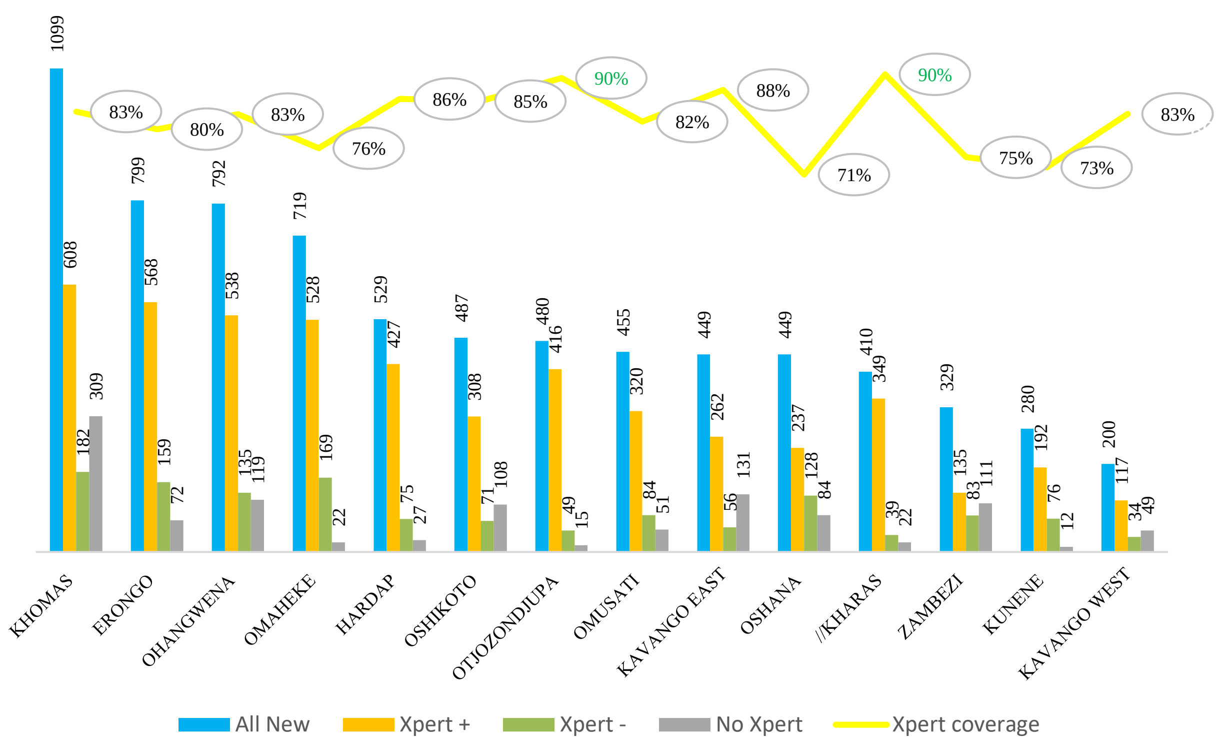


Figure 8: Xpert Coverage among new patients TB 2023

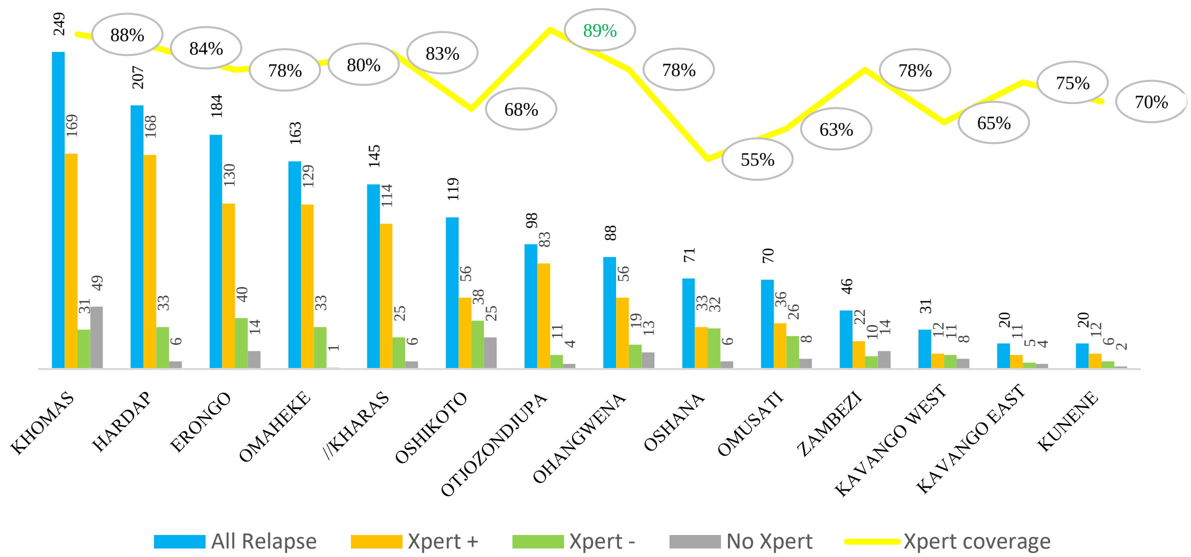


Figure 9: Xpert Coverage among Relapse TB patients, 2023

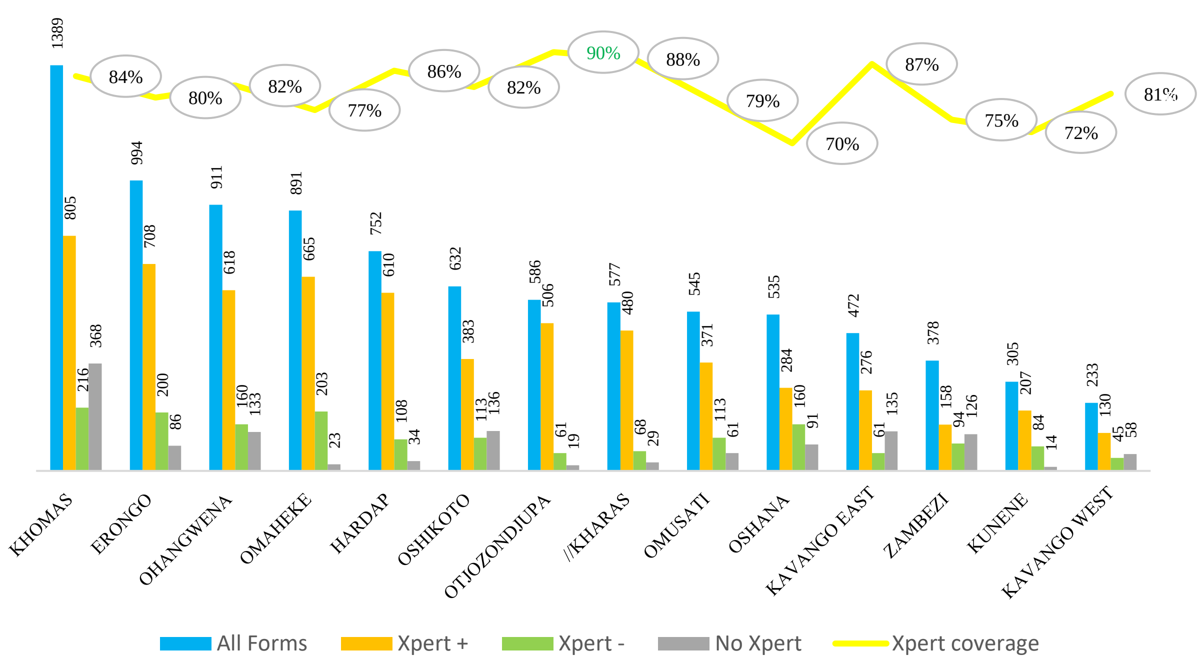


Figure 10: Xpert Coverage among all forms TB patients, 2023

3 BURDEN OF DRUG-SUSCEPTIBLE TB

3.1 TB Case notifications

The data on drug-susceptible TB case notifications in this report was sourced from the Electronic TB Register (ETR.Net). In 2023, the number of TB cases notified increased by 6.9% compared to 2022, although this increase is not as high as the 30.4% increase seen from 2021 to 2022. This progress reflects a steady improvement in the availability and accessibility of TB services, including diagnostics, over the past two years.

A total of 9,200 drug-susceptible TB cases were notified in 2023, with 8,988 of these classified as new and relapse TB cases. This marks a significant recovery, especially when compared to the dramatic 15% decline in TB notifications observed between 2019 and 2020, largely due to disruptions caused by the COVID-19 pandemic. Namibia, like many countries, faced challenges in healthcare delivery during that time. However, TB case notifications have shown steady improvement from 2021 to 2023.

These improvements underscore the country's efforts to strengthen TB diagnostic and treatment services, improving the management and control of tuberculosis. The enhanced availability of diagnostic tools, such as the Xpert MTB/RIF test, has been instrumental in driving this positive trend.

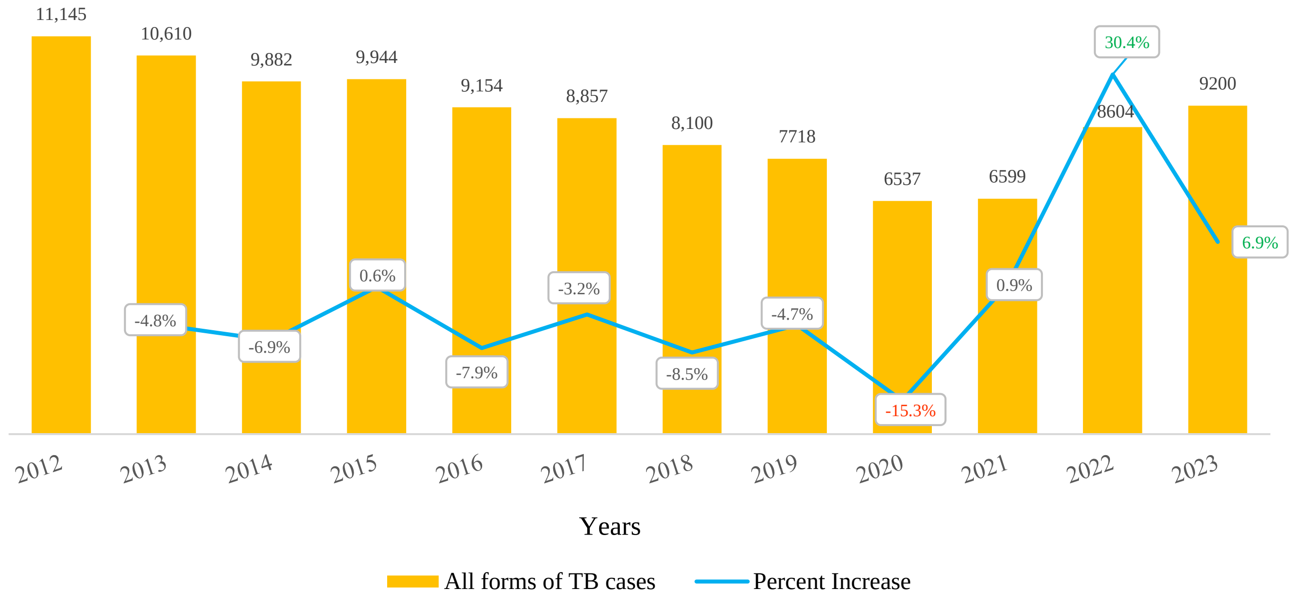


Figure 11: Trends of number of all forms of TB cases, 2012 - 2023

According to the WHO report (2024), TB treatment coverage is a key indicator for tracking progress towards the End TB Strategy, with a target of at least 90% coverage by 2027. This target translates to reaching up to 45 million people globally in the 5-year period from 2023 to 2027, including 4.5 million children and 1.5 million people with drug-resistant TB. It is also one of the 16 indicators used to assess progress toward the Universal Health Coverage (UHC) goal, which is part of the United Nations Sustainable Development Goals (SDGs).

TB treatment coverage is calculated by dividing the number of new and relapse cases detected and treated in a given year by the estimated number of incident TB cases for that year, expressed as a percentage. This is typically approximated by dividing the number of newly diagnosed TB cases by the incidence rate. Currently, the number of notified new and relapse cases reported in 2023 is used as the numerator for this calculation, though limitations exist, such as instances where people with TB receive treatment but are not reported to National TB Programs (NTPs) or are notified but not started on treatment.

Globally, TB treatment coverage reached 75% in 2023 (95% UI: 70–81%), up from 70% (95% UI: 66–75%) in 2022 and 62% (95% UI: 58–67%) in 2021. In Africa, treatment coverage stood at 74%, signifying that 26% of TB cases may still be missed.

In Namibia, treatment coverage peaked at 75% in 2022, but dropped to 67% in 2023, a reduction from the previous year. The trend over the past seven years shows fluctuations in coverage, with the lowest coverage of 56% recorded in 2020. The changes in coverage reflect various factors, including the impact of the COVID-19 pandemic, which caused an 8% decrease in coverage between 2019 and 2020. However, a 2% recovery in coverage was seen between 2020 and 2021, indicating a rebound from pandemic-related disruptions.

The 67% treatment coverage in Namibia in 2023 suggests that 23% of TB cases may have been missed. While this marks a decrease from the 75% coverage in 2022, it also highlights continued efforts to improve TB treatment access and effectiveness in the country, with some setbacks in 2023.

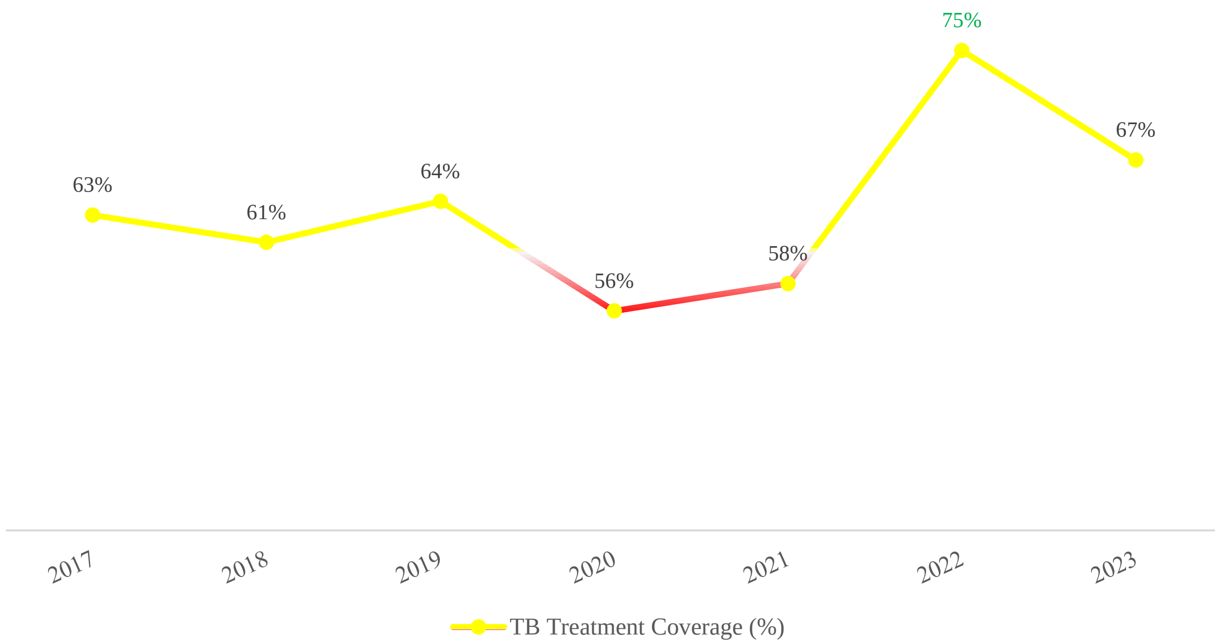


Figure 12: Trend in TB treatment coverage; 2017-2023

Namibia's TB case notification rate decreased to 304 per 100,000 population in 2023, down from 335 per 100,000 in 2022. This decline indicates challenges in the detection and reporting of TB cases, highlighting issues in diagnostic capabilities and surveillance efforts.

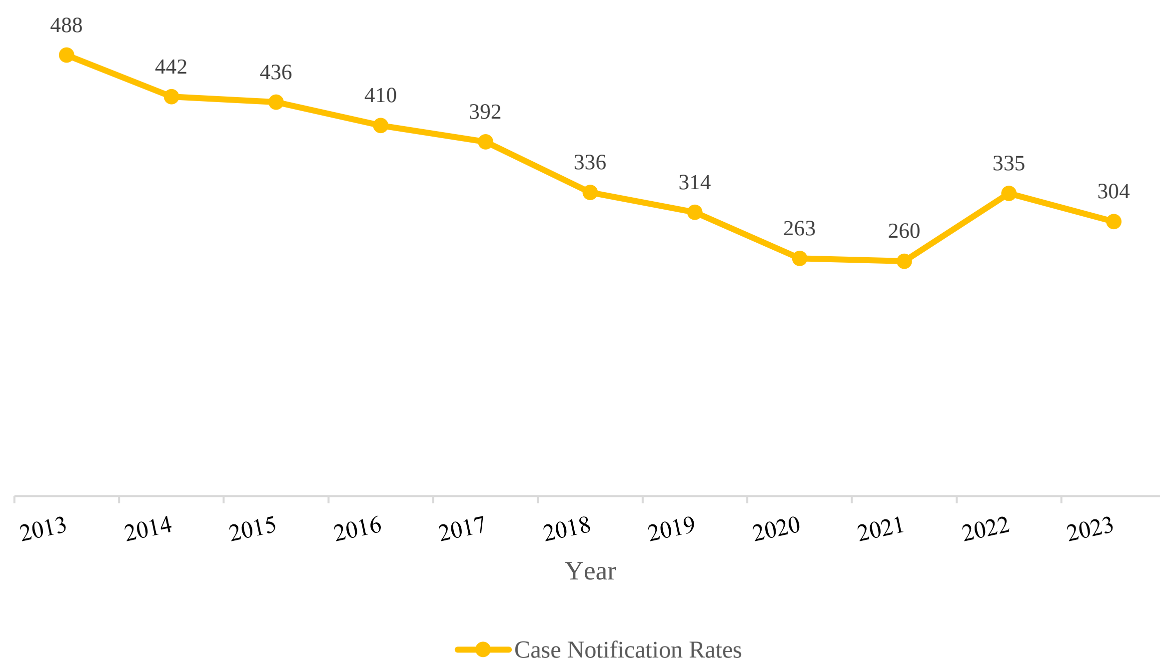


Figure 13: Trend in Case Notification Rate; 2013-2023

The table below presents the trends in TB notifications from 2013 to 2023 across all forms of drug-susceptible TB (DS-TB) notifications by category. A notable increase was observed in the category of New Pulmonary TB Bacteriologically Positive (PTB B+). Additionally, there was a slight increase in other categories, including new Pulmonary TB cases where sputum was not tested in adults. The decrease in new Pulmonary TB cases where sputum was not tested in children represents a significant achievement, indicating a reduction in the number of children who were not tested for TB compared to the previous year. This data underscores the progress made in pediatric TB testing and the implementation of comprehensive diagnostic measures, ensuring early detection and treatment for all age groups.

Table 2: Trends in Number of TB Cases Notified, 2013 to 2023 by category

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
NEW PTB B+	4331	4335	4854	4539	3951	4324	3821	3696	3891	4624	5008
NEW PTB B-	1345	1455	1094	964	1019	456	612	411	433	848	920
NEW EPTB	1846	1469	1468	253	232	275	1373	965	799	1082	1104
RELAPSE	1431	1361	2045	1546	1160	1122	1165	990	1079	1416	1511
OTHER	761	682	65	12	238	257	215	225	135	218	212
NEW PTB SPUTUM NOT TESTED ADULTS	476	276	253	1403	1812	1306	438	169	200	320	380
NEW PTB SPUTUM NOT TESTED CHILDREN	420	304	165	437	442	360	94	79	62	96	65
ALL FORMS	**10610**	**9882**	**9944**	**9154**	**8854**	**8100**	**7718**	**6535**	**6599**	**8604**	**9200**

3.2 Regional distribution of TB cases

In 2023, the regional distribution of TB cases revealed that the Khomas and Erongo regions continued to report the highest number of cases, consistent with trends observed in previous years. The Khomas region contributed 15% and Erongo 11% of the total 9,200 drug-susceptible TB (DS-TB) cases nationwide. In contrast, the Kavango West, Kunene, and Zambezi regions reported the fewest cases, each contributing only 3%.

These regional variations highlight the need for targeted interventions and strategic resource allocation to regions with higher TB burdens. At the same time, it is crucial to maintain adequate support for regions with lower case numbers to prevent potential outbreaks and strengthen overall TB control efforts.

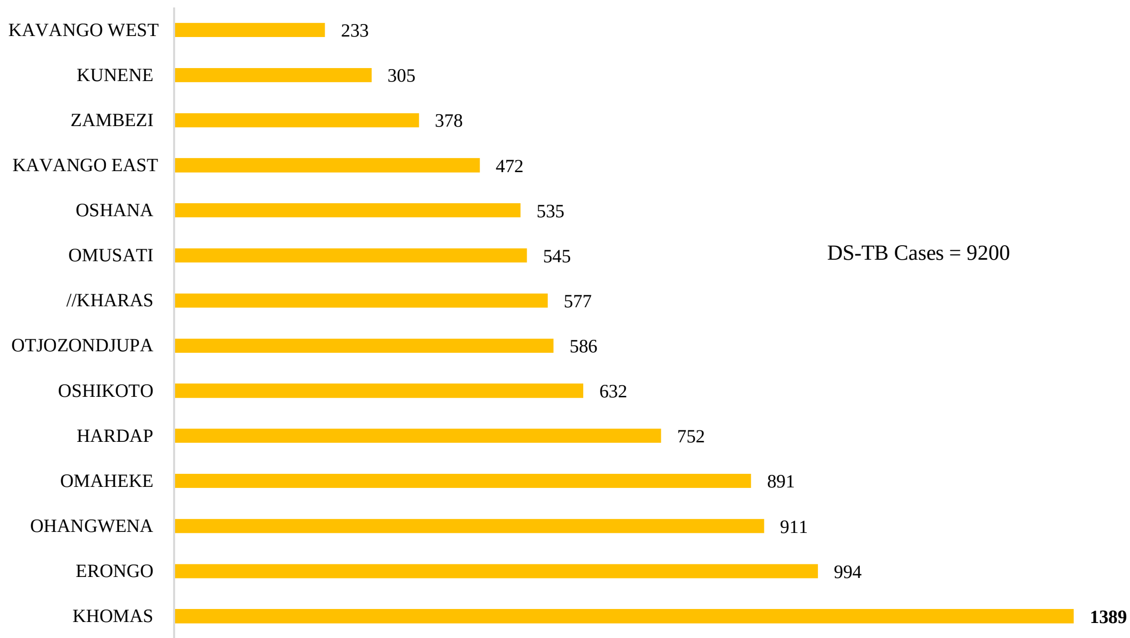


Figure 14: Number of TB cases (all forms) by region, 2023

As expected, the distribution of new and relapse TB cases followed a similar trend, as shown in Figure 15 below. The Khomas and Erongo regions continued to report the highest number of cases, reflecting their overall higher drug-susceptible TB (DS-TB) case burden. In contrast, the Kavango West, Kunene, and Zambezi regions remained among the areas with the least notifications for both new and relapse TB cases.

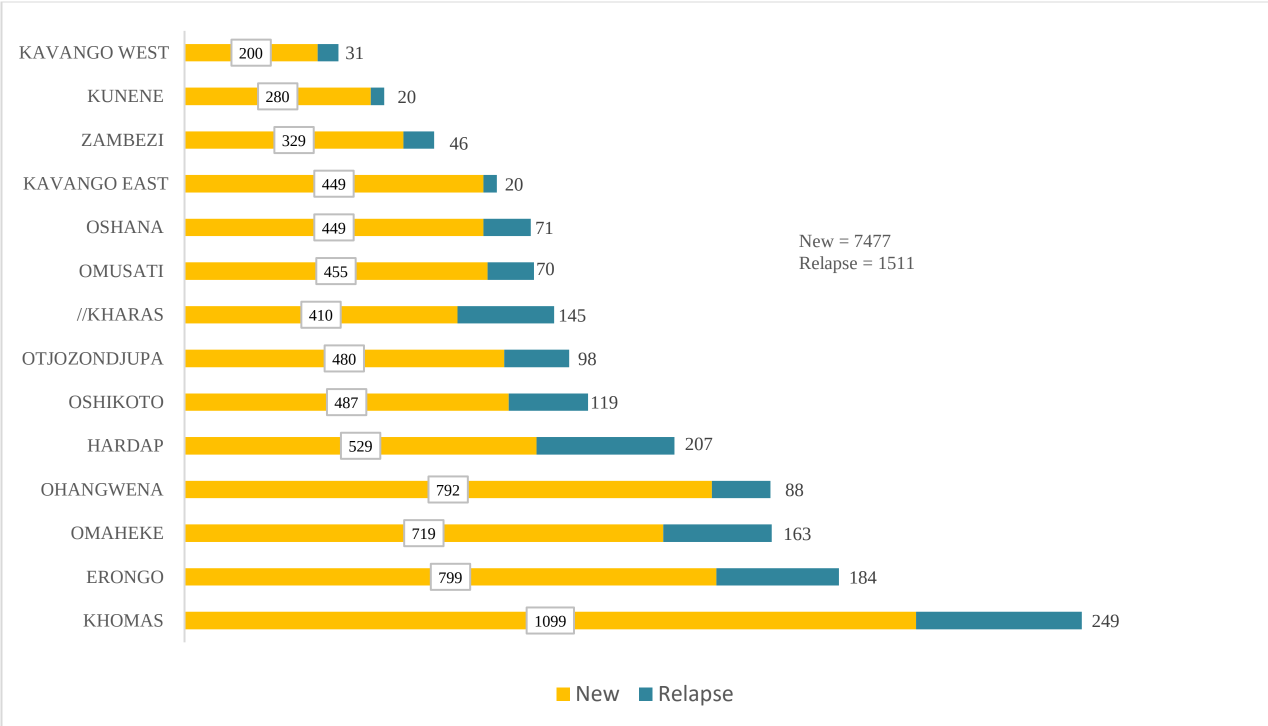


Figure 15: Number of New and Relapse TB cases by region, 2023

3.3 Districts with the highest burden

The distribution of TB cases across districts in 2023 demonstrated significant variation. Seven districts were responsible for 51% of the country's TB burden, a trend consistent with previous years. These high-burden districts include Windhoek, Gobabis, Engela, Oshakati, Walvis Bay, Katima Mulilo, and Swakopmund.

