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Fostering Regional Cooperation for Better Health

SOUTHERN AFRICA TB AND HEALTH SYSTEMS SUPPORT PROJECT

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SOUTHERN AFRICA
TB AND HEALTH SYSTEMS SUPPORT (SATBHSS) PROJECT

WORLD BANK GROUP

CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION

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1.0 Background and situation

Tuberculosis (TB) is a communicable disease that is a major cause of ill health, one of the top 10 causes of death worldwide and the leading cause of death from a single infectious agent (ranking above HIV/AIDS). In 2019, about 10 million people developed TB and 1.4 million died. TB is caused by the bacillus ***Mycobacterium tuber- culosis,*** which is spread when people who are sick with TB expel bacteria into the air; for example, by coughing. The disease typically affects the lungs (pulmonary TB) but can also affect other sites (extrapulmonary TB).

TB can affect anyone anywhere, but most people who develop the disease (about 90%) are adults; there are more cases among men than women; and of those who fell sick with TB in 2019, 87% were in 30 high TB burden countries. Case rates at national level vary from less than 5 to more than 500 per 100 000 population per year. TB is a disease of poverty, and economic distress, vulnerability, marginalization, stigma and discrimination are often faced by people affected by TB. About a quarter of the world's population is infected with M. tuberculosis.

Globally, an estimated 10.0 million (range, 9.0–11.1 million) people fell ill with TB in 2019. The burden of disease varies enormously among countries, from fewer than five to more than 500 new cases per 100 000 population per year. There were an estimated 1.2 million TB deaths among HIV-negative people in 2019 (a 27% reduction from 1.7 million in 2000), and an additional 208,000 deaths among HIV-positive people. The burden of drug-resistant TB is of major concern at global, regional and country level. In 2019, 3.3% of new TB cases and 18% of previously treated cases had MDR/RR-TB, accounting for a global burden of half a million new cases of rifampicin-resistant TB (RR_TB), amongst which 78% multidrug-resistant TB. A total of 7.1 million new cases (70%) of TB were notified in 2019, and most of the increase in global notifications of TB cases since 2013 is explained by trends in India and Indonesia.

Geographically, most TB cases in 2019 were in the World Health Organization (WHO) regions of South-East Asia (44%) and Africa (25%). Africa has the highest burden of TB per 100 000 population, amongst all regions (226/ 100 000), and this translated into 2 500 000 cases in 2019. Africa accounted for 33% of all global deaths of TB-HIV negative people (377 000 deaths), and 84% of the global HIV-positive TB deaths (169 000 deaths). It also accounts for a significant proportion of RR-TB cases, 77 000 of the global 500 000 RR-TB are estimated to occur in Africa.

The burden of TB has been a problem of global concern for a long time, and global development goals and TB strategies have placed TB elimination as a public health problem at the core of their goals. By 2015 the MDG target of halting and reversing TB incidence by 2015 was achieved globally, in all six WHO regions and in 16 of the 22 high TB burden countries (HBCs). However, the Stop TB partnership targets of reducing the TB prevalence was achieved in three WHO regions, and of reducing TB mortality achieved in four WHO Regions.

In 2014 and 2015, all Member States of the World Health Organization (WHO) and the United Nations (UN) committed to ending the TB epidemic, by endorsing WHO's End TB Strategy and by adopting the UN Sustainable Development Goals (SDGs), whose target 3.3 includes ending the TB epidemic by 2030. The End TB Strategy defines milestones (for 2020 and 2025) and targets (for 2030 and 2035), aimed at reducing TB incidence by 90% and mortality by 95% by 2035, when compared to 2015. As a follow-up, the first ever global ministerial conference on ending TB was held in November 2017, leading to the Moscow Declaration to End TB, reaffirming the global commitment to end TB and MDR-TB, and to mobilize funding for TB prevention, care and research.