The concentration of TB cases in specific districts highlights the need for targeted interventions and focused resource allocation to effectively manage and reduce TB incidence in these areas. Concurrently, it is essential to enhance efforts in districts with lower case notifications by implementing mass screening and increasing TB testing to ensure comprehensive coverage and early detection.

Table 3: Districts with the highest TB burden

DISTRICT	NUMBER OF TB CASES, ALL FORMS	PERCENTAGE CONTRIBUTION
WINDHOEK DISTRICT	1389	15.1%
GOBABIS DISTRICT	891	9.7%
ENGELA DISTRICT	616	6.7%
OSHAKATI DISTRICT	535	5.8%
WALVIS BAY DISTRICT	472	5.1%
KATIMA MULILO DISTRICT	378	4.1%
SWAKOPMUND DISTRICT	361	3.9%
RUNDU DISTRICT	344	3.7%
KEETMANSHOOP DISTRICT	317	3.4%
MARIENTAL DISTRICT	307	3.3%
GROOTFONTEIN DISTRICT	295	3.2%
REHOBOTH DISTRICT	290	3.2%
ONANDJOKWE DISTRICT	255	2.8%
TSUMEB DISTRICT	252	2.7%
OUTAPI DISTRICT	210	2.3%
EENHANA DISTRICT	202	2.2%

3.4 Age and sex distribution of TB cases (all forms) notified

As observed in previous reporting periods, the majority of drug-susceptible TB (DS-TB) cases notified in 2023 were male, comprising 61% of the total cases (Figure 16). This gender distribution was consistent across all 14 regions of Namibia. Additionally, a significant proportion of TB cases were reported in the age group of 25-34 and 35-44 years, maintaining a trend seen in previous years.

These patterns highlight the need for targeted TB prevention and treatment strategies that address the specific needs of these high-risk demographic groups. Focusing on the male population and the 25-44 age range, alongside increasing TB screening and testing efforts across other age groups, particularly among children, will be crucial in improving TB detection and treatment.\

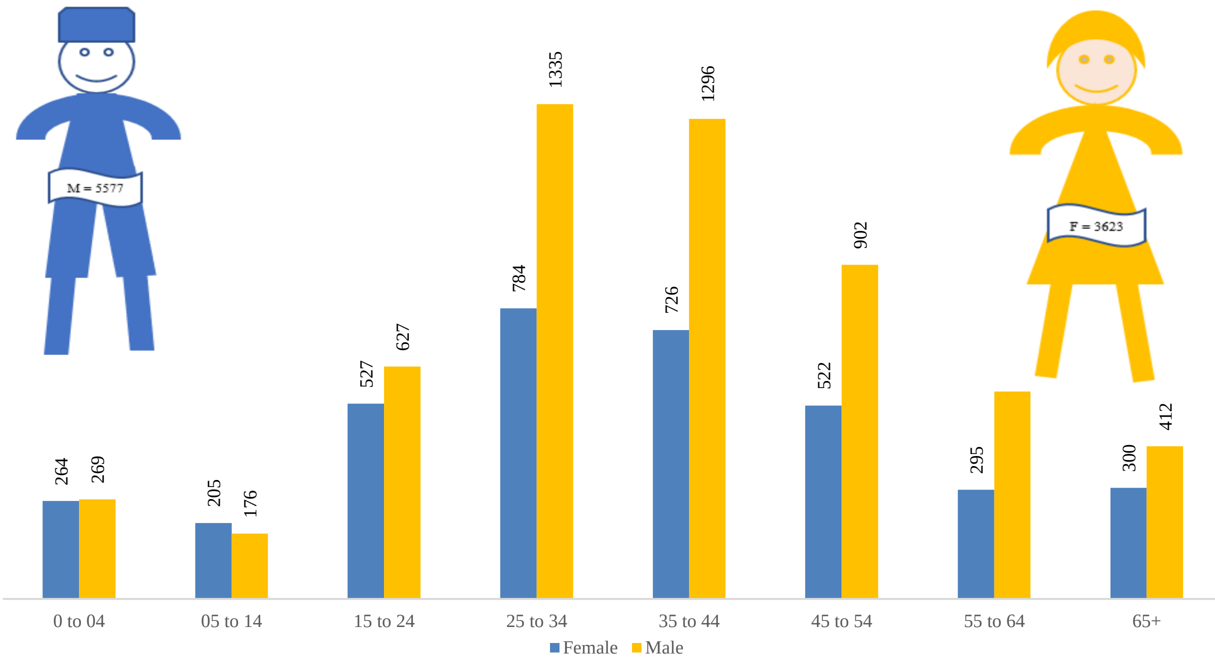


Figure 16: TB cases (all forms) by Age Group and Sex, 2023

3.5 Childhood TB

In 2023, a total of 914 children under the age of 15 were diagnosed with TB, representing 10% of the 9,200 total TB cases reported. The distribution of cases by sex was fairly even, with 469 girls and 445 boys affected. The chart below (Figure 17) displays the regional distribution of TB cases among children. In this analysis, the total number of childhood TB cases (children under 15) reported across the country in 2023 serves as the denominator, while the numerator reflects the number of cases in each specific region.

Since 2019, the number of TB cases reported in children has remained relatively consistent, consistently making up less than 12% of all cases. This proportion falls within the World Health Organization's recommended range of 5-15%, suggesting a stable trend in childhood TB notifications.

The Khomas and Omaheke regions recorded the highest numbers of TB cases among children, highlighting the importance of targeted pediatric TB interventions in these regions.

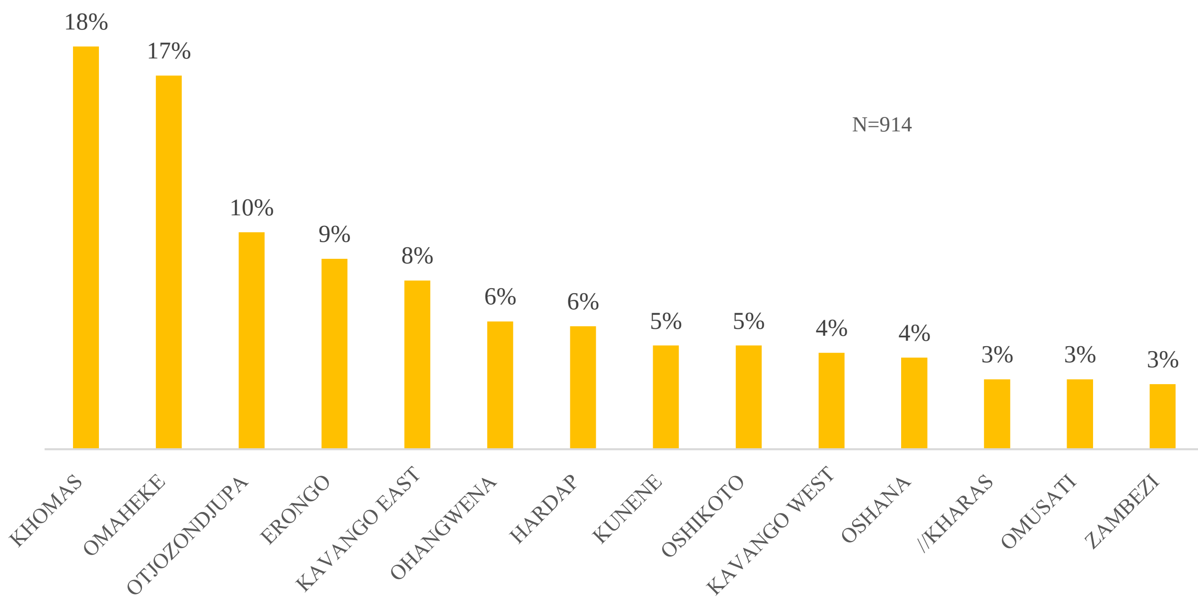


Figure 17: Proportion (%) of national TB burden in children, 2023 by region

The graph below (Figure 18) illustrates the percentage of TB cases in children under 15 years of age across different regions. The denominator used in this calculation is the total number of TB cases reported in each region, while the numerator represents the number of TB cases in children within that region.

The data reveals that the regions with the highest proportion of TB cases among children are Omaheke (17%), Kavango West (17%), Otjozondjupa (15%), and Kavango East (15%). In contrast, the regions with the lowest percentages of TB cases in children are Omusati and //Kharas, both reporting just 5% of their TB cases in children under 15 years old. These figures might suggest that Omaheke and Kavango West are facing significant challenges in managing pediatric TB. On the other hand, the relatively lower percentage in Omusati could indicate the effectiveness of TB control measures targeted at children in that region.

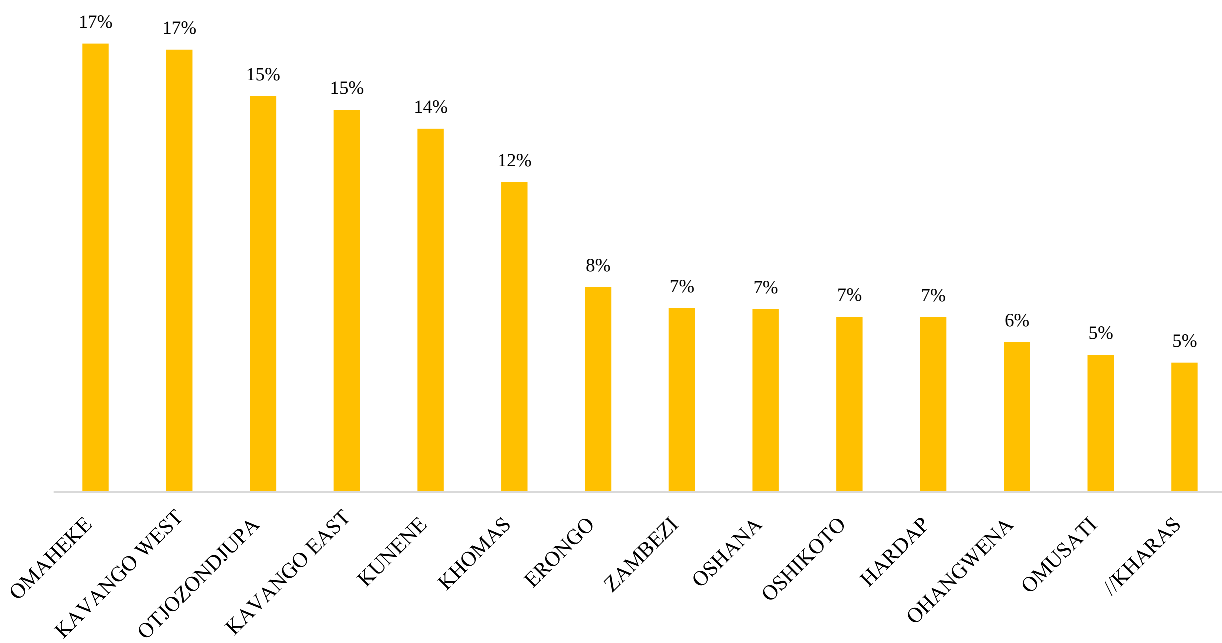


Figure 18: Regional proportion of TB cases in children (< 15 years), 2023 by region

3.6 Treatment outcomes for drug susceptible TB

This report examines the treatment outcomes for TB patients reported in the previous year, focusing on the results from the 2022 treatment cohort. The potential treatment outcomes for patients undergoing TB treatment include: cured, treatment completed, died, treatment failed, lost to follow-up, and transferred.

The most favourable treatment outcomes, indicating an effective TB control program, are "cured" and "treatment completed." These outcomes reflect successful completion of treatment and recovery from TB. Analysing the treatment outcomes for the 2022 treatment cohort helps assess the effectiveness of the TB treatment program and identifies areas that require improvement to enhance patient care and program performance.

Table 4 below presents a summary of the treatment outcomes for the 2022 cohort. Of the 8,587 drug-susceptible TB (DS-TB) patients reported in 2022, 99.8% were evaluated in 2023. The treatment outcomes remained consistent compared to the previous year. The treatment success rate (TSR) for all TB forms was 87%, which is below the 90% target and the same as the 87% TSR of the 2021 cohort. High mortality rates across all TB types contributed to the lower treatment success rates.

The highest TSR (90%) was observed in new bacteriologically positive TB patients. In contrast, the TSR for foreign national TB patients was lower, at 74%. For new and relapse TB cases, the

TSR was 88%, with a loss to follow-up (LTFU) rate of 4%. Notably, the LTFU rate among foreign nationals was the highest at 20%, emphasizing the urgent need for a strengthened cross-border referral system.

These findings underline the importance of focused interventions to improve treatment adherence and success rates, especially among vulnerable populations and those with higher LTFU rates.

Table 4: Treatment Outcomes for All Forms of Drug Susceptible TB cases Notified in 2022

	Cured		Treatment completed		Successfully treated		Died		Failed		LTFU		Total evaluated		Not evaluated (incl. transfer out)		Total notified (2022 cohort)
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n
All forms	4299	50%	3199	37%	7498	87%	563	7%	126	1%	385	4%	8572	99.83%	15	0.17%	8587
New & Relapse	4192	50%	3142	38%	7334	88%	552	7%	113	1%	360	4%	8359	99.82%	15	0.18%	8374
New B+ PTB	3458	75%	702	15%	4160	90%	177	4%	83	2%	208	4%	4628	99.94%	3	0.06%	4631
New B- PTB	0	0%	731	87%	731	87%	75	9%	1	0%	27	3%	834	99.76%	2	0.24%	836
New Smear not done PTB	9	2%	306	77%	315	79%	51	13%	1	0%	29	7%	396	99.50%	2	0.50%	398
Relapse TB	724	51%	496	35%	1220	86%	114	8%	28	2%	53	4%	1415	99.72%	4	0.28%	1419
Foreign national	319	49%	158	24%	477	74%	25	4%	16	2%	129	20%	647	100.00%	0	0.00%	647
EPTB	0	0%	1015	82%	1015	82%	162	13%	0	0%	56	5%	1233	99.60%	5	0.40%	1238
HIV +ve	972	37%	1218	47%	2190	84%	252	10%	34	1%	113	4%	2589	99.85%	4	0.15%	2593

The line graph below (Figure 19) shows the trends in the death rate and loss to follow-up (LTFU) rates among DS-TB patients from 2016 through the 2022 cohort.

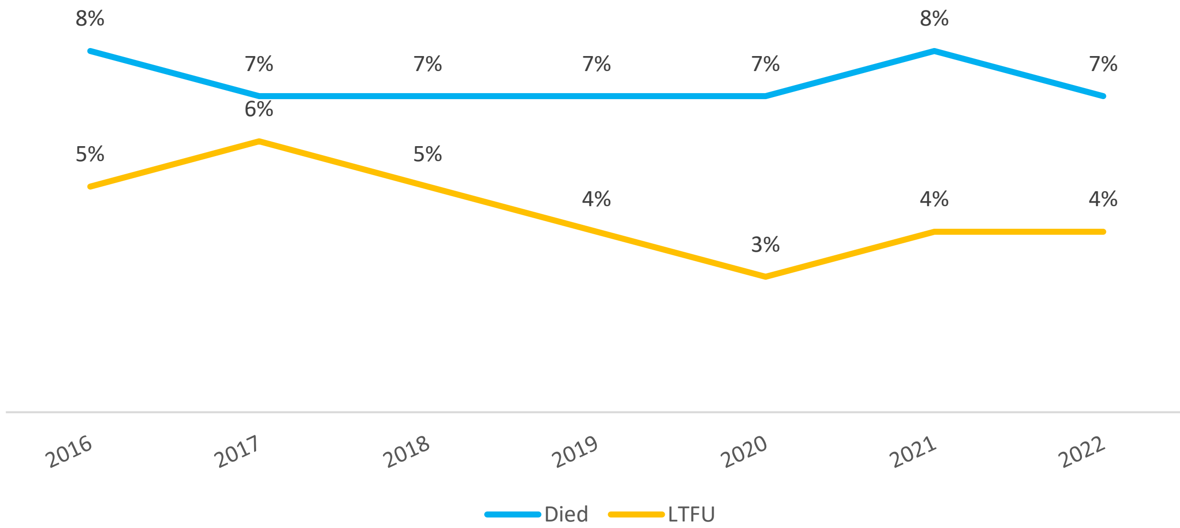


Figure 19: Trends for death rate and Lost to Follow-Up (LTFU)

The death rate began at 8% in 2016 and remained fairly stable at 7% from 2017 to 2020. However, it increased again to 8% in the 2021 cohort before returning to 7% in the 2022 cohort. This trend highlights ongoing challenges in managing mortality among TB patients over the years. Similarly, LTFU rates fluctuated throughout this period, further emphasizing the need for improved patient tracking and retention strategies to address these issues effectively.

3.6.1 Treatment outcomes by region

The graph below (Figure 20) illustrates the treatment outcomes for all forms of TB across different regions, revealing significant regional variations in treatment success rates (TSRs). The Oshana (77%), Ohangwena (80%), and Omusati (82%) regions recorded the lowest TSRs. In contrast, the Zambezi (94%), Omaheke (93%), Kunene (92%), and Erongo (92%) regions achieved the highest TSRs, surpassing the 90% treatment success rate target.

Regarding loss to follow-up (LTFU), the current reporting period highlighted the Ohangwena region with the highest LTFU rate at 12%, followed by Kavango West at 9%. This increase is attributed to the ongoing challenge of managing cross-border patients, particularly from Angola, which significantly impacted follow-up rates. In the previous reporting period, Omusati region also recorded a 9% LTFU rate, illustrating the persistent issue of cross-border patient care.

Death rates also varied widely across regions. Oshana reported the highest death rate at 14%, followed by Kavango East at 9%, and Oshikoto and Otjozondjupa regions, both with 8% death rates. These statistics point to regions where targeted interventions are needed to reduce mortality and enhance the overall effectiveness of TB treatment programs. The regional disparities in treatment outcomes underscore the need to address specific challenges in each region to improve TB control efforts and patient outcomes nationwide.

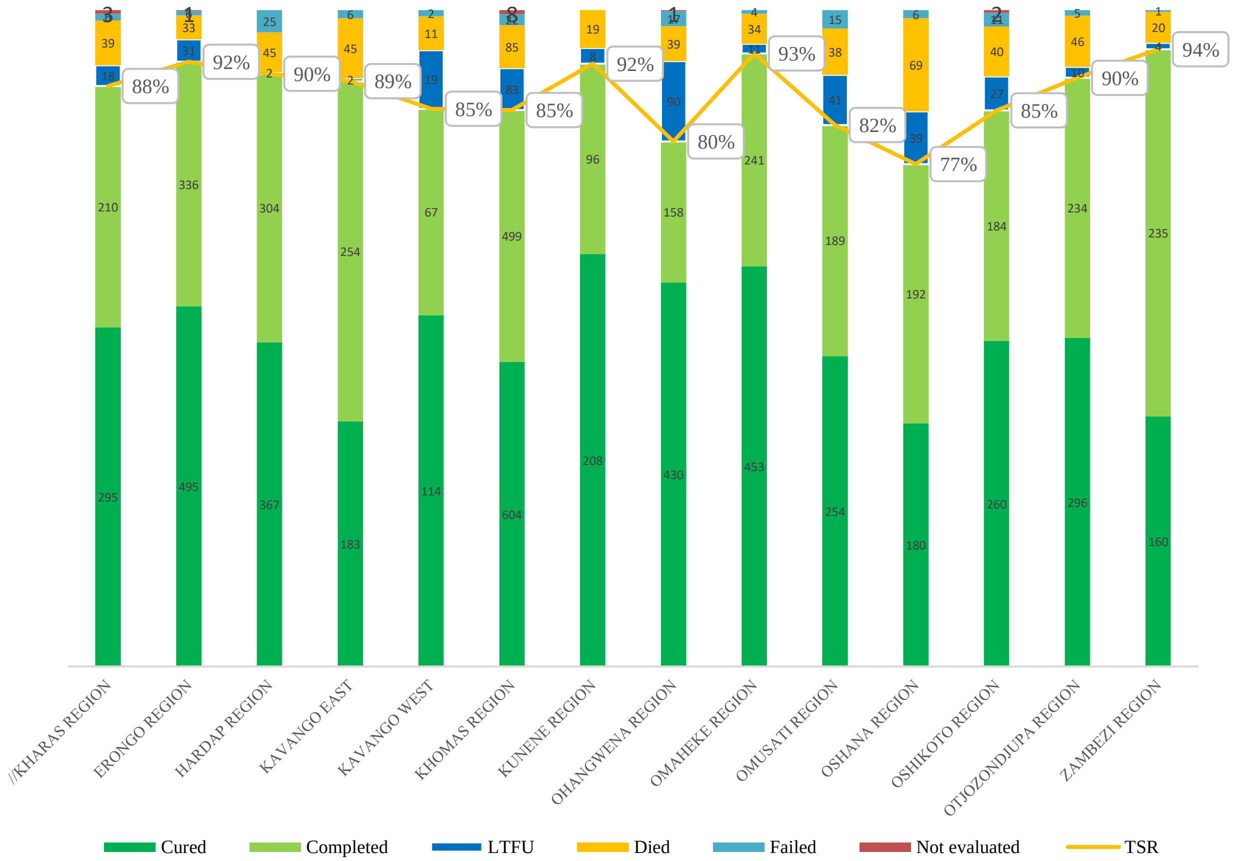


Figure 20: Treatment Outcomes for All Forms of TB, 2022 cohort by Region

3.6.2 Treatment Outcomes for New Bacteriologically positive PTB cases

Table 5 below summarizes the treatment outcomes for patients diagnosed with New Bacteriologically Positive Pulmonary Tuberculosis (New B+ PTB) who started treatment in 2022, categorized by region. Among the 4,631 New B+ PTB patients notified in 2023, 75% were cured, and 15% completed their treatment, resulting in a treatment success rate (TSR) of 90%.

This TSR reflects a consistent 90% treatment success rate, similar to the results from the 2021 cohort. The stability in the TSR may be partly due to the consistent number of contract renewals for Community-Based Tuberculosis Care (CBTBC) providers. This highlights the need for increased staffing to further increase and improve TB treatment outcomes.

Table 5: Treatment Outcomes for New PTB B+ Patients by Region, 2022 cohort

Region	Cured		Treatment completed		Successfully treated		Died		Failed		LTFU		evaluated	Not evaluated	Total notified (2022)
//KHARA	218	62%	95	27%	313	89%	19	5%	6	2%	12	3%	350		350
ERONGO	389	85%	41	9%	430	94%	9	2%	3	1%	15	3%	457		457
HARDAP	271	62%	133	31%	404	93%	15	3%	15	3%	1	0%	435		435
KAVANGO EAST	166	78%	29	14%	195	92%	12	6%	4	2%	1	0%	212		212
KAVANGO WEST	105	79%	13	10%	118	89%	3	2%	2	2%	10	8%	133		133
KHOMAS	477	73%	109	17%	586	90%	22	3%	14	2%	30	5%	652	1	653
KUNENE	182	93%	2	1%	184	94%	6	3%		0%	6	3%	196		196
OHANGWENA	361	72%	45	9%	406	81%	18	4%	14	3%	61	12%	499	1	500
OMAHEKE	351	82%	56	13%	407	95%	13	3%	3	1%	7	2%	430		430
OMUSATI	209	75%	36	13%	245	88%	5	2%	7	3%	23	8%	280		280
OSHANA	146	74%	18	9%	164	84%	15	8%	5	3%	12	6%	196		196
OSHIKOTO	206	75%	31	11%	237	86%	12	4%	5	2%	20	7%	274	1	275
OTJOZONDJUPA	244	66%	92	25%	336	91%	23	6%	4	1%	8	2%	371		371
ZAMBEZI	133	93%	2	1%	135	94%	5	3%	1	1%	2	1%	143		143
NAMIBIA	**3458**	**75%**	**702**	**15%**	**4160**	**90%**	**177**	**4%**	**83**	**2%**	**208**	**4%**	**4628**	**3**	**4631**

3.6.3 Trends in Treatment Outcomes for New Bacteriologically Positive PTB cases

Table 6 below outlines the trends in treatment outcomes for new smear-positive TB cases from the 2012 to 2022 treatment cohorts. A notable consistency has been observed in the number of patients not evaluated, which has remained at 0% since the 2018 cohort. However, loss to follow-up has continued to be a challenge across all cohorts.