Currently, the world as a whole, most WHO regions and many high TB burden countries are not on track to reach the 2020 milestones of the End TB Strategy, the reduction of TB incidence (in 20%) and deaths (in 35%) between 2015 and 2020, and lags far behind the pace required to achieve 2035 targets. Worldwide, a total of 78 countries are on track to reach the 2020 mile- stone, including seven high TB burden countries that have already reached it (Cambodia, Ethiopia, Kenya, Namibia, the Russian Federation, South Africa and the United Republic of Tanzania) and three other high TB burden countries that are on course to do so (Lesotho, Myanmar and Zimbabwe.

The four SATBHSS project countries are listed amongst the 30 high burden countries for TB, TB/HIV and/or MDR-TB in 2019. TB incidence remains high, and ranges from 146 in Malawi to 654 per 100,000 in Lesotho, with high TB/HIV co-infection rates in all countries, estimates ranging from 34% in Mozambique to 62% in Lesotho, and TB mortality remains high in all the countries. The burden of MDR-TB cases amongst both new and previously treated cases is on the rise in all project countries. Currently the number of estimated cases ranging from 750 cases in Malawi to 4,900 cases in Mozambique.

Country	2014		2019	
	% of MDR-TB amongst new cases	% of MDR-TB amongst retreatments	% of MDR-TB amongst new cases	% of MDR-TB amongst retreatments
Lesotho	3.2	7.3	5.2	6.7
Malawi	0.42	4.8	2.3	6.1
Mozambique	3.5	11	3.7	13
Zambia	0.3	8.1	2.4	18

There has been noticeable reduction in TB incidence, however, challenges with TB detection are at the core of TB programmes priority in all project countries, treatment coverage is below 60% and 35% for DS and DR-TB respectively. Treatment outcomes for both DS and DR-TB are progressively increasing, three countries have surpassed 87% success rate for DS-TB, and treatment success rates for MDR-TB are above the global rate, but remain below 80% in all countries.

The mining sector and labour mobility have been identified as major contributors to the high TB burden in the SADC region. Labour movement across the region to work in the mines, especially the gold mines in South Africa has significantly contributed to the challenges faced in TB control in most countries. Furthermore, the project countries have either well established (Zambia) and growing (Lesotho, Malawi, and Mozambique) mining industries that place miners at risk of contracting TB and other occupational lung diseases. The high prevalence of TB in the mines is mainly attributed to the working and living conditions which expose miners to TB and OLDs. Such conditions include overcrowded dwellings places with poor ventilation, and exposure to silica dust in the mines that causes silicosis among miners making them vulnerable to TB. High mobility of the miners between mining communities and labour sending areas within and across borders further contributes to the spread of tuberculosis. The SATBHSS project therefore supports counties to respond to the challenge of TB and occupational health challenges with the view to develop and implement systems to protect the health of workers and enhance productivity of the workforce. Through the project, countries have initiated review of policies and legal frameworks on OHS, undertaken inspection of mines and trained professional on OHS. The AUDA-NEPAD continues to support countries to undertake regulatory reforms on occupational health and safety, adopt standards and best practices for the prevention and management of occupational lung diseases, and build sustainable capacity within the public sector to better respond to occupational health challenges.

The SATBHSS project has significantly contributed to strengthen efforts to end TB and occupational lung diseases in all project countries. Countries observed an increase in case detection rates and treatment outcomes for both DS and DR-TB, when compared to the project baseline in 2016. Additional efforts are required to pursue and attain the End TB strategy targets. ECSA-HC will further support countries to strengthen achieved standards and will build upon 3 years attained capacity in establishing linkages with stakeholders for strengthening DS and MDR-TB detection and management, including psychosocial support to MDR-TB patients, cross-border TB collaborations, TB diagnosis, and disease surveillance.