Furthermore, 15% of patients were categorized as having completed treatment. While this suggests a relatively high treatment success rate for new smear-positive cases, it also indicates that proper follow-up sputum smear examinations were not consistently conducted after patients completed their full course of treatment.

The death rate has decreased from 5%, which had been consistent since the 2018 cohort, to 4% in the 2022 cohort. To address these trends, it is crucial to strengthen TB mortality audits and implement digital adherence technologies. These steps could further improve patient monitoring, enhance medication adherence, and help the country reduce both loss to follow-up and mortality rates.

Table 6: Trends in Treatment Outcomes for new PTB_B+ cases, 2012 – 2022[3] cohorts

Tx Outcome	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Not Evaluated	1%	0%	0%	1%	0%	1%	0%	0%	0%	0%	0%
Failed	5%	4%	4%	5%	2%	3%	2%	3%	2%	2%	2%
Died	5%	4%	4%	3%	5%	4%	5%	5%	5%	5%	4%
LTFU	5%	5%	4%	6%	5%	6%	5%	4%	3%	4%	4%
Completed	9%	9%	10%	11%	10%	12%	10%	12%	13%	20%	15%
Cured	76%	78%	78%	76%	78%	74%	77%	77%	78%	69%	75%

3.6.4 Treatment Outcomes for New and Relapse TB cases

Figure 21 illustrates the treatment outcomes for new and relapse TB cases reported in the 2022 treatment cohort. The graph shows the proportion of cases that were successfully treated across

[3] PTB B+ cases included from 2012 – 2022 is only for New smear positive patients

14 regions. The overall treatment success rate for this cohort was 88%, based on 8,374 new and relapse TB cases. This marks a slight increase from the 87% success rate recorded in the 2021 treatment cohort.

The data also reveals regional variations in treatment success rates. The Zambezi region achieved the highest success rate at 94%, while the Oshana region recorded the lowest at 77%. These regional disparities highlight the need for additional support and targeted interventions in areas with lower treatment success rates.

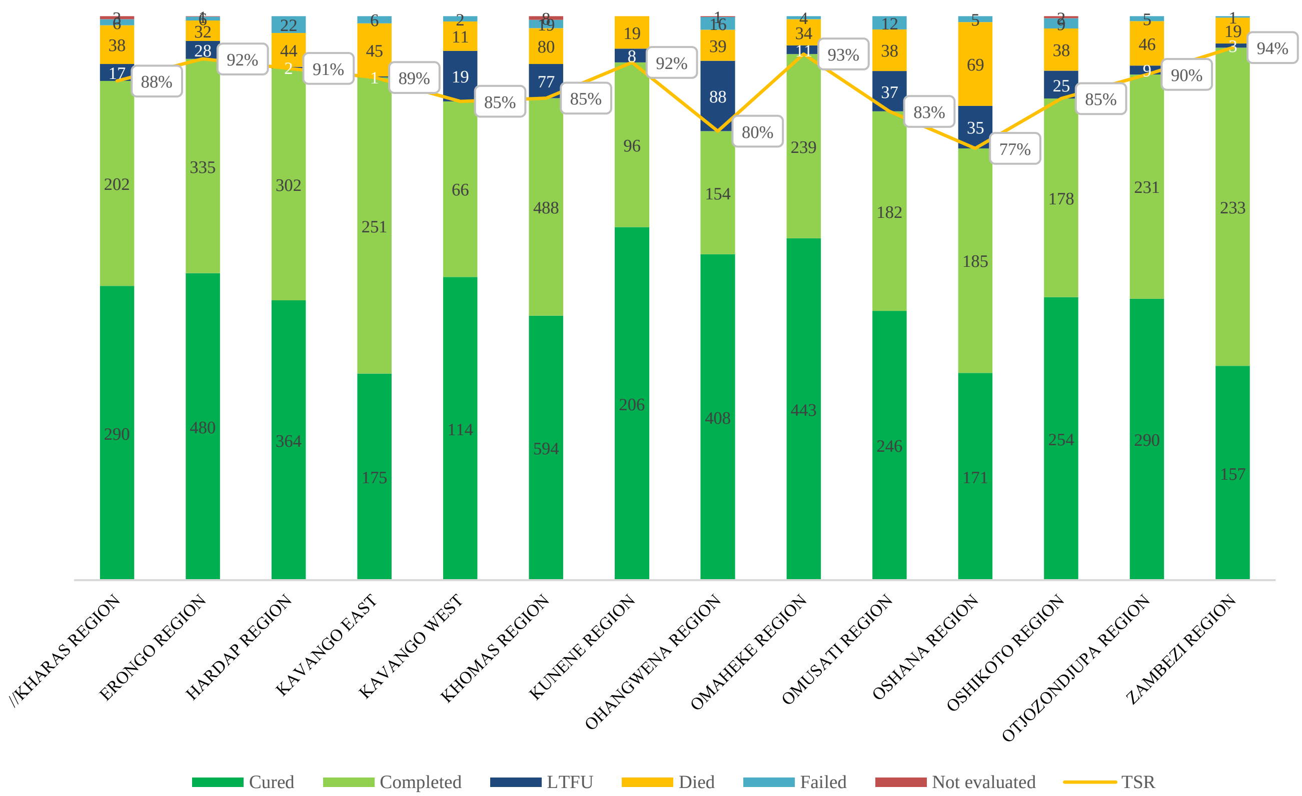


Figure 21: Treatment Outcomes for New and Relapse TB cases by Region, 2022 cohort

3.6.5 Treatment Outcomes for EPTB cases

Figure 22 presents the treatment outcomes for 1,238 Extra-Pulmonary TB (EPTB) cases in the 2022 cohort, showing a notable treatment success rate of 82%. This figure is an improvement over the 79% success rate recorded in the previous cohort, reflecting a 3% increase in treatment completion. This rise in the success rate suggests potential improvements in patient retention and adherence to treatment protocols.

A significant issue identified was the high percentage of patients lost to follow-up, particularly in the Okavango West, Ohangwena, and Oshana regions, which reported loss to follow-up rates of 16%, 14%, and 10%, respectively. These high rates may indicate underlying issues such as difficulties in accessing healthcare services, patient migration, and the lack of effective follow-up systems, particularly in rural and cross-border regions.

In addition to the loss to follow-up cases, death rates were a concern in certain regions. The Oshana region recorded the highest death rate at 23%, followed by Oshikoto at 19%, and Zambezi at 17%. High mortality rates in these areas were attributed to several factors, including delays in diagnosing EPTB.

Overall, the challenges of high loss to follow-up and mortality rates highlight the urgent need for targeted interventions. Strengthening patient follow-up systems, improving diagnostic capabilities, and addressing healthcare access issues, especially in regions with high loss to follow-up and death rates, are crucial to improving treatment outcomes.

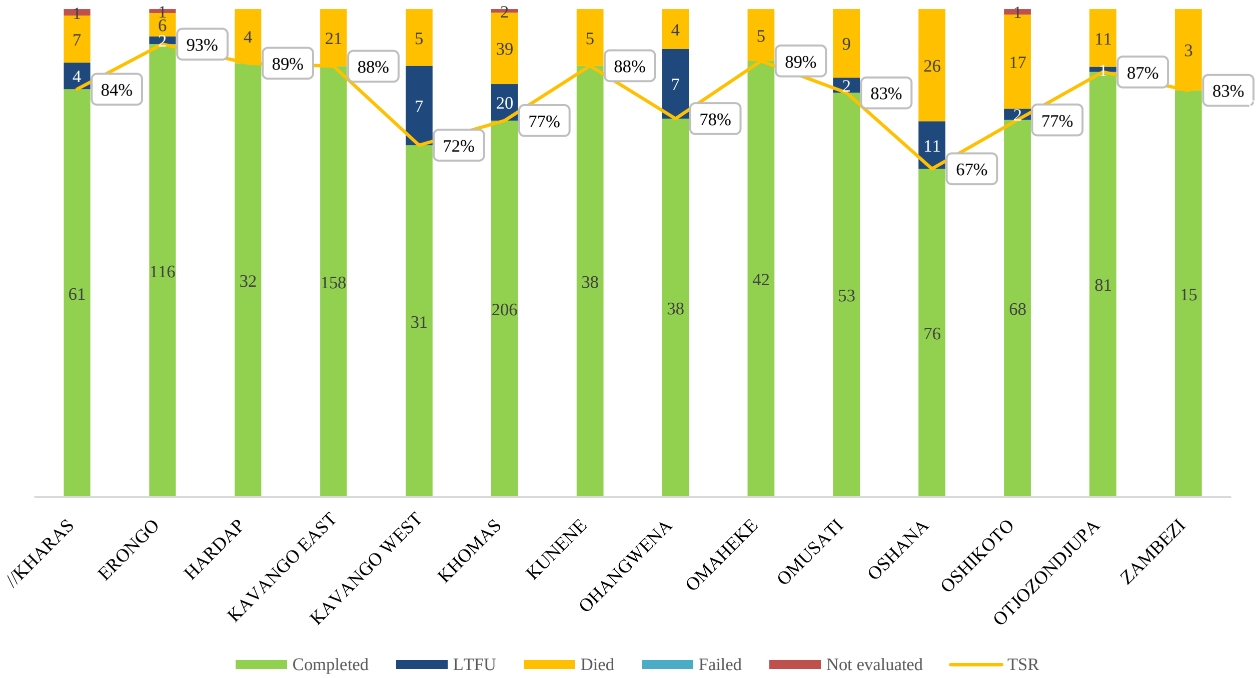
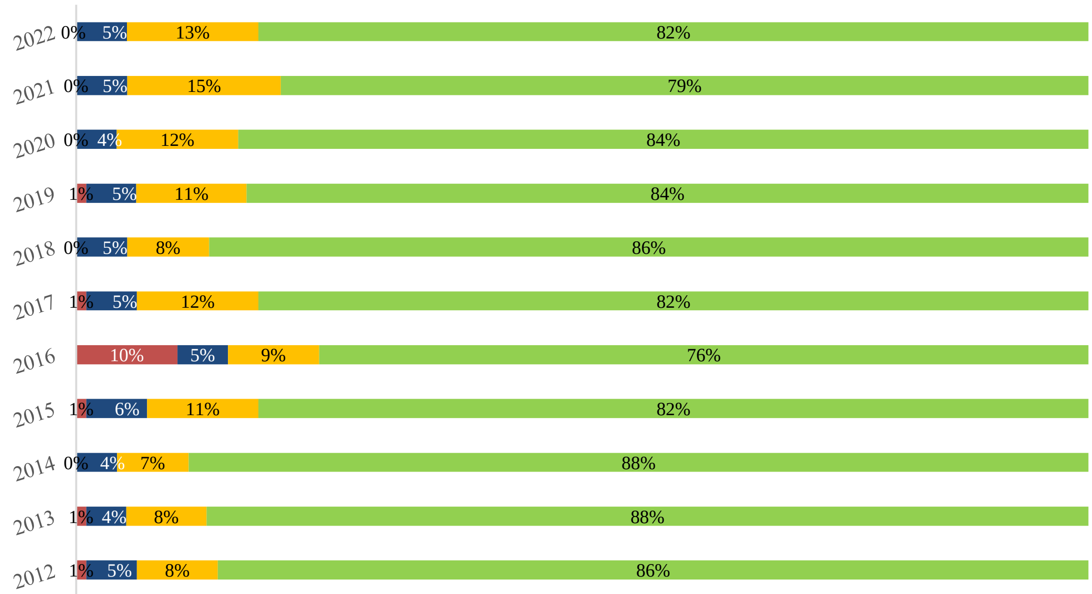


Figure 22: Treatment Outcomes for EPTB cases by Region, 2022 cohort

Figure 23 illustrates the trends in outcomes among Extra-Pulmonary Tuberculosis (EPTB) cases. Treatment completion increased to 82% in the 2022 cohort, up from 79% the previous year. The death rate slightly decreased to 13% in 2022, compared to 15% in the 2021 treatment cohort. The percentage of patients lost to follow-up (LTFU) remained consistent at 5% from 2016 to 2019, decreased to 4% in 2020, and then returned to 5% in both the 2021 and 2022 cohorts. The percentage of patients not evaluated stayed at 0%. These trends reflect a slight improvement in treatment success and a reduction in death rates, while loss to follow-up rates have remained relatively stable.



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Not Evaluated	1%	1%	0%	1%	10%	1%	0%	1%	0%	0%	0%
LTFU	5%	4%	4%	6%	5%	5%	5%	5%	4%	5%	5%
Died	8%	8%	7%	11%	9%	12%	8%	11%	12%	15%	13%
Completed	86%	88%	88%	82%	76%	82%	86%	84%	84%	79%	82%

Not Evaluated LTFU Died Completed

Figure 23: Trends in Treatment Outcomes for EPTB cases; 2012-2022 cohorts

4 TB/HIV AND OTHER CO-MORBIDITIES

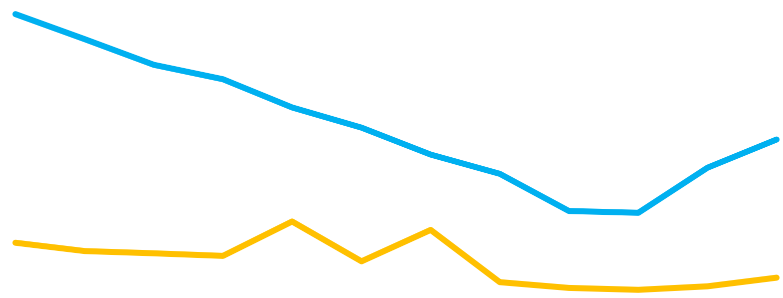
In 2023, significant progress was made in achieving high levels of TB/HIV service coverage, particularly with regard to HIV testing among TB patients. The national target of testing over 95% of TB patients for HIV was successfully met, with 9,101 out of 9,200 (99%) of TB patients having a documented HIV status.

This achievement reflects the effectiveness of integrated TB and HIV services, which ensure that HIV testing is conducted for all TB patients. The high rate of testing is indicative of strong coordination among healthcare workers, sufficient resource allocation, and continued emphasis on the integration of TB and HIV services as a priority.

4.1 The burden of TB/HIV co-infection

The graph below shows the trend of TB-HIV co-infection cases over time. The proportion of TB-HIV co-infection cases has been gradually decreasing from 2018 to 2022, dropping from 34% in 2018 to 30% in 2021 and remaining at 30% in 2022. However, in 2023, the percentage increased to 33%.

This recent increase highlights the continuing risk of TB among individuals living with HIV and highlights the need for sustained efforts in TB and HIV screening, treatment, and prevention. Strengthening the integration of TB and HIV services remains crucial in addressing this co-morbidity effectively.



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
HIV+ve (All notifications)	4688	4343	3995	3796	3410	3133	2768	2504	1994	1970	2588	2972
HIV+ve (New Smear-Positive)	1559	1448	1414	1381	1851	1305	1735	1022	944	916	963	1084

HIV+ve (All notifications) HIV+ve (New Smear-Positive)

Figure 24: Trends in TB/HIV notifications 2012-2023

The graph below shows presents key data related to TB patients and their HIV status over the past six years, highlighting significant progress in the integration of TB and HIV services. The data demonstrates continued success in ensuring that TB patients are tested for HIV, with the percentage of known HIV status remaining consistently high at 99% from 2019 to 2023. Additionally, the initiation of antiretroviral therapy (ART) among HIV-positive TB patients has consistently been near or at 99% over the same period, reflecting strong adherence to treatment protocols.

However, the proportion of TB patients who are HIV-positive (HIV+) showed an increase in 2023, rising to 33% compared to 30% in the previous two years. This increase highlights the continued need for comprehensive strategies to address the co-infection burden, particularly in HIV-positive individuals who remain at heightened risk for TB. These figures highlight the effectiveness of the ongoing integration of TB and HIV services and the need for sustained efforts to reduce TB/HIV co-infection through enhanced prevention, early detection, and treatment strategies.

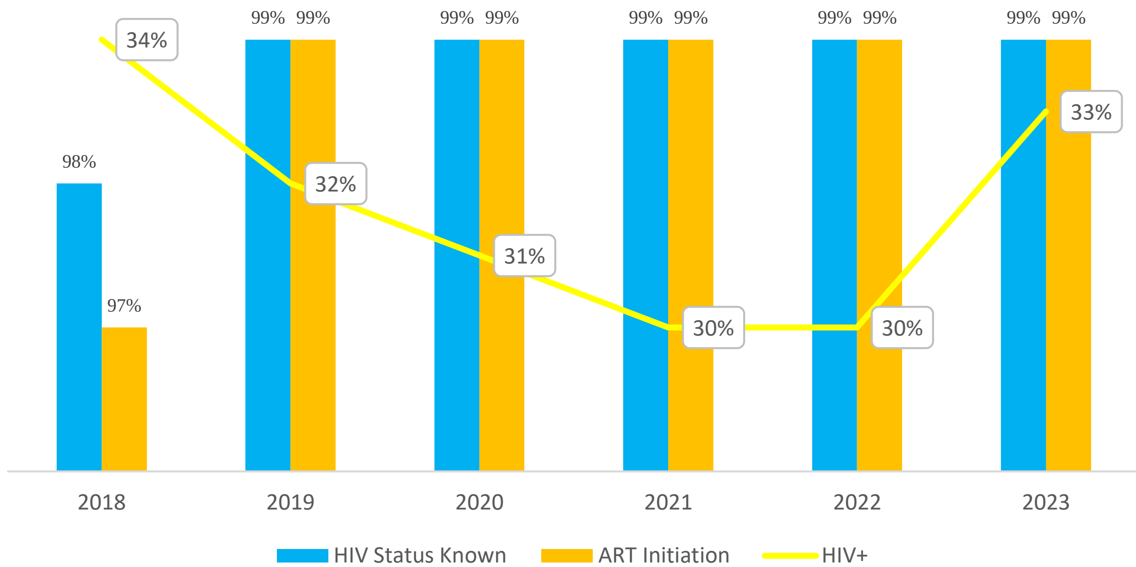


Figure 25: TB/HIV Care Cascade; 2018-2023

Figure 26 shows the distribution of people living with HIV (PLHIV) among new and relapse TB cases, which aligns with the overall age-sex distribution of TB in the country. The graph reveals a significant disparity in the burden of TB-HIV co-infection between males and females, particularly in the middle-aged and older adult populations.

Among the middle-aged population (35-44 years and 45-54 years), males demonstrate a notably higher rate of TB-HIV co-infection compared to females. Specifically, in the 35-44 years age group, males account for 56% (490 out of 877) of the TB-HIV cases. This trend continues in the

45-54 years age group, where males represent 57% (386 out of 683) of the cases. The higher burden of TB-HIV co-infection among males is consistent across these age ranges, highlighting the need for targeted interventions in this demographic.

For the older adult population (55-64 years), males make up 60% (203 out of 336) of the TB-HIV cases, further emphasizing the significant impact of TB-HIV co-infection on this age group.

In contrast, females slightly outnumber males in the young adult group (15-24 years), accounting for 61% (108 out of 176) of the TB-HIV cases. This pattern has been observed in previous years and may reflect particular demographic trends within the HIV epidemic among young females.

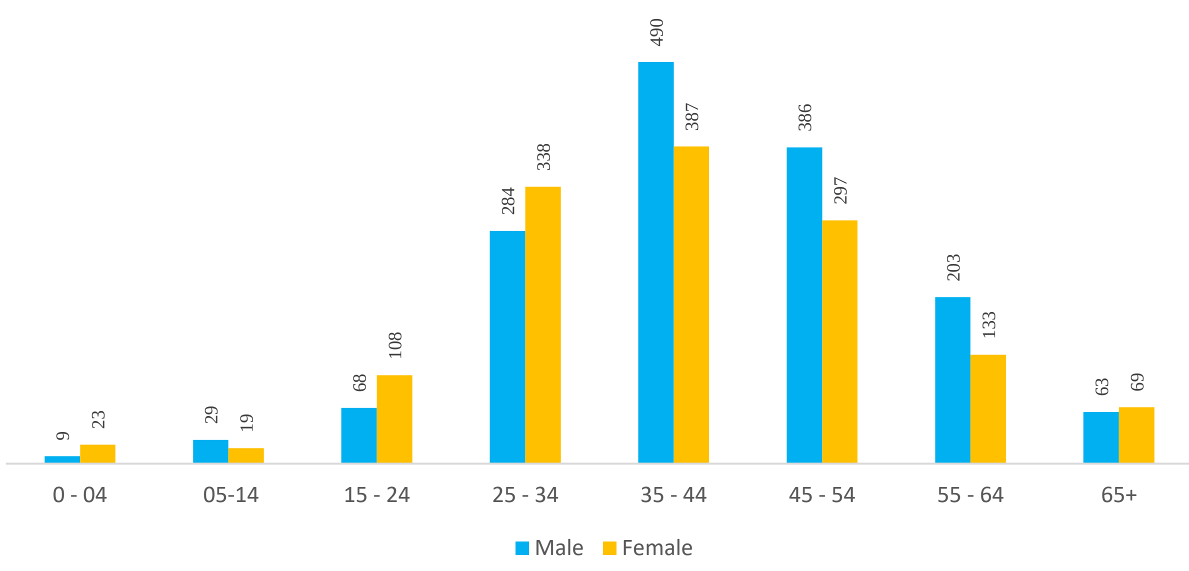


Figure 26: Age-sex distribution among New and Relapse TB/HIV cases, 2023

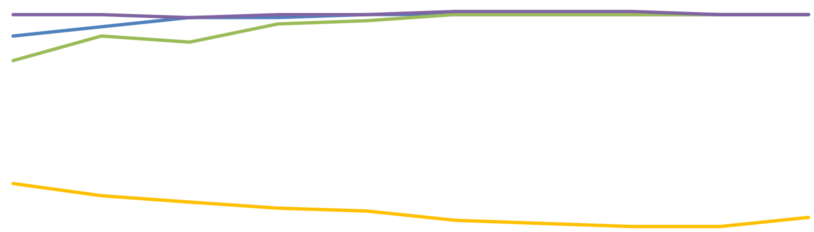
Overall, the graph indicates that TB-HIV co-infection disproportionately affects males, particularly within the middle-aged and older adult populations. This reinforces the need for targeted interventions and support to address the higher burden of TB-HIV co-infection in these groups.

4.2 Provision of HIV services for TB patients

Figure 27 displays the annual trends for key TB/HIV indicators from 2014 to 2023. Notably, from 2018 to 2023, the percentage of TB patients with a documented HIV status has remained consistently high at 99%. In 2023, 33% (2,972) of the TB patients notified were HIV-positive. While this represents an increase compared to the previous four years, it reflects a significant decline from 44% in 2014, indicating a steady reduction in the proportion of HIV-positive TB patients over time.

The proportion of HIV-positive TB patients initiated on antiretroviral therapy (ART) showed remarkable improvement, increasing from 84% in 2014 to 99% in 2023. This steady increase reflects the country's progress towards achieving the 'HIV test and treat' goal, ensuring that nearly all HIV-positive TB patients are receiving ART.

Cotrimoxazole Preventive Therapy (CPT) coverage has also remained consistently high throughout the years. Although there was a slight decrease from 100% to 99% in 2022 and 2023, the data highlights the ongoing success in providing this preventive therapy to the majority of HIV-positive TB patients.



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
% with Known HIV Status	92%	95%	98%	98%	99%	99%	99%	99%	99%	99%
% HIV Positive	44%	40%	38%	36%	35%	32%	31%	30%	30%	33%
Proprtion ART	84%	92%	90%	96%	97%	99%	99%	99%	99%	99%
Proportion on CPT	99%	99%	98%	99%	99%	100%	100%	100%	99%	99%

Figure 27: Trends in selected TB/HIV indicators 2014-2023

Overall, these trends reflect steady improvements in the documentation of HIV status, treatment initiation, and overall co-management of TB and HIV over the years. The data underscores significant progress in meeting the needs of HIV-positive TB patients, ensuring they receive comprehensive treatment and preventive care.

HIV prevalence among TB patients in 2023 varied across regions, ranging from 17% to 51%. The Zambezi region reported the highest HIV prevalence at 51%, an increase from 44% in the previous year. Seven regions reported HIV prevalence above the national average of 33%, while the Kavango West region had the lowest rate at 17%.

Despite these regional variations, all 12 regions maintained high rates of TB patients with documented HIV status. However, Hardap (98%), Khomas (97%), and Oshana (98%) were the only regions with rates below 99% in 2023.

The graph below shows the number of TB patients notified, HIV status known, HIV-positive cases, and the HIV prevalence rate by region. This data highlights the regional disparities in HIV prevalence among TB patients, with seven regions exceeding the national average of 33%. The Zambezi region stands out with the highest prevalence, while Kavango West has the lowest. These variations call for region specific interventions to effectively address the higher burden of TB-HIV co-infection in certain areas.

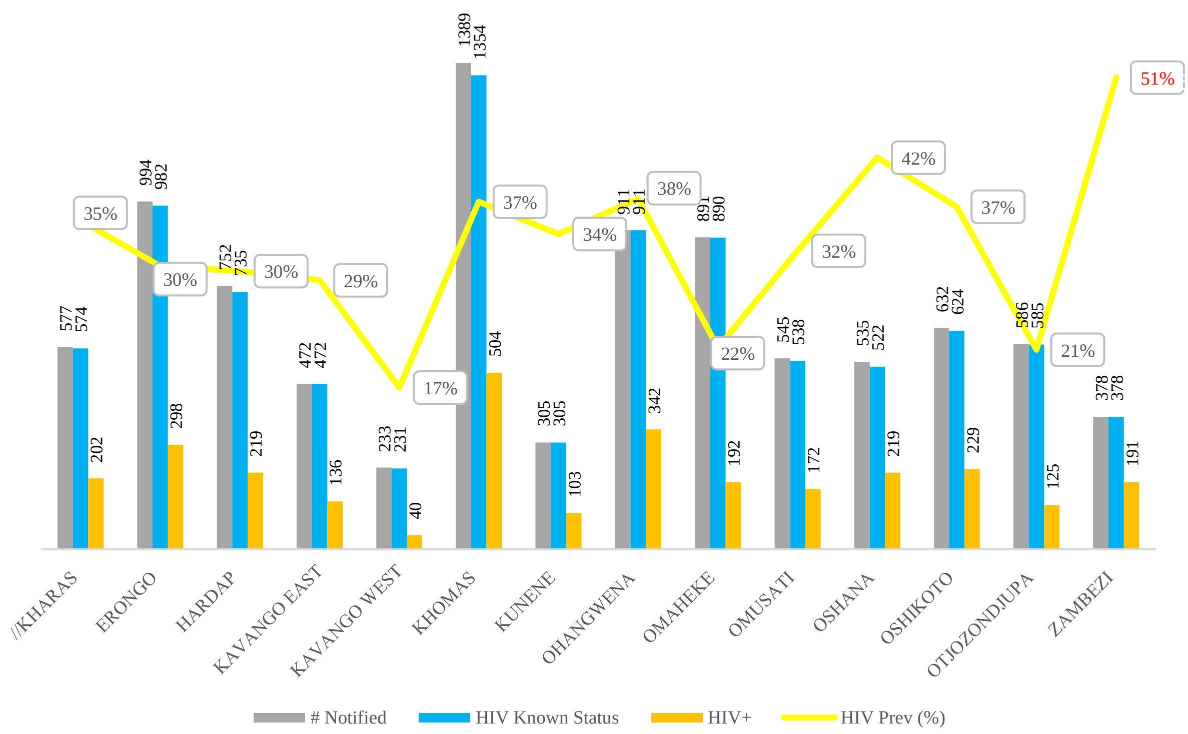


Figure 28: HIV burden among all TB patients by region, 2023

The table below presents the number of newly notified and relapse TB patients with HIV positive status who were initiated on Cotrimoxazole Preventive Therapy (CPT) and Antiretroviral Therapy (ART) across all regions in 2023.

Notably, the Kavango East, Kavango West, Kunene, Ohangwena, and Zambezi regions achieved a perfect 100% initiation rate for both ART and CPT among eligible HIV-positive TB patients. This reflects the successful integration of TB and HIV services in these regions.

Across the country, all 14 regions demonstrated strong commitment to ensuring high rates of ART and CPT initiation, with ART initiation rates above 97% and CPT initiation rates above 94%. This consistent performance highlights the ongoing dedication to integrated HIV and TB care, ensuring that HIV-positive TB patients receive the necessary treatment and preventive care.

The table below provides the detailed breakdown of the number of notified new and relapse TB patients, their HIV status, and the corresponding ART and CPT initiation rates by region. This data highlights the high level of adherence to treatment guidelines, ensuring that the majority of HIV-positive TB patients are initiated on both ART and CPT. The full integration of HIV and TB services across most regions has a critical role in improving health outcomes for patients affected by both diseases.

Table 7: Regional distribution of notified new & relapse TB patients on ART and CPT, 2023

Region	Number of N/R TB patients with Known HIV Status	Number of N/R TB HIV+ patients	Number of N/R TB HIV+ patients on ART	Number of N/R TB HIV+ patients on CPT	Number of N/R TB patients Notified
//KHARAS	552	188	187	178	555
ERONGO	971	296	294	295	983
HARDAP	719	214	213	213	736
KAVANGO EAST	469	135	135	135	469
KAVANGO WEST	229	40	40	40	231
KHOMAS	1315	486	472	485	1348
KUNENE	300	100	100	100	300
OHANGWENA	880	337	337	337	880
OMAHEKE	881	189	188	189	882
OMUSATI	518	168	163	166	525
OSHANA	507	215	212	214	520
OSHIKOTO	598	225	225	224	606
OTJOZONDJUPA	577	123	122	122	578
ZAMBEZI	375	190	190	190	375
NAMIBIA	**8891**	**2906**	**2878**	**2888**	**8988**

Figure 29 illustrates the treatment outcomes for new and relapse TB patients co-infected with HIV in 2023. Among the regions, Zambezi and Omaheke reported the highest Treatment Success Rates (TSR), achieving 92% each. These regions were closely followed by Erongo and Kavango West, both with a TSR of 91%. These high success rates highlight the effective integration of TB and HIV management in these areas, ensuring optimal treatment outcomes for co-infected patients.

However, Oshana region reported the lowest TSR at 76%, indicating the need for targeted interventions to improve treatment outcomes in this area. Similarly, the regions of Oshana and Otjozondjupa recorded the highest death rates among TB-HIV co-infected patients, each at 16%, which underlines the need for enhanced care and monitoring of high-risk patients.

The Loss to Follow-Up (LTFU) rates were notably higher in Ohangwena (11%) and Oshana (8%), pointing to challenges in patient retention. These rates highlight ongoing difficulties in ensuring continuity of care, particularly for cross-border patients who may face barriers to consistent treatment due to migration and mobility between neighbouring countries. The proximity of Ohangwena region to both Angola and Namibia's borders contributes to these challenges, as patients frequently move between the two countries, disrupting continuity of care

The graph below summarizes the treatment outcomes, including the number of patients who were cured, lost to follow-up (LTFU), died, or failed treatment, along with the overall Treatment Success Rate (TSR) for each region.

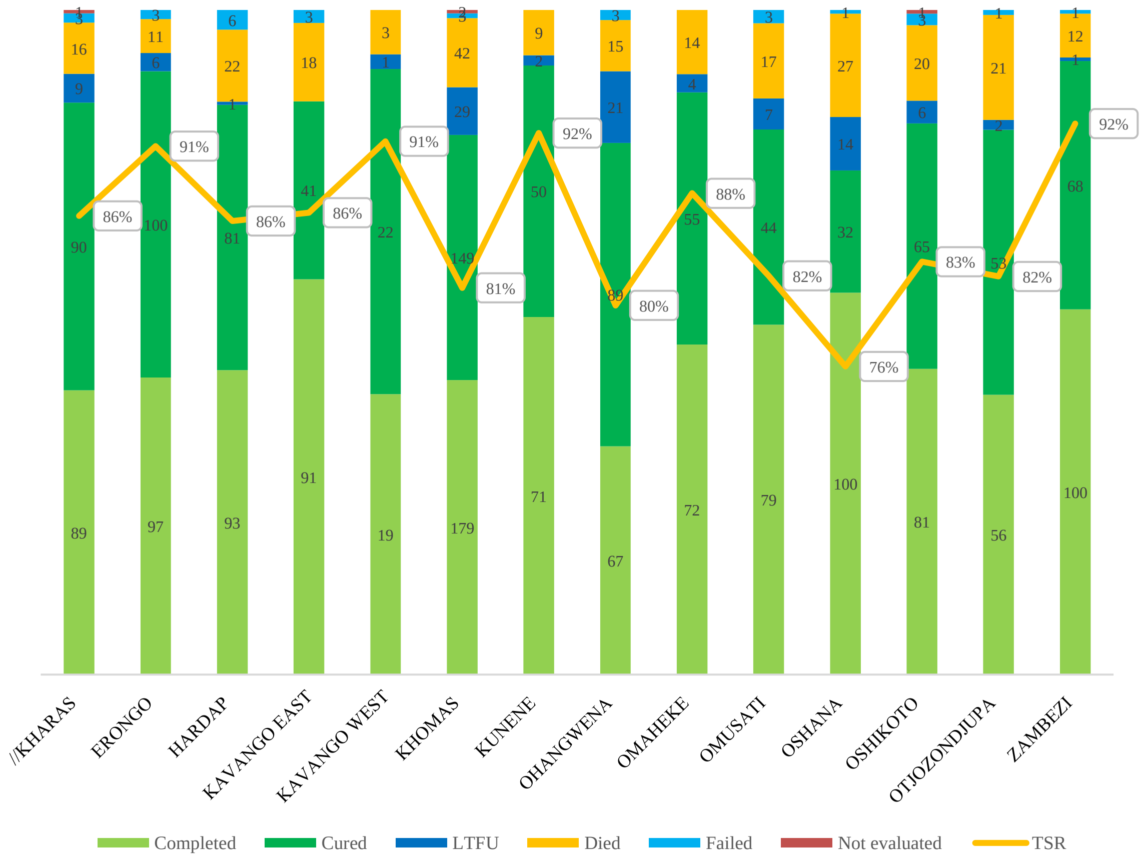


Figure 29: TB treatment outcomes for New/Relapse TB/HIV patients by region, 2022 cohort

These findings emphasize the need for targeted interventions to address continuity of care challenges, particularly in regions near international borders. By improving cross-border coordination, strengthening patient tracking systems, and addressing the mobility of patients.

4.3 Provision of TB services to PLHIV

4.3.1 TB LAM

The use of the Lateral Flow Tuberculosis Lipoarabinomannan (LF TB LAM) test has proven crucial for detecting tuberculosis (TB) in individuals with advanced immunodeficiency, particularly those living with HIV. This patient group often struggles to present typical respiratory TB symptoms or has difficulty producing sputum, making traditional diagnostic methods less effective. The 2019 national TB treatment guidelines recommend the LF TB LAM test for TB screening among adults, adolescents, and children living with HIV who have advanced disease.

In 2023, a total of 9,335 patients were screened using the TB LAM test. Out of these, 1,121 (12%) tested positive for TB, while 7,468 (80%) tested negative. The data also shows that 5,106 (55%) of the patients were tested using both the TB LAM and GeneXpert tests, indicating a simultaneous diagnostic challenge. This gap in concurrent testing lead to delays in diagnosis, highlighting the need for a more integrated approach to testing.

Further analysis reveals that 1,243 individuals, who tested positive either via the TB LAM or GeneXpert test, were promptly initiated on TB treatment, illustrating effective treatment initiation following diagnosis.

The data highlights the progress made in expanding TB LAM testing capacity across the country. However, it also highlights the need for improved integration of TB LAM and GeneXpert testing processes, especially to address challenges in concurrent use. Below is a breakdown of the TB LAM and GeneXpert testing performance by region in 2023

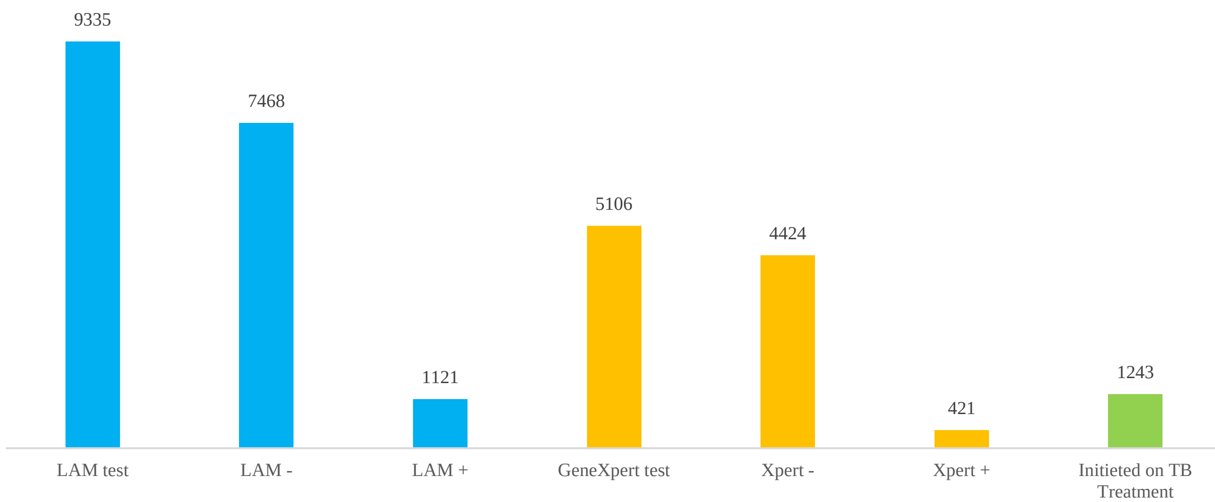


Figure 30: Performance of TB LAM in Namibia, 2023

The figure below provides a regional distribution of patients tested for tuberculosis (TB) using the Lipoarabinomannan (LAM) test, with a focus on the number of LAM-negative and LAM-positive results. The data reveals regional disparities in the number of patients tested and the prevalence of TB in PLHIV (People Living with HIV) across the regions.

The Oshikoto region recorded the highest number of patients tested, with 2,154 individuals, of which 1,348 were LAM-negative and 70 were LAM-positive. This region had a relatively low proportion of positive cases. Ohangwena, Oshana, and Khomas followed closely with 1,728, 1,132, and 861 patients tested, respectively. Among these regions, Ohangwena reported the highest number of LAM-positive cases, with 192 individuals testing positive, signalling a higher prevalence of TB among this population.

The regions with the lowest number of patients tested were Zambezi (107) and Kavango West (171).

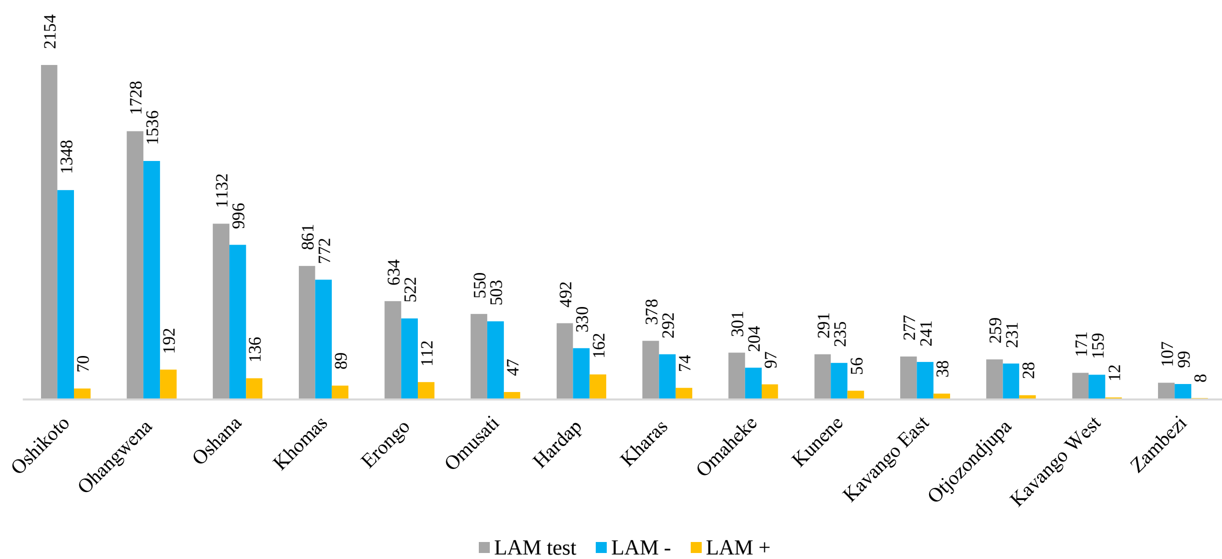


Figure 31: Regional Performance of TB LAM in Namibia, 2023

4.4 TB and other co-morbidities

The figure below provides an overview of the screening efforts for diabetes among the 8,988 new and relapse TB cases notified in 2023. Of the total TB cases, 6,548 (73%) were screened for diabetes, and 8 cases were diagnosed with diabetes, highlighting the significance of screening for co-morbidities in TB patients, as diabetes can complicate TB treatment and outcomes.

Regions with the highest screening rates include //Kharas, Kunene, Omusati, Oshikoto, and Otjozondjupa, where 99% or more of the notified TB cases were tested for diabetes. These regions have shown strong adherence to screening guidelines, highlighting their commitment to comprehensive patient care and proactive management of TB and co-morbidities.

On the other hand, Khomas region reported the lowest screening rate, with only 13% of notified TB cases being tested for diabetes. This indicates a significant gap in screening coverage, underscoring the need for improvements to ensure that diabetes is identified and managed effectively in TB patients. Additionally, Zambezi region had a 64% screening rate, while higher than Khomas, still falls behind the top-performing regions. This highlights the opportunity to further improve diabetes screening efforts in Zambezi to improve comprehensive care for TB patients.

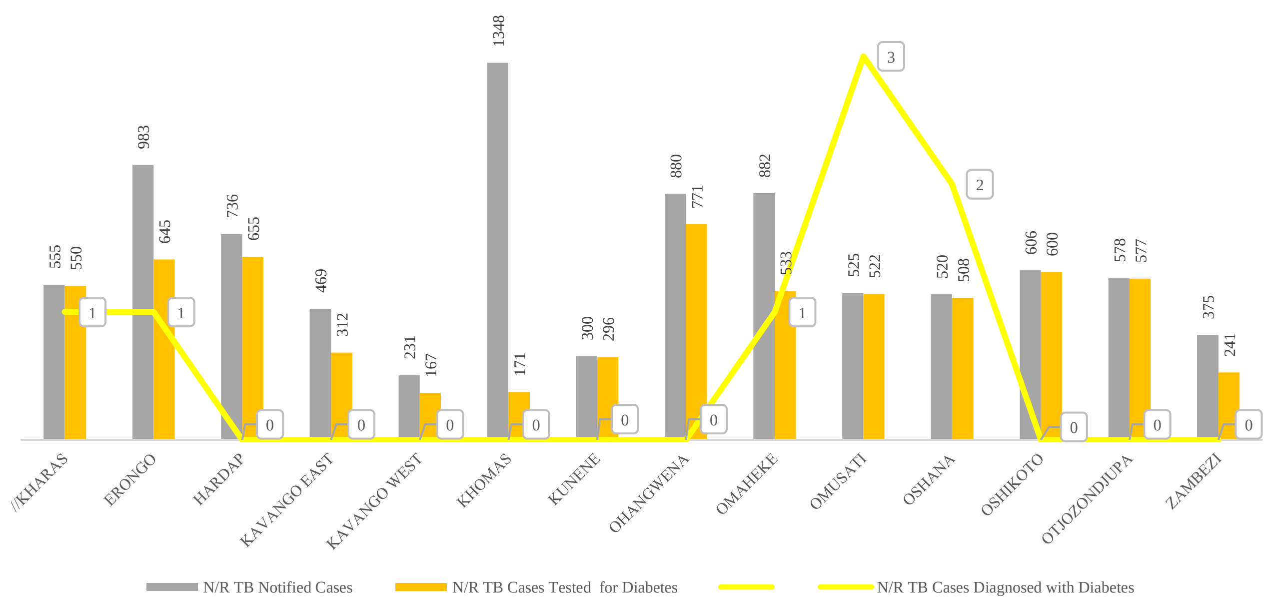


Figure 32: Diabetes screening among New & Relapse TB patients in 2023

5 TB PREVENTION SERVICES

5.1 TB Preventive Therapy

Tuberculosis Preventive Therapy (TPT), also referred to as the treatment for Latent TB Infection (LTBI), is given to individuals at high risk of progressing to active TB. These include PLHIV, children under five who are close contacts of TB patients, individuals with diabetes mellitus, those receiving immunosuppressive therapy, and others with immunocompromising conditions.

Among the 8,735 PLHIV newly enrolled on ART, 8,399 (96%) had documented TB screening, with 7,511 (87%) identified as eligible for TPT. Of those eligible, 5,128 (68%) were initiated on TPT. The decline in the proportion of TPT initiation from 2021 and 2022 to 2023 may be attributed to Isoniazid stock shortages, despite the introduction of the shorter TPT regimen in 2022. Furthermore, all 220 PLHIV diagnosed with active TB were initiated on TB treatment.

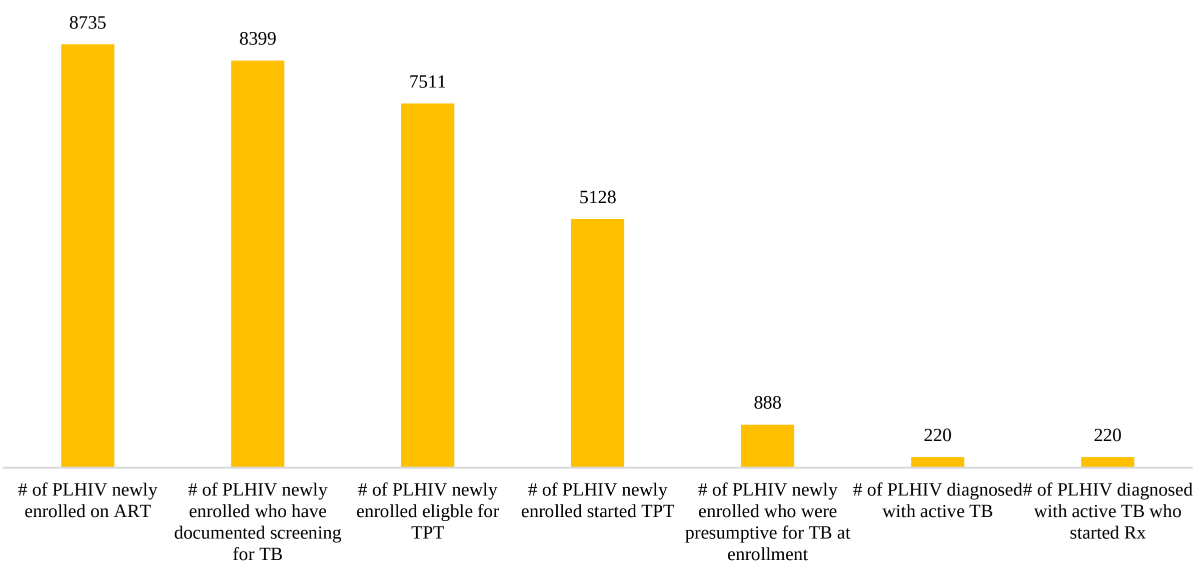


Figure 33: TB screening and TPT initiation among PLHIV, 2023

5.2 3HP Initiation

The NTLP integrated the shorter TPT regimen, 3HP, into the 4th National TB Treatment Guidelines to enhance TB prevention among high-risk individuals.

In 2022, a total of 2,382 PLHIV were initiated on 3HP. This figure increased significantly in 2023, with 3,462 PLHIV starting the regimen. Similar to the previous year, Kavango East and Oshikoto recorded the highest number of patients initiated on 3HP, while Omaheke and Kunene had the lowest uptake.

The observed increase in 3HP initiation highlights the growing adoption of the shorter regimen, which offers improved adherence and completion rates compared to traditional TPT options. However, regional variations in initiation rates suggest the need for targeted interventions to ensure equitable access and uptake across all regions.

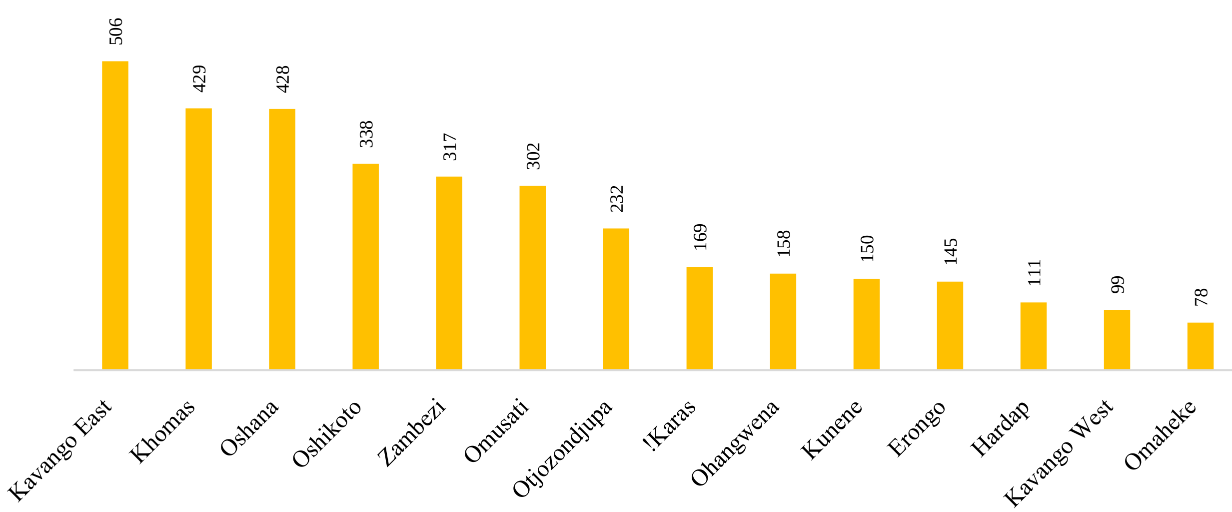


Figure 34: Patients initiated on 3HP among PLHIV by region in 2023

5.3 TB infection control practices at health facilities

The Ministry of Health recently updated the TB Infection Prevention and Control (IPC) guidelines to align with international standards while addressing local challenges. These revised guidelines highlight key measures such as routine TB screening for healthcare workers and the development or revision of IPC plans in health facilities.