1.1 Impact of COVID-19 on TB, disease surveillance and OHS

There were unprecedented and harsh restrictions to control COVID-19 worldwide, which resulted in severe disruptions of all essential health services, a setback in years of progress attained ending infectious disease and improving global health, and further delays to achieve the already off-track SDG. Eleven months into the pandemic, there are no signs of sustained pandemic control in any of the WHO regions, and essential health services are not yet fully restored. Worldwide cases have re-soared, and lockdowns re-enforced. In Africa, cases reached 18 thousand daily averages in July, following COVID-19 restriction from March/April, cases were brought down to 3.5 thousand daily average by mid-October. However, following lifting of restrictions, the number of cases is slowly rising and is currently averaging 6.5 thousand cases daily.

Health systems around the world have been challenged by COVID-19 pandemic, and they have not been restored to the pre-COVID-19 standards. Diverting resources, focus on COVID-19, restrictions/lockdowns, fear, stigma, and misinformation led to significant reduction in patient attendance to health facilities, and disruption of provision of essential healthcare package services. These disruptions resulted in dramatic increase of both direct mortality from COVID-19, and indirect mortality from other preventable and treatable conditions. Major health gains achieved in global health over the past two decades have been reversed by COVID-19:

- WHO pulse survey on continuity of health services during the COVID-19 pandemic in 105 countries revealed that 90% of counties experienced disruption to its health services, particularly, low- and middle-income countries.
    - ► Disruptions were observed in a vast proportion of countries, for essential services such as: outbreak detection and control - non-COVID-19 (45%); malaria diagnosis and treatment (46%); antiretroviral treatment (32%); Tuberculosis case detection and treatment (42%); and non-communicable diseases diagnosis and treatment (69%);
    - ► Main reasons for disruption included: decrease in outpatient volume, owing to patients not presenting to the health facilities; decrease in service provision owing to cancellation of elective care; clinical staff deployed to COVID-19; transport and movement restrictions;

- Particularly for TB, WHO and Stop TB Partnership, conducted a modelling study on the impact of COVID-19 on TB, in April 2020. Study results showed that for a 3-month lockdown, additional 6.3 million cases, and 1.4 million deaths, is expected to occur between 2020 and 2025, as compared to the estimates prior to COVID-19, for the same period. This represents a setback of at least 5 to 8 years in the progress to end TB.
    - ► In SATBSSP countries TB notifications have declined by 10% to 40% throughout the pandemic, hence, regressing project achievements. Major setbacks in the project gains were observed in: (a) improving TB detection and treatment success, potentially delaying the reduction of the burden of TB and fuelling drug-resistance transmission; (b) rolling out patient and mineworkers social support, with potential reduction of favourable TB outcomes, and with additional economic burden on patients; (c) capacity created for disease surveillance and response, within and across borders, risking resurgence of diseases that were long gone; (d) disruption of inspection activities in the mines due to lockdown and suspension of some occupational health services such as spirometry.

Restoring essential health services, resuming and accelerating the progress towards SDGs will require coordinated efforts at country and regional level, in ensuring: (i) innovative and bold policies and ; (ii) ongoing capacity building in line with latest evidence; (iii) outreach strategies to reach vulnerable and underserved population; (iv) health literacy to reduce stigma, and associated harmful behaviours; (v) use of mobile technologies for continuum of care and capacity building; (vii) strengthening coordination for integrated and continuum of essential health services, resilience to COVID-19 and potential public health events of international concern.

2.0 Key accomplishments, challenges and bottlenecks

2.1 Component 1: Innovative Prevention, Detection, and Treatment of TB

2.1.1 Sub component 1.1: Enhancing TB case detection and treatment success

Activities in this sub-component are aimed at improving countries' heath systems and capacity to strengthen coverage and quality of TB care services. Interventions focused on innovating approaches to find the missing TB cases, and provide quality of care, to attain high treatment success rates and to alleviate physical and social suffering, as a result of TB disease. Activities implemented throughout the project, added to the existing country efforts, and contributed to fast-track the progress towards ending TB, and to stop cross border transmission.