Among 15,018 public sector staff, only 6,347 underwent TB screening, identifying four positive cases. Additionally, 27 staff members were diagnosed with TB outside routine screening. While some regions have successfully screened over 90% of their staff, others continue to face challenges in achieving sufficient coverage.

Infrastructure improvements have played a crucial role in strengthening IPC measures. To reduce overcrowding and lower TB transmission risks, 248 facilities now have designated outdoor waiting areas, either newly constructed or repaired as part of the program's efforts. Additional upgrades include the installation and maintenance of Germicidal Ultraviolet (GUV) systems to enhance infection control in healthcare settings.

5.4 Contact Investigation

5.5.1 Contact investigation and TPT

Contact investigation is a vital approach for detecting undiagnosed TB cases among individuals who have been in close contact with an index TB patient. In 2023, a total of 6,208 bacteriologically confirmed TB cases were reported, prompting contact tracing efforts.

A total of 27,987 contacts were identified, of whom 3,828 (14%) were children under the age of five and 24,159 were five years and older. Among the under-five contacts, 3,115 (81%) were screened for TB, resulting in 120 diagnoses, translating to a 3.9% yield. All diagnosed children were promptly initiated on TB treatment.

For contacts aged five years and above, 19,755 (82%) were screened, leading to 353 TB diagnoses, with a yield of 1.8%. As with the younger age group, all diagnosed individuals were started on TB treatment.

The findings indicate that TB was more frequently identified among children under five compared to older contacts, reinforcing the importance of early screening and preventive measures in this high-risk group.

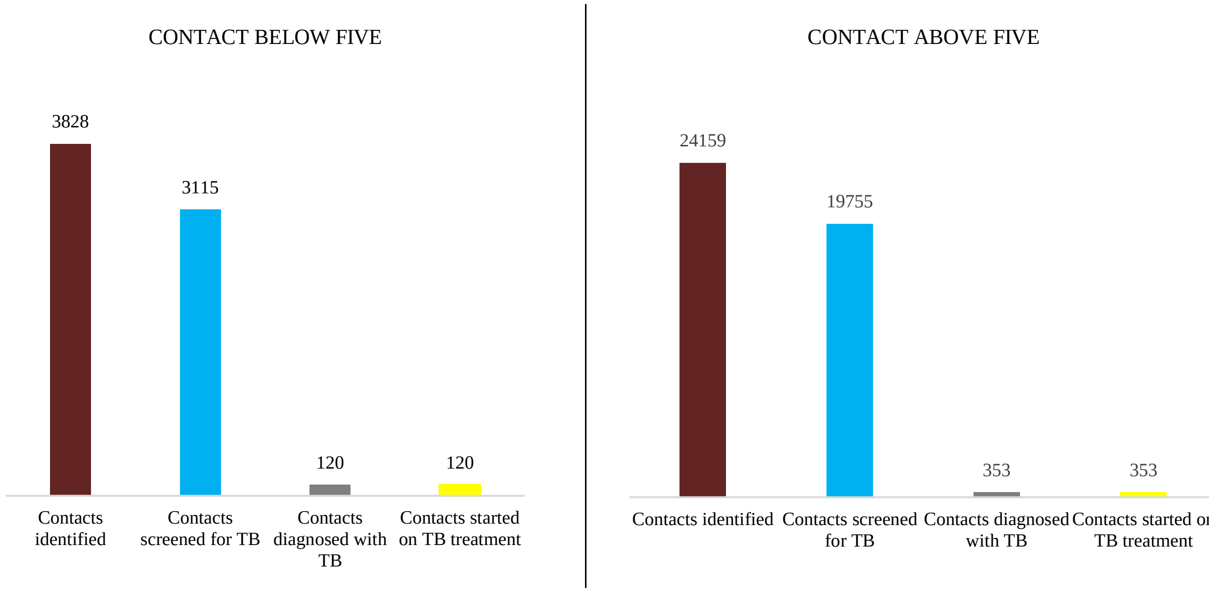


Figure 35: TB contact screening, 2023

The figure below illustrates the regional distribution of TB screening and TPT initiation among contacts under five years old. Ohangwena region identified the highest number of contacts, reflecting its active engagement in TB contact investigation efforts. Despite the high number of contacts identified, 89% of eligible contacts in Ohangwena were successfully initiated on TPT, demonstrating strong efforts in ensuring that most eligible individuals receive the preventive therapy.

In contrast, Zambezi region achieved a commendable 100% initiation rate for all eligible contacts, showcasing exemplary implementation of TB preventive therapy. Other regions such as Kunene (98%), Omaheke (98%), Erongo (92%), and Ohangwena (89%) also performed well, with high proportions of eligible contacts started on TPT. However, regions like Khomas (25%), Oshana (59%), and Hardap (62%) had significantly lower initiation rates, highlighting areas where further efforts are needed to ensure all eligible contacts commence on therapy.

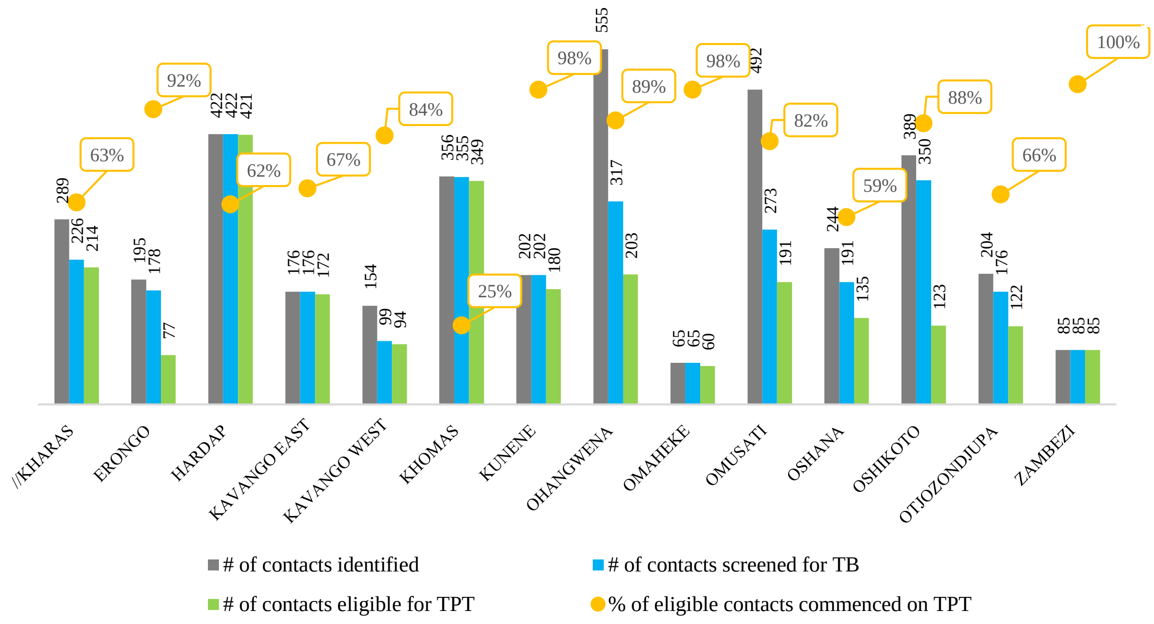


Figure 36: Regional distribution of TB contact investigation & TPT among <5 years, 2023

5.5.2 TPT completion among contacts investigated in 2022 cohort

The figure below highlights the completion rates of TB Preventive Therapy (TPT) among contacts initiated in the 2022 cohort, with outcomes reported in 2023. A total of 2,690 contacts started TPT, and 93% successfully completed their treatment, an improvement from the 92% recorded in 2021. Among those enrolled, 1,579 were children under five, achieving a 90% completion rate, while 1,111 contacts aged five and above demonstrated even stronger adherence, with 96% completing the course. These results reflect sustained progress in TPT implementation, particularly among older contacts.

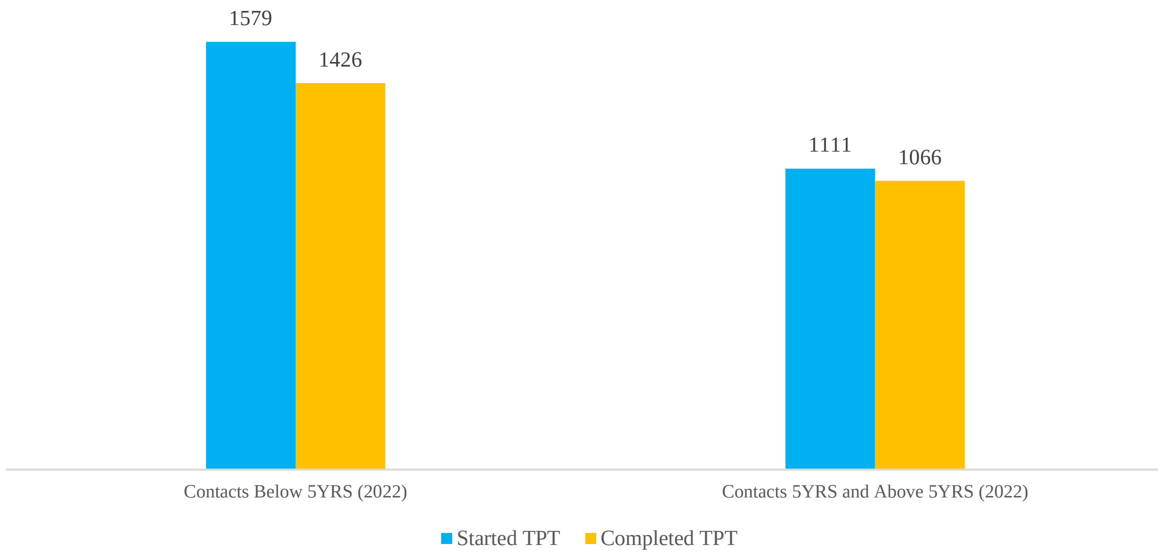


Figure 37: National TPT completion for contacts initiated on therapy, 2022 cohort

6 PROGRAMMATIC MANAGEMENT OF DRUG-RESISTANT TUBERCULOSIS

6.1 DR-TB Notifications

Drug-resistant tuberculosis (DR-TB) remains a public health concern, requiring early detection, timely treatment, and robust surveillance to prevent its spread. DR-TB is caused by Mycobacterium tuberculosis strains resistant to one or more anti-TB drugs, posing treatment challenges and necessitating the use of second-line regimens.

The annual trend in DR-TB notifications from 2015 to 2023 reflects notable fluctuations. Notifications increased from 341 cases in 2015 to a peak of 423 in 2017. However, from 2018 onward, there was a general decline, with cases dropping to 218 in 2020, representing a 48% reduction compared to the 2017 peak. In 2021, notifications rose to 265 and remained stable in 2022.

In 2023, the number of DR-TB cases increased to 311, marking a 17% rise from the previous two years. While this increase warrants attention, the overall trend still reflects a significant reduction compared to earlier years.

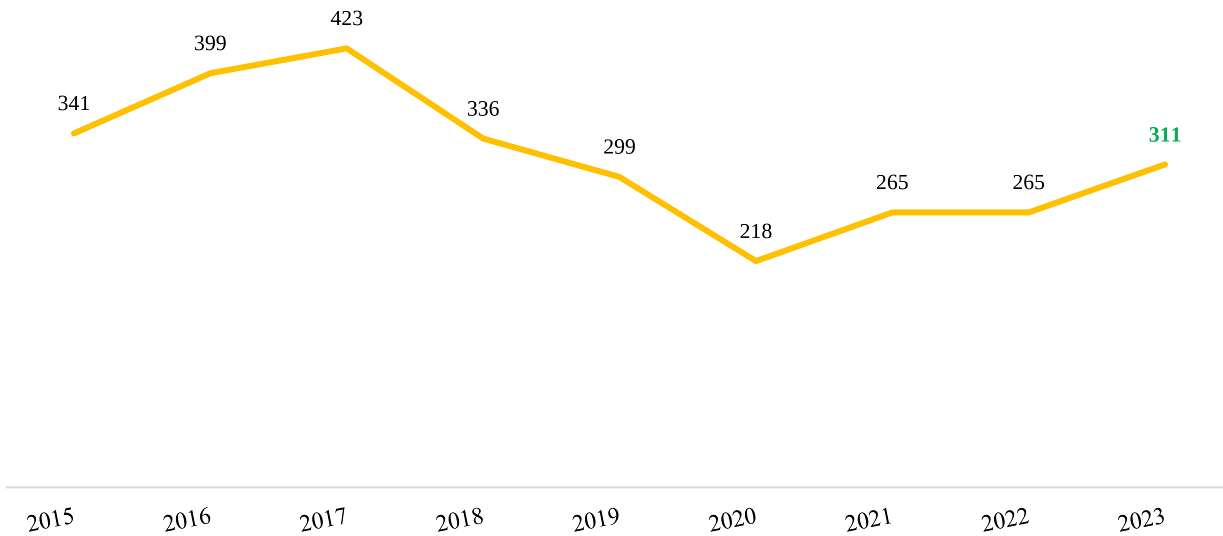


Figure 38: Trends in the reported cases all forms of Drug-Resistant TB, 2015-2023

The trend of drug-resistant tuberculosis (DR-TB) notifications from 2015 to 2023 shows fluctuations in the number of confirmed cases. Over this period, a total of 2,789 DR-TB cases were reported, with the highest number recorded in 2017 at 417 cases. Following this peak, there was a decline to 213 cases in 2020. The numbers then stabilized, with 255 cases in 2021 and 253 cases in 2022, before increasing to 305 cases in 2023.

In 2023, 305 DR-TB cases were notified, comprising 69 cases of multidrug-resistant TB (MDR-TB, excluding XDR-TB), 200 rifampicin-resistant TB cases, 24 cases of rifampicin monoresistance, and 11 cases of poly-drug resistance. Additionally, one case of extensively drug-resistant TB (XDR-TB) was reported.

Beyond the laboratory-confirmed cases, six patients were initiated on second-line anti-TB treatment based on clinical diagnosis, bringing the total number of notified DR-TB cases to 311. Among these, 305 were classified as rifampicin-resistant TB, including 11 pre-XDR TB cases. The increase in total cases in 2023 highlights the importance of mass screening and early detection in identifying DR-TB cases promptly and ensuring timely treatment initiation.

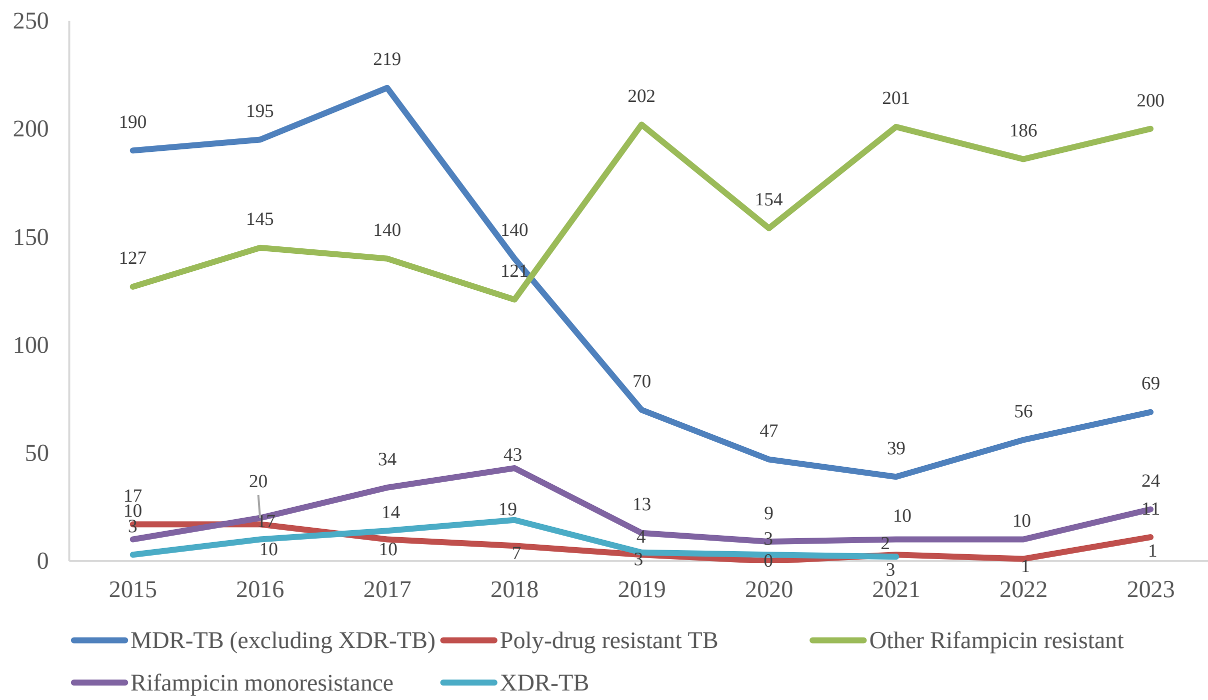


Figure 39: Trend of confirmed Drug Resistance TB Cases by resistance, 2015-2023

The figure below shows that in 2023, a total of 311 DR-TB cases were notified, with 184 (59%) being male and 127 (41%) female. The highest burden was observed in the 25-34 age group, accounting for 72 cases (23%), followed closely by the 35-44 age group with 71 cases (23%). The 15-24 age group reported 49 cases (16%), while the 45-54 and 55-64 age groups had 39 (13%) and 32 (10%) cases, respectively. The lowest number of cases was reported among children aged 5-14, with only 8 cases (3%). The data indicate that DR-TB primarily affects individuals in their most economically productive years (25-44), highlighting the need for targeted interventions in this population.

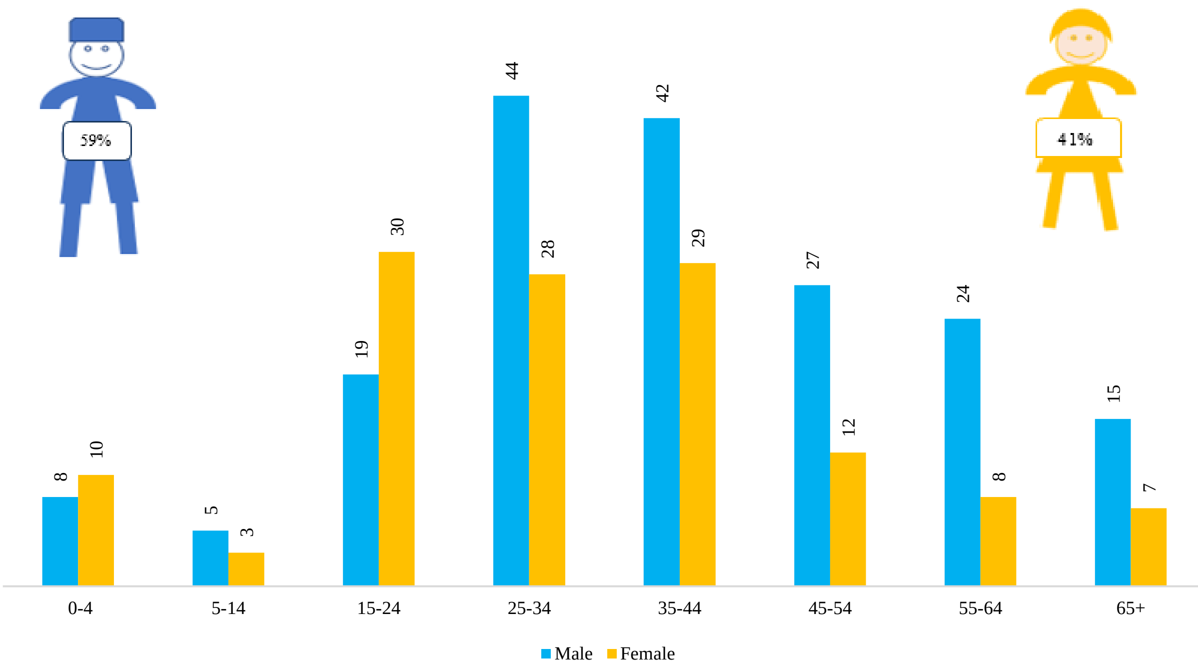


Figure 40: Age-Sex Distribution for DR-TB cases, 2023

The graph below illustrates the regional distribution of DR-TB cases in 2023. A total of 311 drug-resistant TB (DR-TB) cases were reported across various regions. The highest burden was observed in Otjozondjupa with 49 cases, followed by Khomas and Ohangwena, each with 33 cases. Kavango East reported 32 cases, while Erongo had 28.

Rifampicin resistance was detected in all regions, with the highest numbers in Otjozondjupa (29) and Kavango East (29). Multidrug-resistant TB (MDR-TB) was most prevalent in Khomas (14), followed by Otjozondjupa (10) and Erongo (6). Mono-resistance cases were reported in multiple regions, with Ohangwena having the highest count (7). Poly-resistance was observed in smaller numbers, with the highest in Otjozondjupa (6). Clinically diagnosed DR-TB cases were mainly reported in Khomas (2), Hardap (1), and Kavango East (3), while extensive drug-resistant TB (XDR-TB) was identified in Otjozondjupa (1).

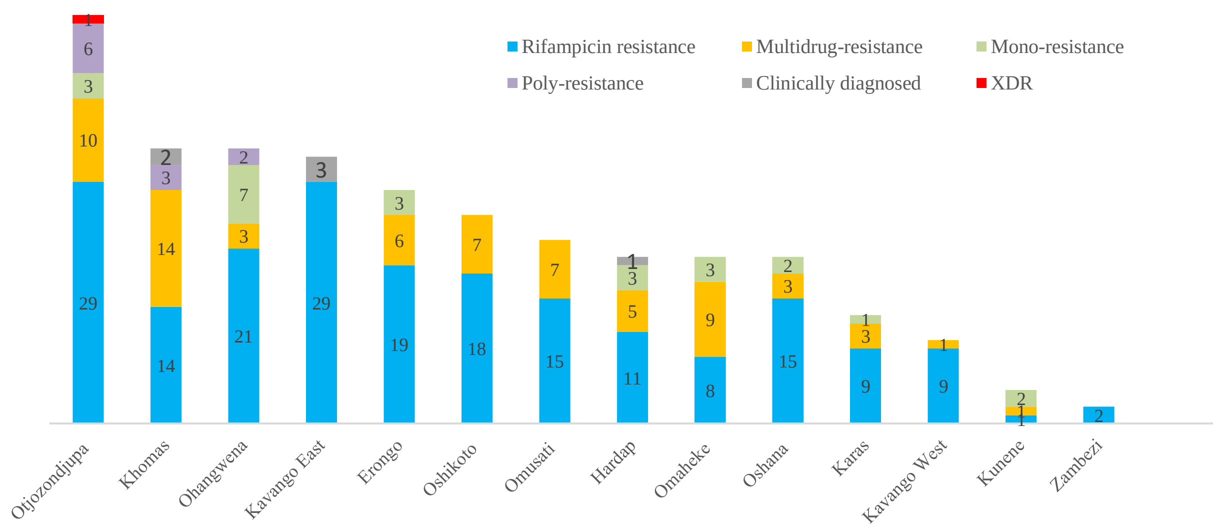


Figure 41: Regional Distribution of reported DR-TB cases by Resistance pattern, 2023

In 2023, a total of 311 drug-resistant TB (DR-TB) cases were categorized based on treatment history and classification. The majority of cases (211) were newly diagnosed, highlighting the ongoing transmission and detection of drug-resistant TB. Relapse cases accounted for 48, indicating patients who previously received treatment but later developed DR-TB.

Among those on specific treatment regimens, 21 patients were on TAF 1st treatment, while 4 were undergoing TAF re-treatment. Additionally, 17 cases were classified under TALFU (treatment after loss to follow-up), highlighting challenges in patient adherence and retention. Eight cases were categorized as "Other," and two cases had a resistance pattern change, signifying shifts in drug susceptibility over time.

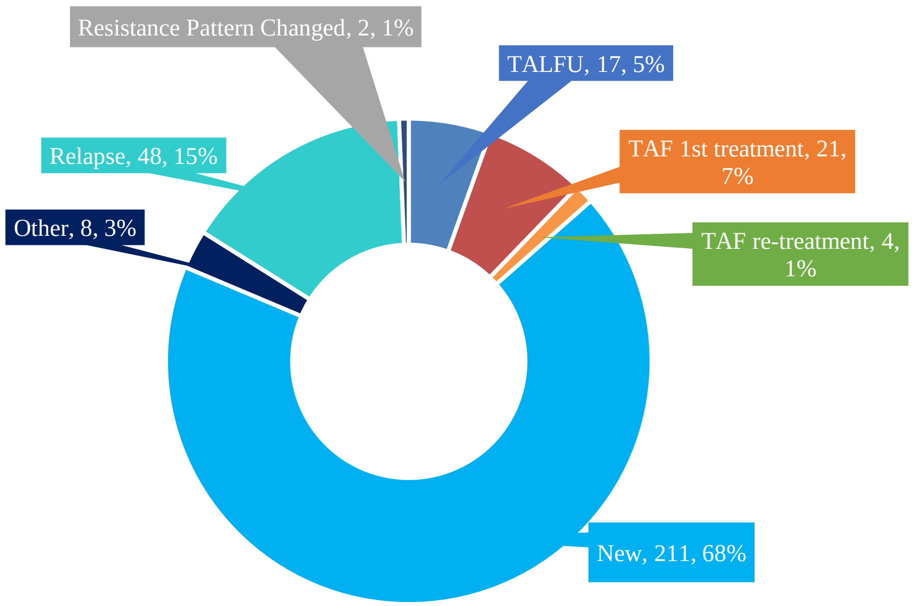


Figure 42: Distribution of drug resistant TB cases by Treatment History, 2023

6.2 DR-TB treatment

In general, drug-resistant tuberculosis (DR-TB) is treated using second-line anti-TB medicines because the standard first-line regimens are unlikely to be effective for these cases. The treatment success of DR-TB depends on starting the appropriate medication as soon as possible, which is reflected in the data presented below.