In the first three years of the project (2017 to 2019), there were commendable achievements at country and regional level. Key activities implemented at both levels include: (i) training of various human resources on TB and MDR-TB care cascade, including TB infection control and prevention, in-country and through south-to-south learning; (ii) development and implementation of guidelines for infection control in health and correctional facilities; (iii) strengthening integrated TB and other diseases care for healthcare workers; (iv) assessing implementation and drafting minimum standards for regional harmonized TB management; (v) strengthening community TB care systems and services; (vi) introducing and rolling out psychosocial support for MDR-TB patients; (vii) introduction of quality improvement for TB care; among others.

The emergency of COVID-19 slowed down the implementation observed in the first 3 years of the project. Countries and regional organizations are venturing to innovative approaches, to reverse the negative impact of the COVID-19 response, by introducing quality improvement for TB care, ad increased coordination and mentorship to the service delivery levels.

Below are the key achievements under this component:

Regional Level

1.1.1 Strengthening harmonization of regional protocols and cross-border collaboration for TB care.

From 2017 to 2019, ECSA-HC commissioned and completed the assessment to evaluate the implementation of the harmonized framework for TB management in the SADC region. The assessment revealed substantial gaps, particularly at service delivery level: (i) lack of tools and guidelines translating the framework into local context, (ii) lack of training of human resources; (iii) poor inter-country communication, leading to poor access to cross-border TB continuum of care, poor harmonization of TB, risking amplification of cross-border TB transmission, mortality, and DR-TB; (iv) potential high out-of-pocket expenditure for cross-border TB patients, and inexistent social support systems. ECSA-HC also engaged multiple stakeholders in several dialogs and TWGs, to advance the implementation of harmonized standards; and translated the assessment into a policy brief with regional and country recommendations.

In 2020, informed by the above assessment, ECSA-HC: (i) facilitated a dialogue amongst project and non-project countries to develop the action plan to respond to the recommendations of the assessment; (ii) facilitated the drafting of regional minimum standards for harmonized TB care, encompassing standards for diagnosis, treatment, patient support and cross-border continuum of care .

1.1.2. Technical support enhanced TB case detection in general and in key populations.

From 2017 to 2020, ECSA provided in-country support to strengthen active case finding in general population and in key populations such as healthcare workers, inmates, miners and ex-miners. The following were the accomplishments by ECSA-HC:

(i) Strengthened learning and implementation of regional best practice for TB case detection in general and key populations: ECSA-HC facilitated regional learning and knowledge exchange with regional Centres-of Excellence in Zimbabwe and Rwanda, for 42 staff from all project countries, on matters of implementation of Practical Approach to Lung Health (PAL) - a WHO approach to increase TB case detection; on performance-based funding for community based TB case finding; and for integrated sputum transport; and integrated TB screening for healthcare workers through wellness clinics.

(ii) Provided technical support to countries to implement regional best-practices on TB case detection in key population: (a) provided support to countries to establish, rollout and evaluate the implementation of integrated TB screening for healthcare workers in the wellness clinics, resulting in mass screening and increased TB detection of healthcare workers with TB. The support included mentorship for establishing the devices, screening algorithms, for implementation evaluation; (b) technical support to Lesotho to develop performance-based funding frameworks and tools for engaging and supervising a NGO and CSOs in implementing community-based TB detection in the general population and in mining communities; (c) provided mentorship to Lesotho and Mozambique assess performance and gaps in case detection in the TEBA

clinics - TB/HIV clinics for miners and ex-miners - and develop intensified case detection and mass screening algorithms and flowcharts.
iii) Provided training to strengthen TB case detection key populations: trained 25 central level and frontline workers on TB detection and management of TB in correctional facilities in Lesotho.
In 2020, activities were limited by COVID-19. ECSA-HC provided support to Lesotho to conduct the mid-term evaluation of the community TB PBF model; and facilitated webinar sessions on restoring TB services, in which countries shared various strategies to restore TB detection.