The graph below shows the proportion of DR-TB patients treated by region in 2023. The treatment coverage for drug-resistant TB (DR-TB) cases varied across regions, with most achieving high rates of initiation on treatment. Several regions, including Erongo, Hardap, Karas, Kavango West, Kunene, Omaheke, Omusati, and Zambezi, achieved 100% treatment coverage, ensuring that all notified DR-TB patients received treatment.

Kavango East and Oshikoto reported slightly lower treatment coverage at 97% and 96%, respectively, while Khomas and Otjozondjupa each had a treatment coverage of 94%.

However, gaps were observed in Ohangwena and Oshana, where treatment coverage was 85%, indicating a need for strengthened patient linkage to treatment services.

At the national level, 95% of the 311 DR-TB patients notified across the country were started on treatment, reflecting a strong effort in DR-TB treatment initiation. However, the variation in regional treatment coverage highlights the need for targeted efforts to improve treatment initiation, especially in the regions with lower coverage.

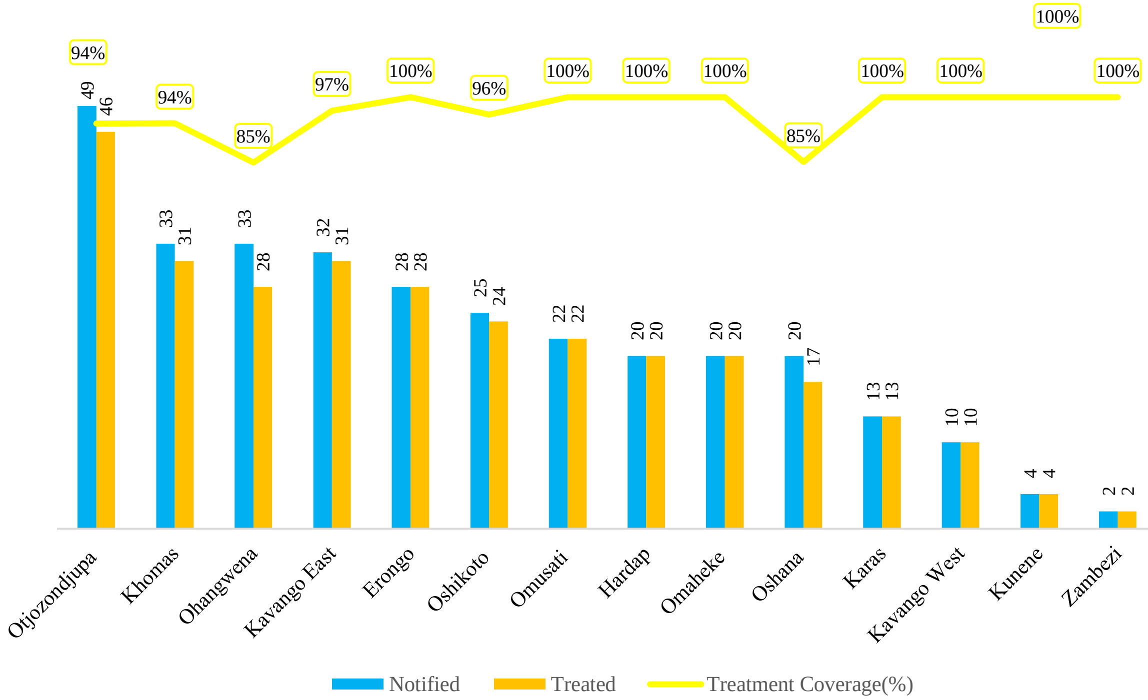


Figure 43: Drug Resistant TB Treatment coverage by Region, 2023

6.3 DR-TB and HIV

In 2023, the integration of HIV services into the care of Drug-Resistant Tuberculosis (DR-TB) patients remained strong. As in previous years, majority of drug-resistant TB (DR-TB) patients had a known HIV status, with 99% of cases being tested for HIV. However, 1% of DR-TB cases still lacked documented HIV status, highlighting the need for complete testing and reporting. This high testing rate ensures that most DR-TB patients are screened for HIV, allowing for timely diagnosis and treatment.

Among the DR-TB patients with a known HIV status, 23.4% were HIV-positive, supporting the current challenge of TB-HIV co-infection. Positively, all HIV-positive DR-TB patients were enrolled on antiretroviral therapy (ART) and cotrimoxazole preventive therapy (CPT), ensuring comprehensive HIV management alongside TB treatment. These findings demonstrate strong integration of TB and HIV services.

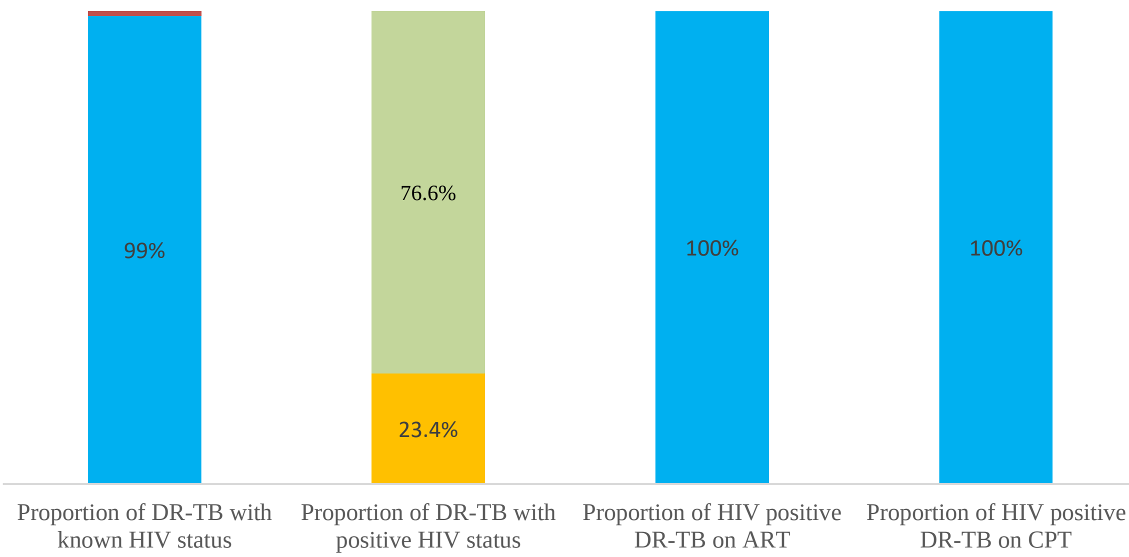


Figure 44: DR-TB and HIV indicators, 2023

6.4 Treatment outcomes for DR-TB patients

All DR-TB patients are assigned a final outcome after completing the treatment regimen and/or at the end of the two-year cohort reporting period. The 2021 treatment cohort was reported in 2023, with a national treatment success rate (TSR) of 75% for drug-resistant TB (DR-TB), reflecting the proportion of patients who were either cured or completed treatment. Regional variations in TSR highlight differences in treatment outcomes across the country.

Otjozondjupa recorded the highest number of successfully treated DR-TB cases (26 cured, 19 completed), achieving an 82% TSR, while Hardap attained a 100% TSR with no cases of loss to follow-up (LTFU) or treatment failure. On the other hand, Ohangwena and Oshikoto had the lowest TSR at 56%, with LTFU and deaths significantly impacting overall outcomes.

Notable challenges include LTFU (30 cases), deaths (33 cases), and a small number of treatment failures (2 cases). Treatment adherence support and cross-border patient retention remain major concerns, contributing to these challenges. Strengthening these aspects will improve treatment outcomes, particularly in lower-performing regions and areas along national borders, especially the Angola-Namibia border.

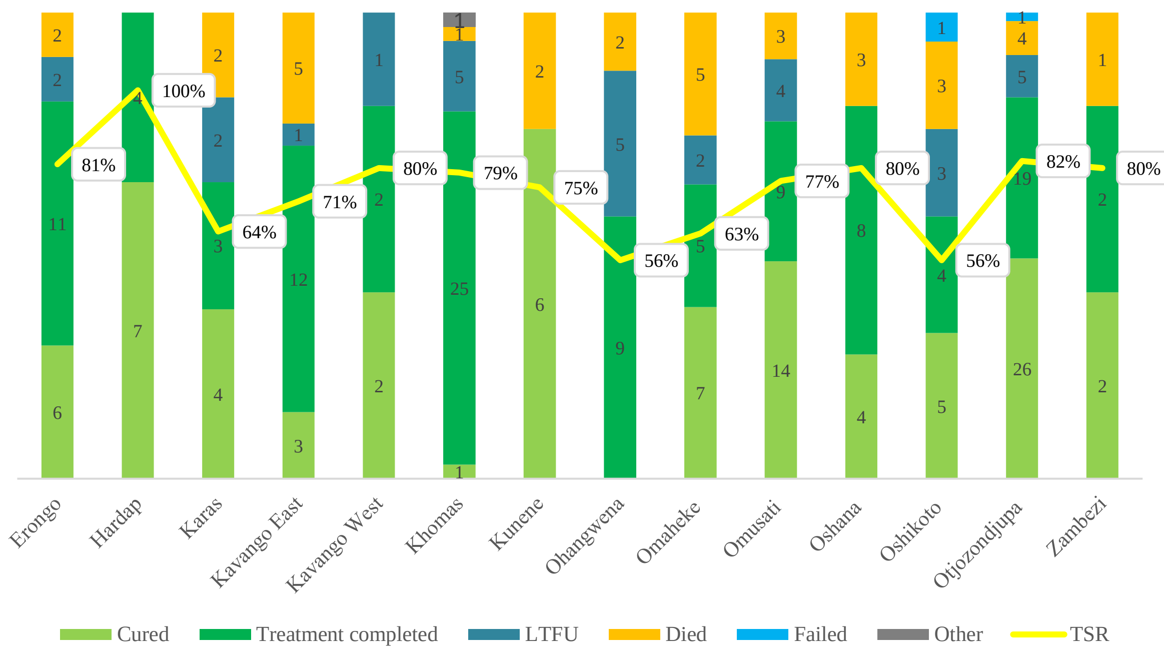


Figure 45: Regional Distribution of DR-TB Treatment outcomes, 2021 cohort

In the 2021 DR-TB treatment cohort, 266 patients were started on treatment. The national treatment outcomes show that 75% of these patients were successfully treated, either through cure (87 cases, 29%) or completion of treatment without confirmation of cure (113 cases, 38%).

However, challenges remain in treatment outcomes. A significant portion, 10% (30 cases), was lost to follow-up (LTFU), meaning they discontinued treatment before completion. Additionally, 11% (33 cases) of patients died during the treatment period, indicating the severe nature of DR-TB and potential delays in diagnosis or treatment initiation.

A small percentage, 1% (2 cases), experienced treatment failure, while another 0.3% (1 case) had an undocumented outcome and was categorized as "Other."

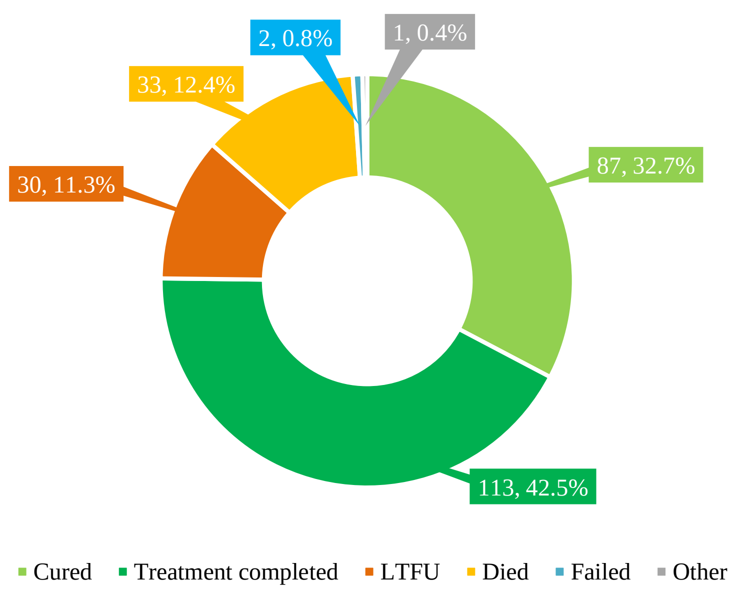


Figure 46: Treatment outcomes for MDR-TB patients, 2021 cohort

7 PHARMACEUTICAL SUPPLIES

In general, the availability of medicines is reflected by the Central Medical Stores (CMS) service level, which measures the CMS's capacity to fulfil the demands of health facilities. The service level at CMS was consistently low for the past few years. As shown in the graph below, the CMS service level has ranged between 58% and 80% over the past decade, with the lowest point observed in 2018 (58%) and the highest in 2013 (80%). In 2023, the service level stood at 63%, reflecting a slight improvement from previous years, though still indicating a significant gap in meeting the demand for medicines and clinical supplies.

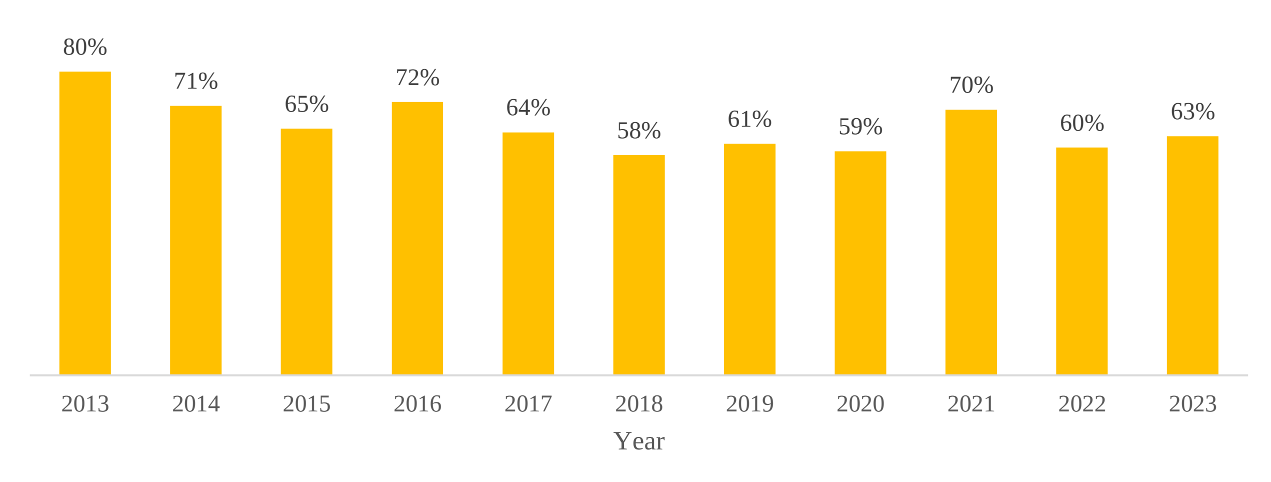


Figure 47: The Central Medical Stores service level, 2013-2023

During the period under review, the frequency of significant stock-outs was minimal. Several anti-TB and anti-Leprosy medicines were reported to be outs of stock at some health facilities. Anti-TB and Leprosy Pharmaceutical Products Issued in 2023 In terms of value, the total pharmaceutical products issued by CMS for anti-TB and anti-Leprosy treatments amounted to 25,130,953 million Namibian Dollars in 2023

8 COMMUNITY ENGAGEMENT ACTIVITIES BY THE NTLP

8.1 World TB Day commemoration

World TB Day, honoured each year on March 24th, serves as a key occasion to raise awareness about the profound health, social, and economic impacts of tuberculosis (TB), while reinforcing the global commitment to ending the TB epidemic. First commemorated in 1882 to mark Dr. Robert Koch's discovery of the TB bacillus, the 2024 observance marked the 141st anniversary of this monumental achievement. Despite progress in TB control, the disease continues to claim around 1.7 million lives annually worldwide, underscoring the need for ongoing, intensified efforts to eradicate it.

Namibia remains one of the countries with the highest burden of TB globally. According to the 2024 Global TB Report from the World Health Organization (WHO), Namibia is still missing about 33% of its TB cases, placing it among the countries most affected by the disease. This highlights the urgent need for innovative and effective strategies for TB prevention, detection, and treatment.

In line with the global theme, "*YES, We Can End TB*" the Ministry of Health and Social Services (MoHSS), in collaboration with various government ministries, development partners, and civil society organizations, used World TB Day 2024 to urge global leaders to honour the commitments made during the 2018 United Nations High-Level Meeting on TB. The focus was on enhancing efforts in community engagement, promoting gender equity, advancing research, and improving access to treatment for all individuals, including those suffering from drug-resistant TB.

The main national event for the 2024 commemoration was held on April 7th in Lüderitz District, ||Kharas Region. This region was selected due to its significant challenges, including limited access to healthcare, low treatment adherence rates, and the high number of missed cases, especially within the fishing and mining industries.

Dr. Tammie Sylvester, Managing Director of the TB Free Foundation (left), extends a gesture of appreciation with a handshake to Mr. Ben Nangombe, Executive Director of the Ministry of Health and Social Services, following his speech at the World TB Day commemoration in the ||Kharas region.

The key objectives of the 2024 event included:

- Raising awareness of TB among local leaders and advocating for their continued commitment to the fight against TB.
- Engaging with the fishing industry and mining communities to raise TB awareness and encourage their participation in prevention efforts.
- Promoting public awareness to ensure individuals with TB symptoms seek testing and treatment.

- Combating the stigma and discrimination faced by TB patients and fostering a supportive environment.
- Involving both current and former TB patients in the event to amplify their voices and experiences.
- Promoting health education, distributing information, and engaging the public in meaningful dialogue about TB prevention and treatment.
- Strengthening collaboration with stakeholders to accelerate efforts to eliminate TB.
- Encouraging TB screening in high-risk populations and sharing essential information on prevention and the basics of the disease.

Through these activities, the NTLP remains dedicated to reducing the burden of TB in Namibia and supporting the global goal of eradicating the disease for good.

8.2 Community-Based TB Care and Partner Engagement Overview

The implementation of community-based TB care (CBTBC) continued to strengthen key indicators in 2023, including treatment success rates, while helping to reduce adverse outcomes such as loss to follow-up and treatment failure. CBTBC services were operational across all 14 regions of Namibia, integrating Advocacy, Communication, and Social Mobilization (ACSM) activities as a core strategy. The table below highlights the partners and civil society organizations (CSOs) that collaborated with the National Tuberculosis and Leprosy Programme (NTLP) during the reporting period.

8.2.1.1 Table 8: Partners and CSOs Supporting NTLP in 2023

Name of Partner	Areas of Support
WHO	All programme areas for both TB and Leprosy
Global Fund	All programme areas for TB
CDC	Laboratory strengthening, TB/HIV, human resources, technical support, and renovation
USAID	All programme areas for TB
CoHeNa	Community-based TB care and Global Fund Sub-recipient under MoHSS
Namibia Correctional Service	TB screening, awareness, and treatment services for offenders
Namibian Police Force	TB screening for inmates and awareness initiatives
Namibia Defence Forces	TB awareness and treatment services for staff members

Community Health Workers (CHWs) played a crucial role in extending TB care and support services to patients in all 14 regions. In 2023, a total of 1,916 CHWs were actively engaged in these efforts. Of these, the majority were affiliated with the NTLP, covering 11 regions, while others operated under CoHeNa in Khomas, Hardap, and Omaheke. The Ministry of Health and Social Services (MoHSS) remained the primary contributor to the CHW workforce, reinforcing its commitment to strengthening community-based TB interventions.

Beyond patient support, CHWs were instrumental in community awareness and education efforts. Throughout 2023, they facilitated 21,170 health education sessions focused on TB prevention, early detection, and treatment adherence. These initiatives played a key role in improving community knowledge and encouraging healthier behaviours, thereby supporting national TB control efforts.

Additionally, CHWs coordinated 843 health committee meetings, fostering collaboration among community members and key stakeholders. These meetings provided a vital platform for discussing health challenges, planning interventions, and reinforcing local health systems to enhance TB response efforts.

Health education sessions conducted; 2023	21170
Community/Village/Facility Health Committee meetings; 2023	843

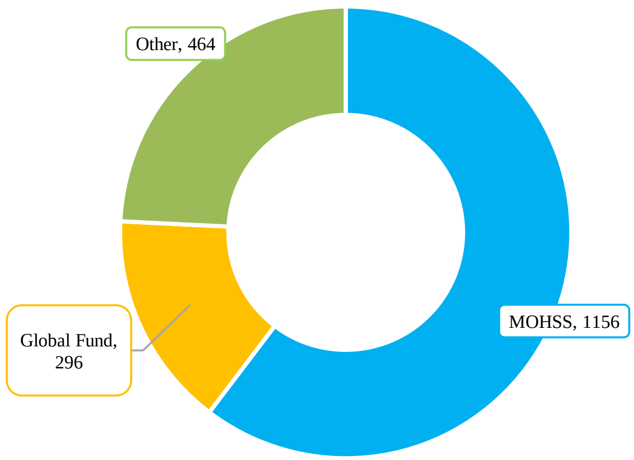


Figure 48: Number of Community Health Care Workers, 2023

The figure below highlights the continued impact of community engagement. A total of 8,910 drug-susceptible TB (DS-TB) and 295 drug-resistant TB (DR-TB) patients were registered with community-based TB care (CBTBC) providers. Among them, 4.3% of DS-TB and 7.5% of DR-TB patients experienced treatment interruptions or were lost to follow-up. Positively, a significant proportion of these patients were successfully traced and re-engaged on treatment, with 60% of DS-TB and 64% of DR-TB interrupters returning to care within the same year.

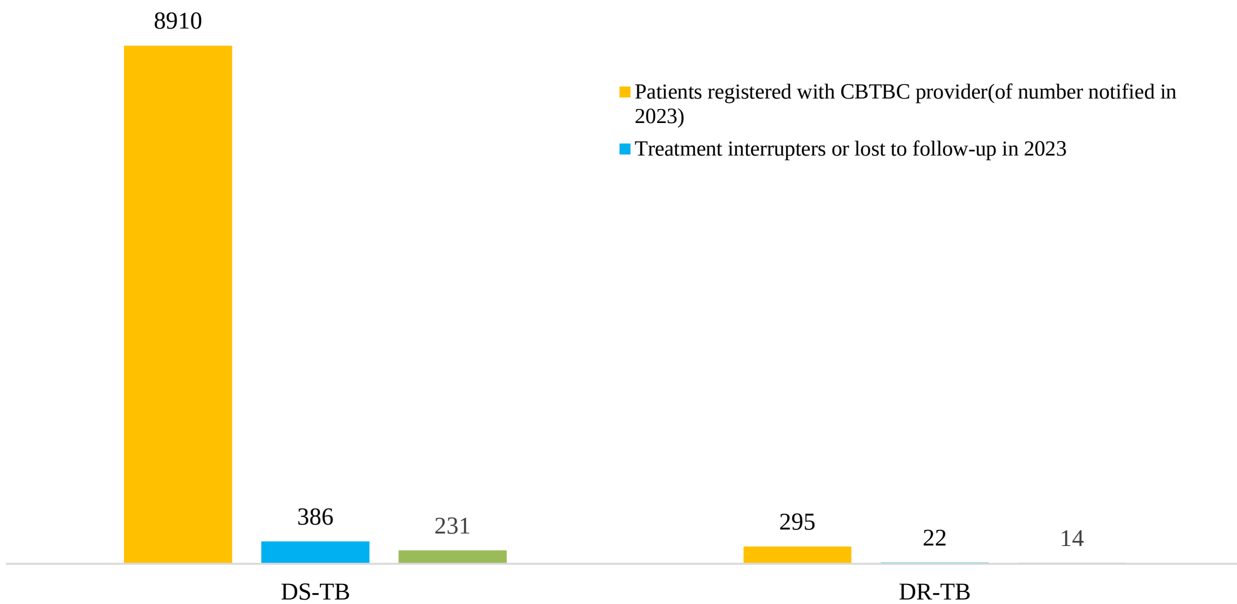


Figure 49: Community Based TB Care Services, 2023

8.3 Advanced Community Health Care Services Namibia (CoHeNa) Report

Advanced Community Health Care Services Namibia (CoHeNa) remains a key partner in community-based TB prevention and care, operating in Hardap, Khomas, and Omaheke regions. The organization continues to focus on community health education, TB case finding, and treatment support. These activities are primarily funded by the Global Fund.

The following table presents CoHeNa's performance in 2023, comparing key indicators against their respective targets. This overview highlights achievements, identifies gaps, and provides insights for strengthening future TB interventions.