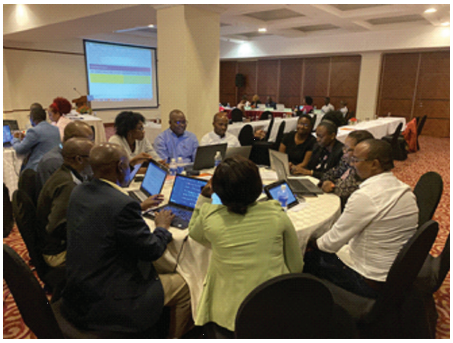
1.1.3 Strengthening quality of TB and MDR-TB care.

From 2017 to 2020, ECSA-HC supported capacity building and provided mentorship for implementation of quality improvement programmes to improve management of TB and MDR-TB through the following activities:
(a) Facilitated training on quality MDR-TB care: trained 20 staff from three project countries (Mozambique, Zambia and Malawi), through the Regional (Rwanda) and the Global (Latvia) Centres-of-Excellence for Drug-Resistant TB. Trainings addressed intensified and quality DR-TB case finding, MDR-TB management, particularly introducing newly WHO recommended treatment regimens, and patient psychosocial support, following which, implementation was rolled out in the 3 countries.
(b) Training and mentorship for implanting quality improvement programmes: this activity was aimed at introducing quality improvement initiatives in the routine TB programme management. The activity encompassed: engagement of global organizations leading capacity building on quality improvement (The Union and Aurum Institute); development of training modules, tools, and delivery of training on quality improvement for TB care to 65 staff from national and sub-national level in Lesotho and Zambia; support for follow-up mentorship and 6-month.
(c) Facilitated training and knowledge sharing with Kenya on TB data for action and quality improvement for two national level TB officers from Zambia and Malawi.
In 2020 substantial emphasis was given to quality improvement amid the COVID-19 pandemic, in order to strengthen resilience of health systems for TB. Activities included, sensitization of NTPs at central level to uptake and rollout quality improvement during the RAC meetings and online; inception training and sensitization of central NTP staff in Lesotho and Mozambique; and training of trainers and quality improvement manager in Lesotho; development of generic rollout plan for all the countries.

1.1.4 supported implementation of TB infection prevention and control strategies in health settings.

From **2017 to 2019,** the following activities were supported by ECSA-HC:
(a) Regional and cascade trainings on infection prevention and control: ECSA-HC facilitated a regional ToT in Zimbabwe targeting 16 central NTP staff in collaboration with BRTI and the MoH both from Zimbabwe; follow-up cascade training and mentorship of national trainers in the four project countries, targeting to 150 staff at district level and frontline health workers.
(b) Provided in-country mentorship for rolling out TB infection prevention and control: this activity included refresher training to central level staff; facility-based transfer of mentorship skills to central level mentors, targeting 14 health and correctional facilities of Lesotho and Zambia
(c) Provided support to develop guidelines, checklists, tools and SoPs for TB infection control and prevention in healthcare settings and correctional facilities in Lesotho, and to be adapted and adopted by the other project countries; provided support to revise the national TB infection control policy for Mozambique.
In 2020, most of the in-country activities were restricted by COVID-19. ECSA-HC conducted a series of online trainings and webinars for infection prevention and control for COVID-19 and integration with TB infection control and prevention, in collaboration with NEPAD and BRTI, targeting more than 500 health staff in the four project countries and beyond; sensitization of countries to restore TB screening in healthcare workers and the wellness clinics.

Figure 1.1.1: TWG to develop regional minimum standards for cross-border TB care, Lusaka, March 2020




COUNTRY LEVEL

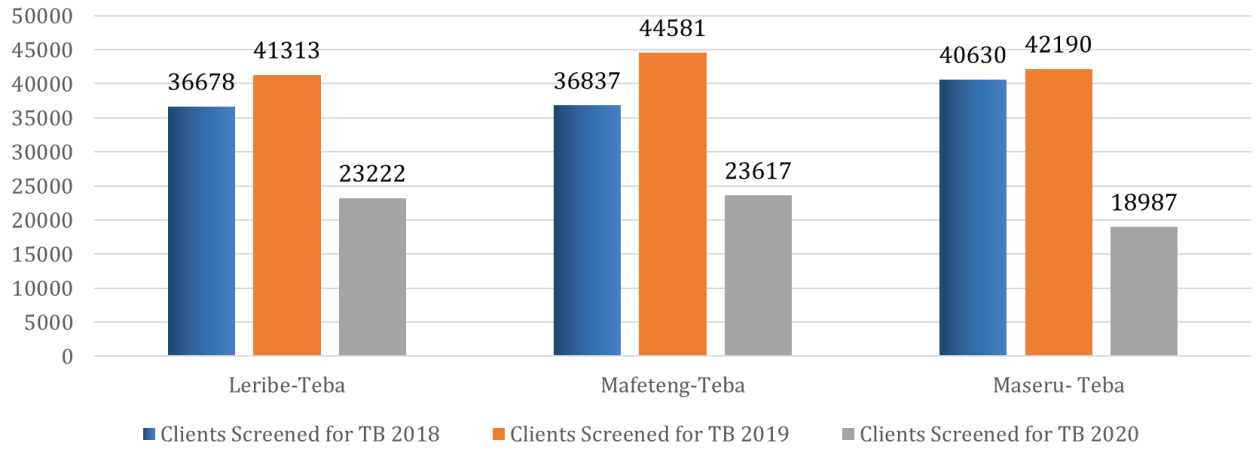
Lesotho

Enhancing TB case detection and treatment success
A number of interventions were implemented under this sub component in this period. These interventions were aimed at enhancing TB case detection and improving TB treatment outcomes. The interventions are discussed below.

Intensify Case finding for TB among miners, ex-miners and their families through the TEBA point of Care sites.

The project capacitated three (3) TEBA points of care to implement a holistic approach in integrating TB and HIV services among miners, ex-miners and their families. The support included salaries for staff working at the three (3) TEBA points of care and administration. TB and HIV services continued to be provided to miners, ex-miners and their family members during this period. The bar chart below shows results of TB screenings provided to clients who visited the three (3) facilities.

Figure 1.1.2: Clients screened in 3 TEBA POC



During the past three (3) years, TB screening was intensified in the three (3) TEBA POCs, and it reached a peak in 2019. In 2018, Maseru TEBA POCs recorded 40630 screens and it was the highest among the three(3) POCs. Mafeteng TEBA POC screened 44581 clients and it was the highest among the three facilities in 2019. The three facilities recorded an increase in the overall number of clients screened for TB in 2019.

There was however a significant drop in TB screening in all the three (3) facilities and this has been attributed to effect of COVID-19. In curbing the spread of the COVID-19 pandemic the country embarked on a national lockdown in most periods of 2020. TB services was negatively affected by this lockdown. The highest decline of 55% was noted in Maseru TEBA POC between 2019 to 2020, in Mafeteng TEBA POC clients screened for TB dropped by 47% while in Leribe TEBA POCs it declined by 44%.

The overall decline in TB screening from the three facilities negatively affected TB case notification as shown on the table below. From 2018 to 2019, a steady increase was recorded in TB case notification on two facilities while the other facility performance was the same. The highest increase of 103% was in Mafeteng POC and it was followed by Leribe POC with 39%. All the three (3) facilities experienced a huge decline in TB case notification in 2020. Maseru POC experienced a decline of 86%, 78% decline was recorded in Mafeteng POC while a decline of 68% was also noted in Leribe POC. The NTP conducted facility assessment to establish how COVID-19 affected provision of TB services. The assessment demonstrated TB services were negatively affected by COVID-19.