Table 9: CoHeNa indicators and targets as well as actual achievements

	Actual #	*% against target*
No. of notified TB cases (all forms) contributed by non-national TB programme providers	2679	157 %
No. of Field Promoters trainings conducted on TB	3	300%
No. of TB, TB/HIV and Leprosy mentorship visits and onsite data verification of CSO	11	92%
No. of Programme Review Meetings conducted	3	100%
No. of TB suspects referred to health facilities for TB examination	18588	186%
No. of new TB pts (all forms) registered under CoHeNa community base DOT	2607	161%
No of new registered TB patients (all forms) who successfully completed treatment	2150	140%
No. of new lost to follow up (all forms)	56	
No. of new treatment interrupters	160	
Proportion of interrupters + LTFU traced and restarted on treatment out of the total interrupters and LTFU reported	136	63%
Number of community sensitization sessions (outreach events) on TB conducted	13373	206%
Number of people reached with TB messages	213503	220%

CoHeNa's efforts in 2023 significantly contributed to strengthening TB case detection, patient retention, and treatment success. While several targets were exceeded, addressing treatment interruptions and lost-to-follow-up cases remains a priority for sustaining positive treatment outcomes. The lowest target was achieved at 92% due to a vehicle breakdown in one region, preventing a supervisory visit. The rest of the targets were met at 100% or above. CoHeNa contributed 2,679 (88%) of the new TB patients registered by the regional MoHSS.

8.4 TB in the mining sector

Namibia continues to be among the countries implementing targeted TB prevention and control programmes for miners, ex-miners, and their families. The initiative has focused on key interventions such as TB screening, active case finding, strengthening community and regional health information systems, and establishing occupational health service centers.

Building on the progress made in previous phases, the country remains engaged in the TB in the Mining Sector (TIMS) Phase III initiative, supported by the Global Fund from 2021 to 2024. This phase extends across 16 SADC countries, including Namibia, to sustain efforts in reducing TB burden within mining communities.

The National Tuberculosis and Leprosy Programme (NTLP) has continued to monitor and support the implementation of TIMS activities. A key focus has been strengthening TB case detection and improving referral pathways from mining facilities to health services.

In 2023, 21 out of 25 operational mining facilities referred presumptive TB patients, a slight decrease from 24 out of 28 in 2022. Additionally, 311 individuals were screened for TB (excluding new mine workers), compared to 1,023 in the previous year. Of those screened, 18 were diagnosed with TB in 2023, more than double the 7 cases reported in 2022. This increase suggests improved identification of TB cases, strengthening the importance of continuous screening and early detection in mining communities.

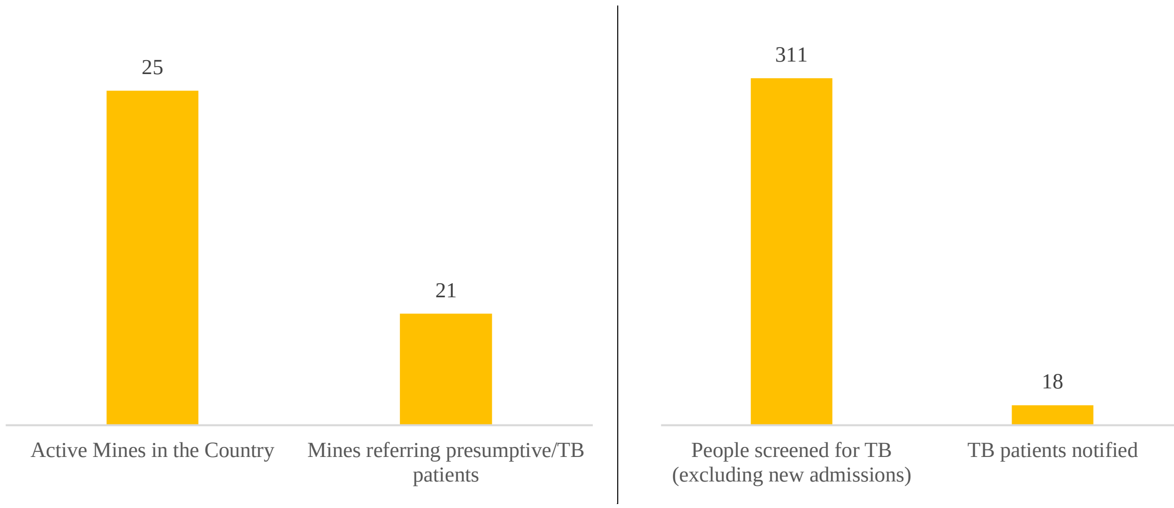


Figure 50: Number of mines referring and screening presumptive TB patients, 2023

8.5 TB in Correctional Facilities and Police Holding Cells

Namibia maintains a policy requiring all inmates to be screened for TB, HIV, and other health conditions upon admission. Additionally, biannual routine TB screenings are conducted for all individuals in correctional facilities, including inmates, healthcare workers, and correctional services officers. To enhance TB management, correctional service facilities are equipped with isolation units for TB patients.

The figure below presents TB screening and notification data from correctional facilities and police holding cells in 2023. A total of 8,076 individuals in police holding cells were screened for TB, with 93 cases diagnosed. In correctional facilities, 5,732 individuals underwent TB screening, leading to 41 TB diagnoses. Nationwide, 98 police holding cells and 13 correctional facilities actively referred presumptive TB patients for further evaluation and care.

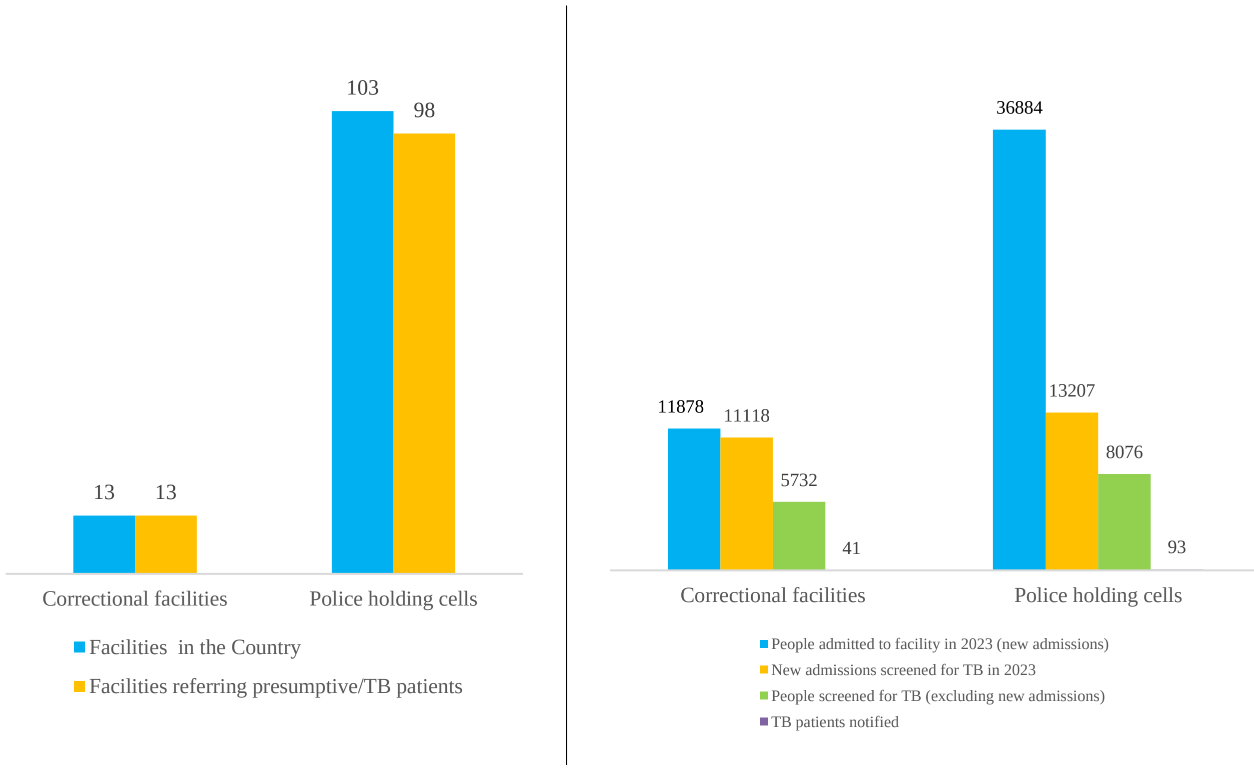


Figure 51: TB cases notified in correctional facilities and police holding cells, 2023

8.6 TB screening campaign in high-burden populations

According to the WHO 2024 report, Namibia remains among the 30 high TB burden countries globally, with one of the highest TB incidence rates. WHO estimates indicate that approximately 33% of TB cases in Namibia were missed in 2023. These cases may have gone undetected due to delayed diagnosis, lack of notification, or challenges in accessing treatment. The risk is particularly high in communities with high TB prevalence and among marginalized populations, where factors such as limited TB screening, low awareness, inadequate contact investigations, and diagnostic constraints further contribute to the problem.

Missed TB cases remain a major concern, fuelling continued transmission and impacting national TB control efforts. In response, Namibia intensified its targeted TB mass screening campaigns in 2023, prioritizing high-burden regions and vulnerable groups to improve early case detection.

During the 2023 screening campaigns, a total of 18,662 individuals were screened across the Hardap, Kavango West, Khomas, Ohangwena, and Omaheke regions. Of those screened, 213 were newly diagnosed with TB, while 189 had already been identified as existing TB cases. These efforts play a crucial role in strengthening case detection and ensuring early treatment initiation. The identification of new TB cases also facilitates contact tracing, improving the chances of early diagnosis among individuals exposed to TB patients. The table below summarizes the outcomes of the 2023 TB community screening campaign.

Table 10: 2023 TB community screening campaign

REGION	**TOTAL SCREENED**	**EXISTING TB CASES**	**NEW TB DIAGNOSES**
Hardap	3480	62	59
Kavango West	3768	29	35
Khomas	3554	3	28
Ohangwena	3897	33	28
Omaheke	3963	62	63
TOTAL	**18662**	**189**	**213**

9 SOCIAL SUPPORT AND REHABILITATION SERVICES

9.1 Social support

TB treatment includes more than just medical care, as patients often face significant psychological, social, and economic challenges that affect their ability to complete treatment. Addressing these barriers through social support is essential to improving treatment outcomes and supporting patients in overcoming personal and environmental obstacles. Integrating social support into TB management also upholds human rights, ethical standards, and ensures financial risk protection.

As part of this strategy, the NTLP included Social Protection as a key focus area in the Medium-Term Plan III (MTP-III) and the National TB Treatment Guidelines. These frameworks guide the NTLP in developing and implementing systems to support TB patients while securing resources to sustain these efforts.

The NTLP helps patients access various forms of social support, such as disability grants, the orphans and vulnerable children's fund, nutritional aid, and income-generating opportunities. In addition, two key socio-economic support indicators are tracked: the number of TB patients who receive documented socio-economic assessments and the number of patients referred for economic support or grants.

The data from 2023 highlights that 96% of new and relapse TB patients underwent socio-economic assessments. However, regional disparities were noted. Khomas (87%) and Omaheke (92%) had the lowest percentages of documented assessments, while seven regions, Hardap, Oshikoto, Otjozondjupa, Kavango East, Zambezi, Kavango West, and Omusati, achieved 100% documentation for new and relapse TB patients.

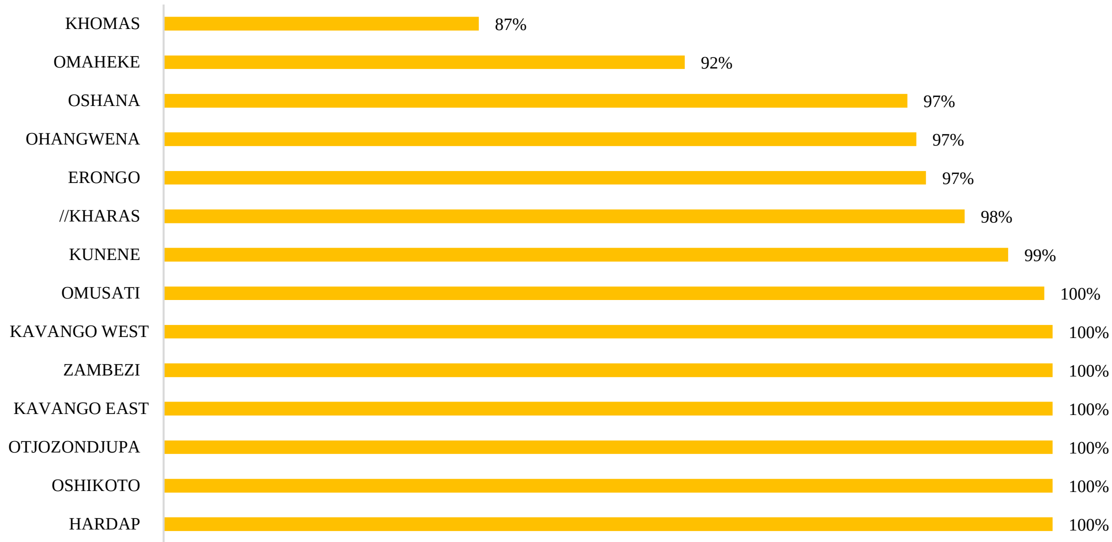


Figure 52: Percentage of new and relapse TB patients with documented socio-economic assessment, 2023

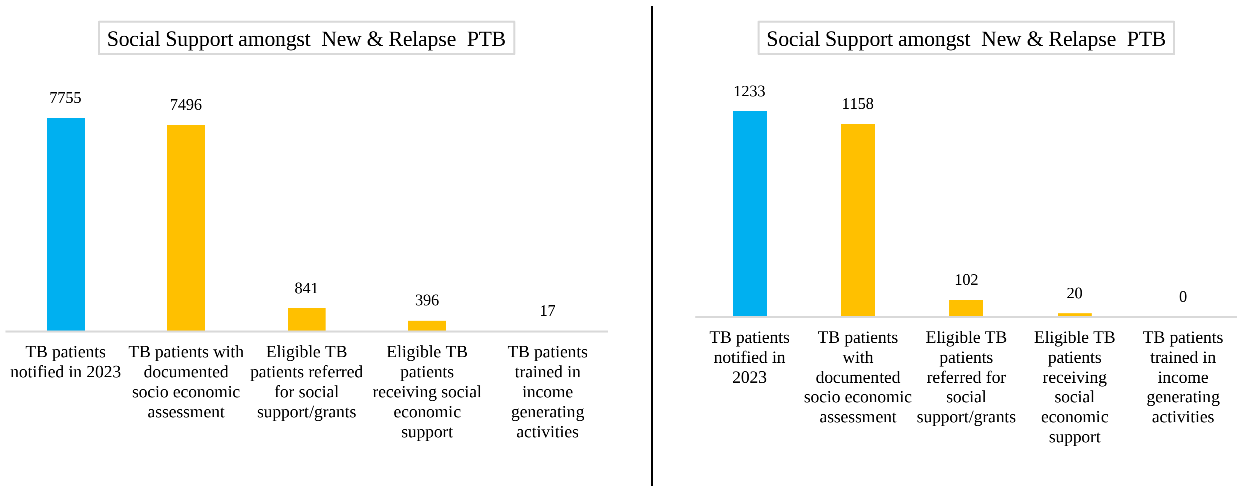


Figure 53: Social support among new and relapse TB patients, 2023

The graph below displays the proportion of DR-TB patients assessed for socio-economic support in 2023. In total, 98% of all notified DR-TB patients underwent socio-economic assessments. While the majority of regions achieved full coverage, there were a few exceptions, including Oshana (85%), Oshikoto (96%), Kavango East, Ohangwena, and Khomas regions, which all recorded 97%. These variations indicate areas where additional efforts are needed to ensure that every DR-TB patient across the country receives the necessary socio-economic assessment

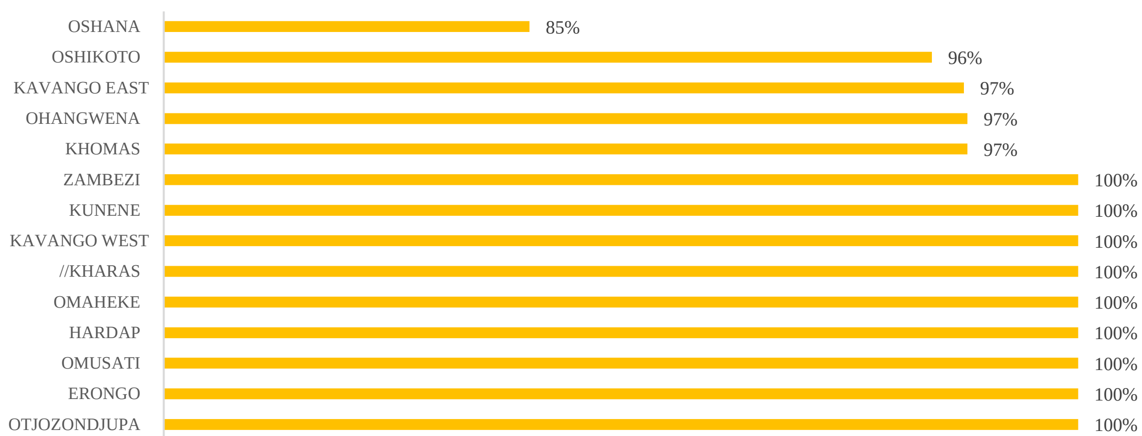


Figure 54: Percentage of DR-TB patients with documented socio-economic assessment, 2023

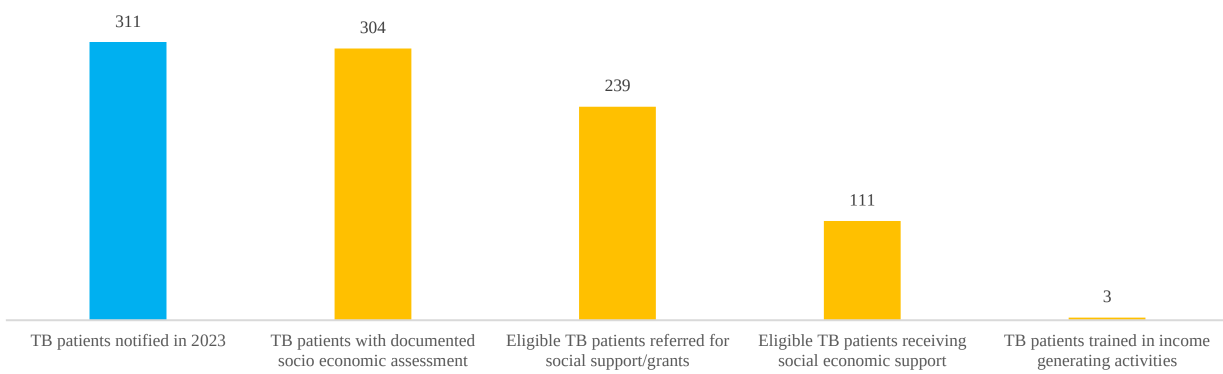


Figure 55: Social support among DR-TB patients, 2023

The figure below presents the proportion of new and relapse TB patients who received socio-economic support following referral in 2023. The Hardap region achieved full coverage, with 100% of referred new and relapse patients receiving socio-economic support. Meanwhile, none of the referred patients from Omusati, Oshana, and Kavango East received such support. Additionally, Kavango West and Zambezi did not refer any patients for socio-economic support during the year. These variations highlight the need to strengthen referral mechanisms and allocate resources effectively to ensure equitable access to socio-economic support services for TB patients.

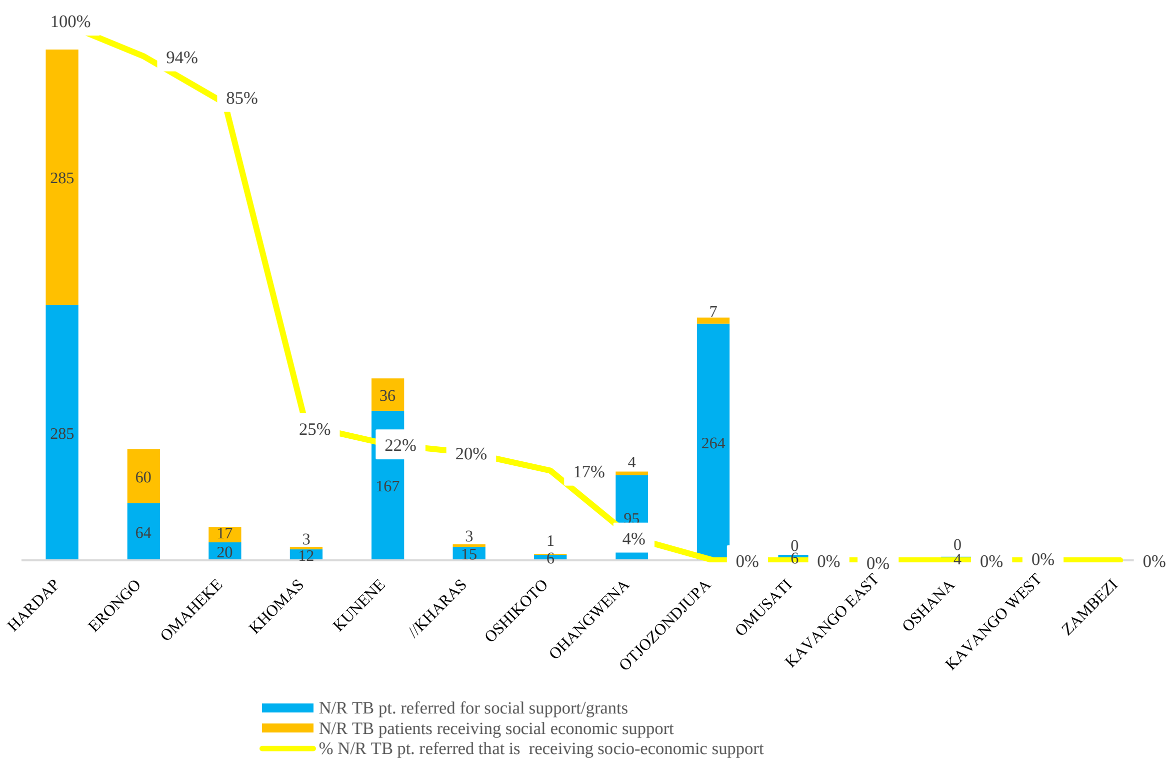


Figure 56: Percentage of new and relapse TB patients receiving socio-economic support, 2023

The figure below presents the proportion of DR-TB patients who received socio-economic support following referral in 2023. Zambezi region achieved full coverage, with 100% of referred DR-TB patients receiving socio-economic support. Otjozondjupa and Oshana regions followed with 88% coverage. In contrast, none of the referred DR-TB patients from Kavango West received such support. The remaining regions recorded coverage below 65%, with Khomas registering the lowest at 4%. These gaps emphasize the need for strengthened referral mechanisms and targeted interventions to improve access to socio-economic support for DR-TB patients.

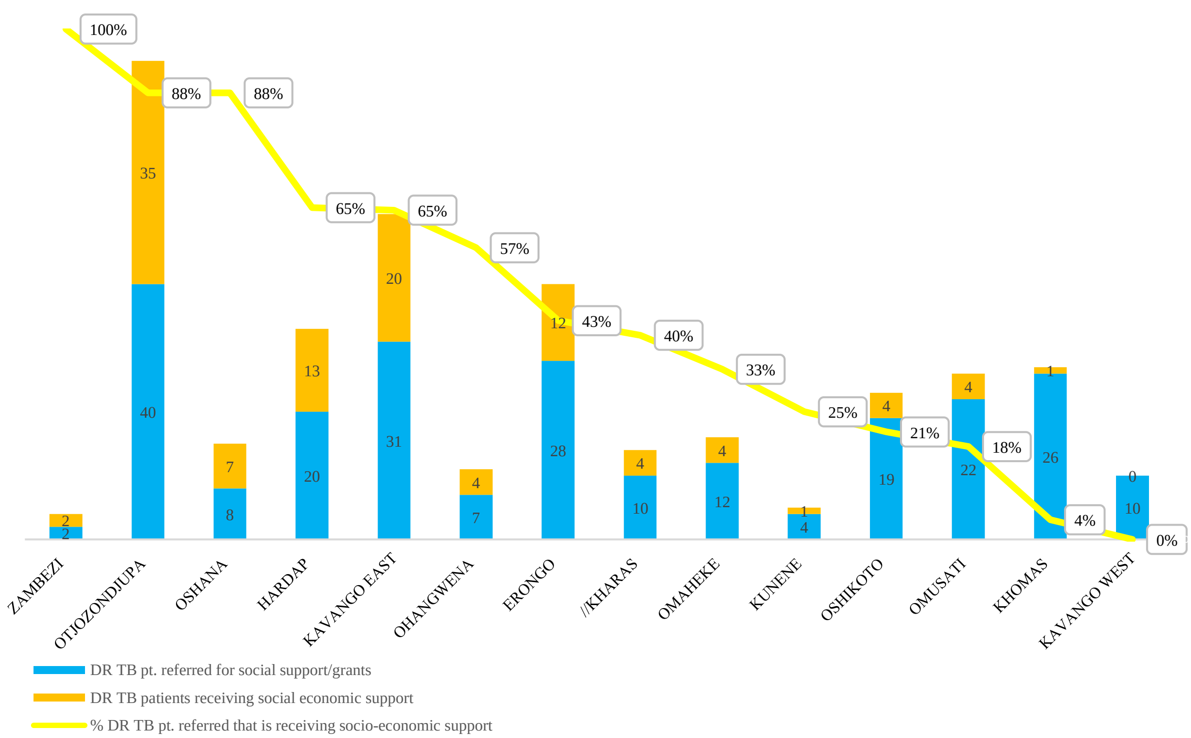


Figure 57: Percentage of DR-TB patients receiving socio-economic support, 2023

9.2 Rehabilitation

Rehabilitation involves a set of interventions aimed at optimizing functioning and reducing disabilities for individuals with health conditions. For some TB and leprosy patients, rehabilitation can improve functional difficulties and significantly enhance their quality of life. This care is typically provided by professionals such as occupational therapists, physiotherapists, and medical rehabilitation workers. However, the availability of these professionals remains limited, making advocacy by regional and district staff essential in addressing this gap.