Table 1.1.1: TB Notifications 2018-2020

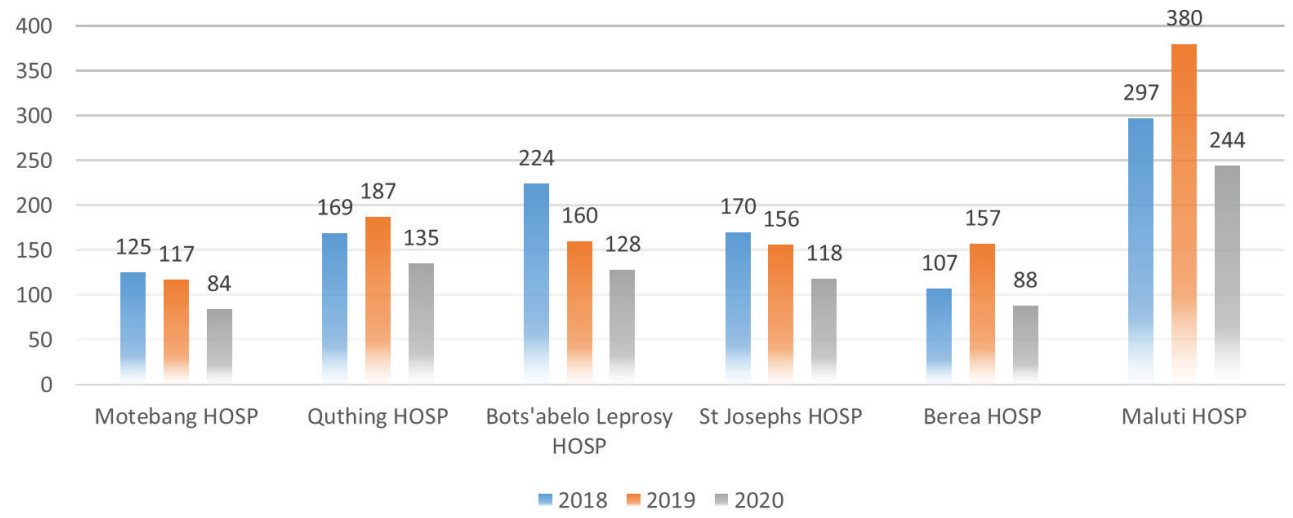
	Leribe POC		Mafeteng POC		Maseru POC	
Year	# of TB cases	Change in notification	# of TB cases	Change in notification	# of TB cases	Change in notification
2018	56	0%	34	0%	30	0%
2019	78	39%	69	103%	29	-3%
2020	25	-68%	15	-78%	4	-86%

Quality improvement initiatives and data use for decision making to improve TB Case finding and TB treatment success.

Continuous quality improvement interventions were introduced for all district hospitals with training of staff from these facilities in May 2019. Six facilities namely, Berea hospital, Maluti hospital, MoTEBAng Hospital, St Joseph hospital, Quthing hospital and Bots'abelo hospital were selected to implement CQI projects to increase TB case notification.

The plan for 2020 was to enroll additional hospitals to implement the CQI, conduct a comprehensive review of the hospitals that started implementing CQI activities in 2019 and undertake refresher training on CQI for all the hospitals. All these activities were not implemented due the COVID-19 national lock down. TOT training on CQI was undertaken in December 2020 for NTP central team and staff from Quality Assurance department within MOH. The training was facilitated by ECSA-HC and conducted by AURUM Institute.

Figure 1.1.3: TB notification in six CQI Sites 2018-2020



The bar chart above shows TB notification from 2018 to 2020. Staff from 17 hospitals were trained on continuous quality improvement facilities were trained in May 2019. After the training the six facilities were selected and supported to implement the CQI projects aimed at increasing TB case notification. The above bar chart shows that three (3) facilities namely Quthing, Berea and Maluti hospitals witnessed increase in TB notification in 2019. The other three (3) hospitals did not show increase in TB case notification. In 2020, all the six (6) facilities experienced a drop in TB case notification and this was attributed to the COVID-19 pandemic. In 2021, AURUM Institute will continue to provide technical assistance to NTP on Quality Improvement. The support will focus building district capacity to implement quality improvement projects that will increase TB case notification and improve TB treatment outcomes.