To improve patient care, the NTLP introduced screening for new and relapse TB patients, including both drug-susceptible (DS-TB) and drug-resistant (DR-TB) cases, prioritizing them for disability assessment. This screening process evaluates pre-treatment disabilities, including mobility and body movement impairments, and identifies any functional impairments related to the disease. Additionally, screening for hearing loss has been incorporated as a core activity.

The graphs below present the number of new and relapse pulmonary TB (PTB) and extrapulmonary TB (EPTB) patients assessed for physical and functional disabilities, including hearing loss, in 2023. Notably, all 65 new and relapse TB patients with significant hearing loss (moderate to severe) were extrapulmonary TB cases.

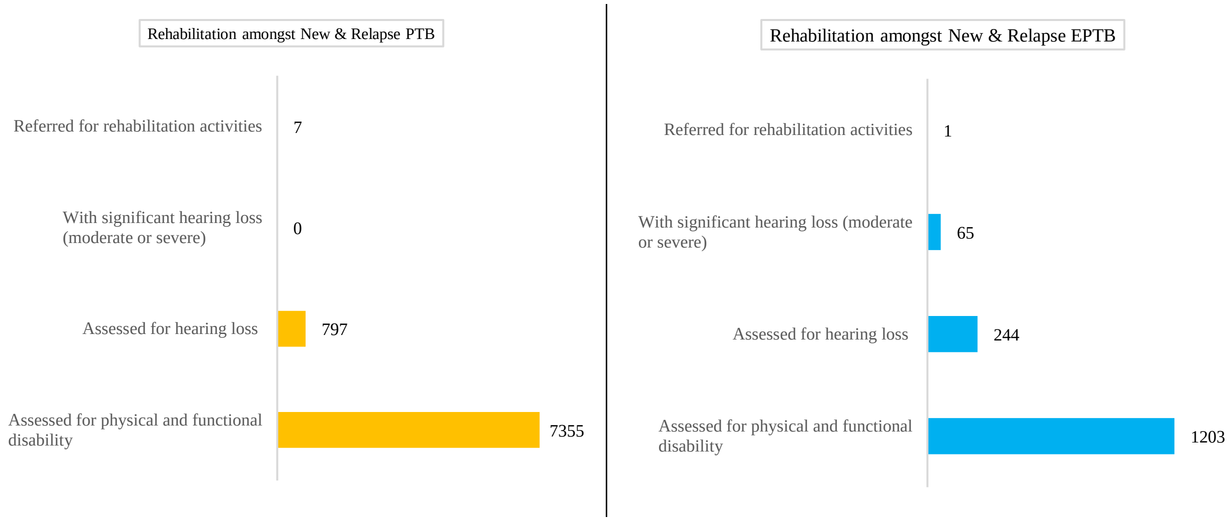


Figure 58: Rehabilitation among New and Relapse PTB and EPTB patients, 2023

The graph below highlights the number of DR-TB patients assessed for physical and functional disabilities, including hearing loss, in 2023. Out of 311 DR-TB patients, 305 underwent assessments for physical and functional impairments, with 125 cases also screened for hearing loss. Among these, 33 patients were identified with significant hearing loss (moderate to severe). Additionally, 1 DR-TB patient was referred for rehabilitation services.

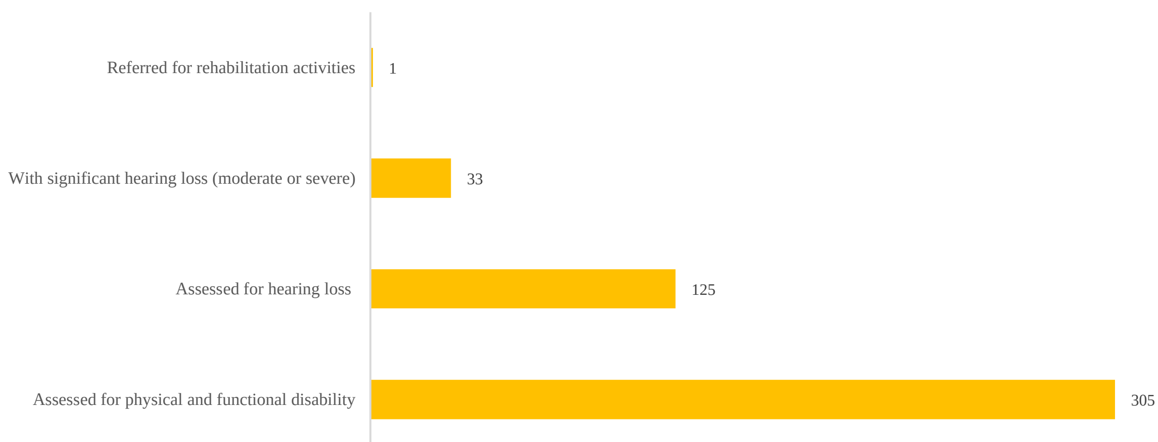


Figure 59: Rehabilitation among Drug Resistant TB patients, 2023

10 CAPACITY BUILDING AND SYSTEM STRENGTHENING

Capacity building for healthcare workers is a crucial element in enhancing service delivery for TB control. To support this objective, budgetary allocations are made to finance training programs for healthcare workers (HCWs). These training efforts are complemented by annual supervision and mentorship visits to ensure that the skills acquired are applied effectively in the field.

In 2023, a total of 1,392 HCWs were trained on various TB-HIV-related guidelines and programmatic areas. Among those trained, 139 were doctors, 640 were nurses, 59 were pharmacists, 61 were rehabilitation staff (including occupational therapists, physiotherapists, and medical rehabilitation workers) or social workers, and 380 were classified as other personnel, such as community health workers (CHWs) and volunteers.

Table 11: TB HIV related Health Trainings conducted in 2023

Training Conducted	Doctors	Nurses	Pharmacists	Rehabilitation (OT, Physio, MRW) & social workers	Other (CHW's volunteers, etc.)	DTLC (Nurses)
TB guidelines	37	132	20	17	62	26
Leprosy	6	5	2	0	0	3
TB Infection Control	4	84	3	21	27	22
Leadership	0	0	0	0	0	0
Operational Research (OR)	0	1	1	0	41	2
TB HIV related trainings	73	288	26	7	159	23
Other TB related trainings (specify)	19	130	7	16	91	37
Total	**139**	**640**	**59**	**61**	**380**	**113**

11 LEPROSY

11.1 Leprosy Elimination status

Leprosy is a chronic infectious disease caused by *Mycobacterium leprae*, which primarily affects the skin and peripheral nerves, leading to a wide range of clinical manifestations. It is classified into two forms: paucibacillary (with fewer lesions and a lower bacterial load) and multibacillary (with more lesions and a higher bacterial load). Leprosy develops slowly, with an incubation period of five to seven years, and typically presents with pale or reddish skin patches that show loss or decreased sensation. If left untreated, leprosy can result in permanent disabilities. However, the disease is curable, and early treatment prevents disability.

Leprosy is categorized as a neglected tropical disease and is primarily found in warmer regions of the country. Namibia reports a relatively low number of leprosy cases annually. The country has achieved leprosy elimination, defined as fewer than one case per 10,000 population, and is now focusing efforts on complete eradication.

The figure below illustrates the trend in reported leprosy cases in Namibia from 2008 to 2023. The number of cases has fluctuated over the years without a consistent upward or downward trend. The highest number of cases (42) was reported in 2010, due to a leprosy case-finding initiative. Another increase occurred in 2013, following a Training of Trainers (ToT) session conducted by an expert from Angola in the Zambezi region. A rise in cases also occurred from 2018 to 2020, attributed to heightened awareness activities, particularly around the 2019 World Leprosy Day, which improved knowledge and practices among healthcare workers and communities. In 2022, the number of reported cases rose again to 34, and in 2023, there were 30 reported cases.

Challenges in identifying, diagnosing, and notifying leprosy cases have been compounded by several factors, including limited training for healthcare workers, the absence of technical guidelines for case management, and inadequate information, education, and communication (IEC) materials for raising awareness. Weaknesses in supervision, monitoring, and evaluation systems, alongside limited resources, have further hindered progress.

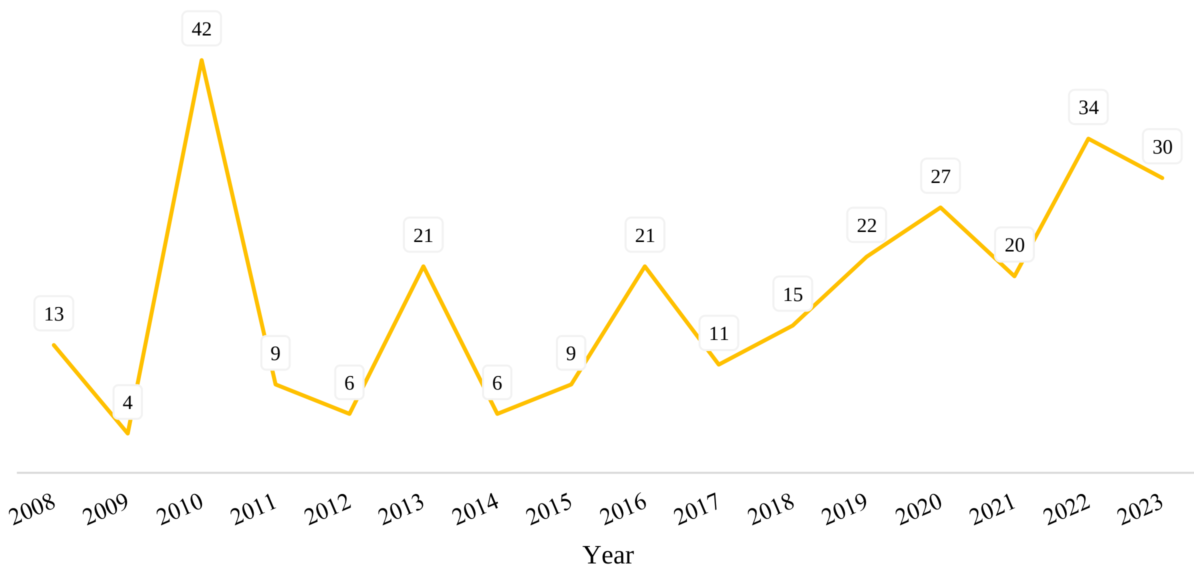


Figure 60: Trends in the number of notified cases of Leprosy, 2008- 2023

In 2023, Namibia reported a total of 30 new leprosy cases, with comprehensive documentation on both HIV status and socio-economic assessments for all patients. This reflects an excellent level of integration between leprosy and HIV services in the country. The data shows that across all five regions, each of the 30 patients had their HIV status documented, with a corresponding socio-economic assessment, demonstrating a comprehensive approach to managing leprosy patients and their broader health and social needs.

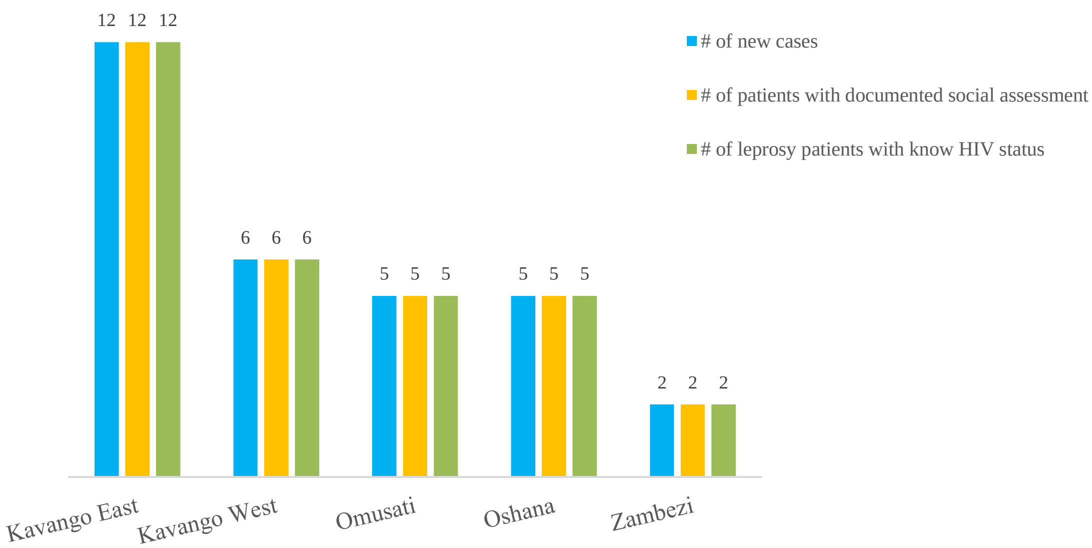


Figure 61: Regional Leprosy Case Management and Support, 2023

The table below provides a breakdown of new leprosy cases reported by region in 2023 in Namibia. In the Kavango East region, there were 12 new cases of multibacillary (MB) leprosy, while no cases of paucibacillary (PB) leprosy were reported. In Kavango West, both MB and PB types were noted, with 3 cases of MB and 3 of PB. The Omusati region reported 5 new cases of MB leprosy, while Oshana had 5 new cases of MB as well. In the Zambezi region, 2 new cases of MB leprosy were reported. Overall, across Namibia, there were 27 new cases of MB leprosy and 3 new cases of PB leprosy in 2023. The data highlights the prevalence of MB cases in various regions while also indicating a relatively low number of PB cases.

Table 12: Notified New Leprosy cases by Region, 2023

REGION	MB	PB	CATEGORY
KAVANGO EAST	12		NEW
KAVANGO WEST	3	3	NEW
OMUSATI	5		NEW
OSHANA	5		NEW
ZAMBEZI	2		
NAMIBIA	**27**	**3**	**NEW**

In 2023, Namibia's overall treatment completion rate for leprosy cases from the 2022 cohort was 53%, marking a significant improvement compared to the 30% completion rate from the previous reporting period. However, treatment completion rates varied significantly across regions, with some regions achieving high rates while others faced challenges.

The data shows that the Oshana region, with 4 notified cases, had a perfect treatment completion rate of 100%, with all 4 patients successfully completing their treatment. In contrast, the Kavango West region, which had 3 notified cases, reported no completed treatments, resulting in a 0% completion rate. Other regions, such as Kavango East and Khomas, had completion rates of 61% and 67%, respectively. Zambezi had the lowest completion rate at 17%, with only 1 out of 6 notified cases completing treatment.

These regional variations highlight the need for targeted interventions to improve treatment adherence, particularly in regions with lower completion rates like Zambezi and Kavango West.

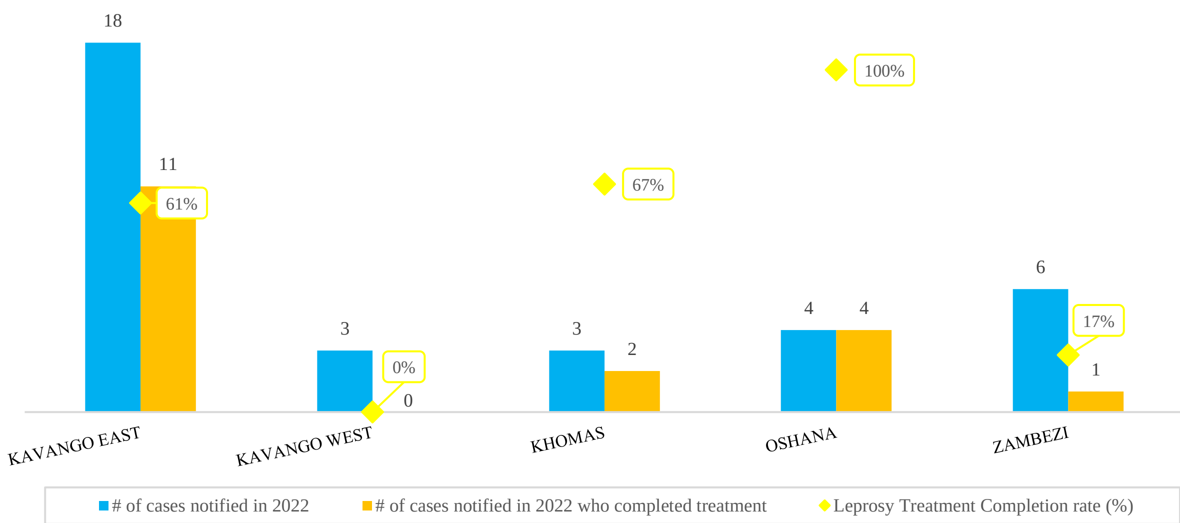


Figure 62: Leprosy Treatment Completion rate (2022 cohort), 53% TSR

11.2 Leprosy Medicines

In order to promote shorter and uniform treatment regimens, WHO recommends multidrug therapy (MDT) for both multi-bacillary (MB) and pauci-bacillary (PB) leprosy cases. NTLP continues to receive MDTs donations via the WHO at no cost.

12 Annexures

12.1 Annex A: Health Facilities providing TB services in Namibia

		ZAMBEZI	OTJOZONDJUPA	OSHIKOTO	OSHANA	OMUSATI	OMAHEKE	OHANGWENA	KUNENE	KHOMAS	KHARAS	KAVANGO	HARDAP	ERONGO
Hospital	Facilities	**1**	**4**	**3**	**1**	4	**1**	3	3	2	3	4	2	4
	Revised* TB-IC plans	1	4	3	1	3	1	3	2	2	3	4	2	1
	Outdoor waiting areas	1	1	2	1	0	0	3	0	0	0	1	0	0
Health centres	Facilities	3	2	3	5	6	1	2	3	2	3	7	3	2
	Revised TB-IC plans	3	2	3	5	5	1	2	2	2	3	7	3	0
	Outdoor waiting areas	3	2	3	3	0	0	2	3	0	2	4	2	0
Clinics	Facilities	26	19	23	13	40	13	27	26	10	13	45	12	18
	Revised TB-IC plans	14	16	23	8	28	13	27	17	10	13	45	12	1
	Outdoor waiting areas	13	12	21	10	19	9	27	21	7	8	43	9	7
DOT points	Facilities	6	9	2	4	4	0	1	5	7	1	3	0	4
	Revised TB-IC plans	0	7	1	4	2	0	1	1	7	1	3	0	0
	Outdoor waiting areas	6	1	2	4	3	0	1	0	7	1	3	0	0

12.2 Annex B: HIV/Diabetes summary for TB patients

	//KHARAS	ERONGO	HARDAP	KAVANGO EAST	KAVANGO WEST	KHOMAS	KUNENE	OHANGWENA	OMAHEKE	OMUSATI	OSHANA	OSHIKOTO	OTJOZONDJUPA	ZAMBEZI
Total # of New and relapse	555	983	736	469	231	1348	300	880	882	525	520	606	578	375
N/R Patients with known HIV Status	552	971	719	469	229	1315	300	880	881	518	507	598	577	375
N/R HIV Positive patients	188	296	214	135	40	486	100	337	189	168	215	225	123	190
N/R HIV positive patients on ART	187	294	213	135	40	472	100	337	188	163	212	225	122	190
N/R HIV positive patients on CPT	178	295	213	135	40	485	100	337	189	166	214	224	122	190
N/R TB patients tested for diabetes	550	645	655	312	167	171	296	771	533	522	508	600	577	241
N/R # patients test positive for diabetes	1	1	0	0	0	0	0	0	1	3	2	0	0	0
# of DR-TB patients notified	13	28	20	32	10	33	4	33	20	22	20	25	49	2
# of DR-TB patients with known HIV status	13	28	20	32	10	32	4	33	20	22	20	25	48	2
# of DR-TB patients who are HIV positive	5	6	7	5	1	11	0	9	4	7	3	8	6	0
# of DR-TB patients who are on ART	5	6	7	5	1	11	0	9	4	7	3	8	6	0

12.3 Annex C: Number of TB patient with Xpert MTB/RIF test results

REGION	Total New & relapse	Total All Forms	Number of presumptive TB cases in laboratory registers				Number of New patients in TB treatment Register			
			GxP +ve	GxP –ve	No GxP results	Total	GxP +ve	GxP –ve	No GxP results	Total
//KHARAS	555	577	467	2571	414	3452	349	39	22	410
ERONGO	983	994	736	4094	340	5170	568	159	72	799
HARDAP	736	752	638	5753	1431	7822	427	75	27	529
KAVANGO EAST	469	472	302	2534	451	3287	262	56	131	449
KAVANGO WEST	231	233	139	908	253	1300	117	34	49	200
KHOMAS	1348	1389	883	3768	230	4881	608	182	309	1099
KUNENE	300	305	212	2890	1	3103	192	76	12	280
OHANGWENA	880	911	625	6565	1295	8485	538	135	119	792
OMAHEKE	882	891	680	4707	1571	6958	528	169	22	719
OMUSATI	525	545	389	4240	299	4928	320	84	51	455
OSHANA	520	535	305	3798	197	4300	237	128	84	449
OSHIKOTO	606	632	407	6475	511	7393	308	71	108	487
OTJOZONDJUPA	578	586	550	4573	7	5130	416	49	15	480
ZAMBEZI	375	378	161	1657	66	1884	135	83	111	329
TOTAL	**8988**	**9200**	**6494**	**54533**	**7066**	**68093**	**5005**	**1340**	**1132**	**7477**

12.4 Annex D: TB and Leprosy Medicine Expenditure

PHARMACEUTICAL CONSUMPTION TRENDS REPORT ANTI-TB - JAN-MAR, 2024

Description	Pack Size	Cost in N$	AMC Apr-Jun 2023	AMC Jul-Sep 2023	AMC Oct-Dec 2023	AMC Jan-Mar 2024	Annual Cons.Jun 2023-Mar 2024	Annual Cons. Value N$	ABC Analysis	ABC Cum %
AMOXYCILLIN 875MG + CLAVULANIC ACID 125MG TABS	10	58.55	4,263	0	1,129	3,371	26,289	1,539,221	6.12%	6.12%
LEVOFLOXACIN 250MG TABS	5	12.87	841	2,702	2,439	2,630	25,836	332,509	1.32%	7.45%
AMIKACIN 250MG/ML INJ 2ML	1	5.84	2,500	3,357	1,387	1,287	25,593	149,463	0.59%	8.04%
MOXIFLOXACIN 400MG TABS	5	34.43	573	1,923	1,417	679	13,776	474,308	1.89%	9.93%
3HP 300MG+300MG FILM COATED TAB	36	228.72	739	695	1,141	1,250	11,475	2,624,562	10.44%	20.37%
CLARITHROMYCIN 500MG TABS	14	101.65	633	654	646	247	6,540	664,791	2.65%	23.02%
	10	190.81	284	381	364	200	3,687	703,516	2.80%	25.82%
RIFAMPICIN 150+ISONIAZID 75+ ETHAMBUTOL 275MG TABS	672	1,378.54	272	200	250	199	2,763	3,808,906	15.16%	40.97%
RIFAMPICIN 150+PYRAZINAMID 400 ISONIAZID75+ETHAMBUTOL 275MG	672	1,653.36	238	204	206	126	2,322	3,839,102	15.28%	56.25%
	84	184.27	204	109	20	208	1,623	299,070	1.19%	57.44%
	84	83.48	90	265	134	44	1,599	133,485	0.53%	57.97%
ISONIAZID (INH) 300MG TABS	672	215.00	56	44	68	104	816	175,440	0.70%	58.67%
PYRAZINAMIDE 400MG TABS	672	289.35	56	100	57	38	753	217,881	0.87%	59.54%
CYCLOSERINE 250MG TABS	100	642.17	31	12	84	115	726	466,215	1.86%	61.39%
	48	7,320.00	25	43	74	90	696	5,094,720	20.27%	81.66%
RIFAMPICIN 150MG CAPS	100	190.86	38	49	61	70	654	124,822	0.50%	82.16%
CLOFAZIMINE 100MG TABS	100	1.22	39	53	60	65	651	794	0.00%	82.16%
ETHAMBUTOL HCL 400MG TABS	672	801.34	7	32	76	28	429	343,775	1.37%	83.53%
BEDAQUILINE 100MG TABS (Sirturo)	188	6,372.52	27	17	65	26	405	2,580,871	10.27%	93.80%
ISONIAZID (INH) 100MG TABS	1000	215.93	33	26	51	23	399	86,156	0.34%	94.15%
RIFAMPICIN 450MG CAPS	100	344.86	27	31	34	36	384	132,426	0.53%	94.67%
ETHAMBUTOL 100MG TABS	500	500.00	30	40	0	40	330	165,000	0.66%	95.33%
PRETOMANID 200MG FILM UNCOATED TABS	26	1,880.00	50	7	22	22	303	569,640	2.27%	97.60%
ETHIONAMIDE 250MG TABS	250	1,432.91	15	20	0	16	153	219,235	0.87%	98.47%
FACE MASK PARTICULATE RESPIRAT CONE-SHAPE N95 - 1860 REGULAR	120	1,565.22	22	8	6	10	138	216,000	0.86%	99.33%
FACE MASK PARTICULATE RESPIRAT CONE-SHAPE N95 - 1860 SMALL	120	1,565.22	10	8	8	10	108	169,044	0.67%	100.00%
								25,130,953		