TB Data quality improvement

The NTLP M&E team at national level conducts supportive M&E supervision to facilities using a standard supervisory checklist on quarterly basis. This activity is intended to improve the quality of TB data collected and reported by health facilities providing TB services. Supportive M&E supervision was undertaken to health facilities in four districts; Quthing, Botha bothe, Qacha snek and Thaba-Tseka. Below is a performance of each facility in relation to data quality.

Table 1.1.2: DQA Performance

Quthing District	Score achieved	Maximum score possible	% obtained
Maqokho HC	69.58	18	6
Quthing Hospital	57.56	98	3
Dilli Dilli HC	65.58	18	1
Tsatsane HC	60	81	74
Makoae HC	53.57	37	3
St Matthews HC	59	81	73
Villa Maria HC	43.56	96	3
St Gabriel	48	77	62
Mphaki HC	47	81	58
Quthing LCS	81	65	0
Total	511.5	709	72

Botha Bothe District	Score achieved	Maximum score possible	% obtained
Ngoajane HC	50	65	77
Rampai HC	59	81	73
Botha Bothe Hospital	59.58	57	0
Seboche Hospital	45	65	69
St Paul HC	55.98	16	9
St Peters HC	52.58	16	5
Makhunoane HC	48.58	16	0
Motete HC	28.55	94	8
Total	398.5	598	67

Legend		
Excellent	>=85%	
Good	70-84%	
Poor	50-69%	
Failed	<=49%	

Qacha's Nek District	Score achieved	Maximum score possible	% obtained
Melikane HC	69.58	18	6
Machabeng Hospital	57.56	98	3
Tebellong Hospital	65.58	18	1
Sekake HC	60	81	74
Mohlapiso HC	53.57	37	3
Rankakala HC	59	81	73
Sehlaba Thebe HC	43.56	96	3
Hermitage HC	48	77	62
Lebakeng HC	47	81	58
Total	511.5	709	72

Thaba Tseka District	Score achieved	Maximum score possible	% obtained
Mafa Health Post	59.57	77	7
Paray Hospital	61.58	17	6
St James Hospital	57.58	17	1
Mohlanapeng HC	44.56	56	8
Methalaneng HC	49.77	36	8
T. Tseka Health Division	21.13	36	4
Auray HC	47.87	76	2
Lephoi HC	37	77	48
Linakeng HC	35	73	48
Katse HC	27	77	35
Total	440.6	714	62

The findings from the supportive M&E supervision demonstrate the performance of facilities in each district. Ten(10) facilities received supervision in Quthing district. Four (4) facilities performed poorly, five (5) facilities achieved a good performance rating and one (1) facility received an excellent performance. In Botha Bothe district, eight (8) facilities were visited. One (1) facility failed, four (4) facilities performed poorly. Good performance was realized in three (3) facilities.

In Qacha 'snek district nine (9) facilities received supportive supervision. Three (3) facilities received an excellent performance, good performance was reached by four (4) facilities, only two (2) facilities performed poorly. In Thaba- Tseka district ten (10) facilities received supportive supervision. Three (3) facilities failed, poor performance was realized in four (4) facilities while three (3) facilities recorded a good performance. The overall performance by districts show that Qacha snek performed better than all the three (3) district, followed by Quthing, Botha Bothe and Thaba Tseka. A follow up plan to facilities that performed poorly and those that failed was yet to be developed.

Procurement of Therapeutic feeding for TB patients for improve outcomes.

Evidence shows that proper nutritional care improves nutritional recovery for people who are undernourished including people with TB. In an effort to improve treatment outcomes of TB patients in Lesotho the project is supporting the procurement of nutritional supplement called Plumpy soy. In 2020, the uptake of the nutritional supplement was satisfactory with 205 facilities having it on stock. The bar chart below shows the number of TB patients provided with plumpy soy from January to December 2020.

Figure 1.1.4: TB Patients on Plumpy Soy

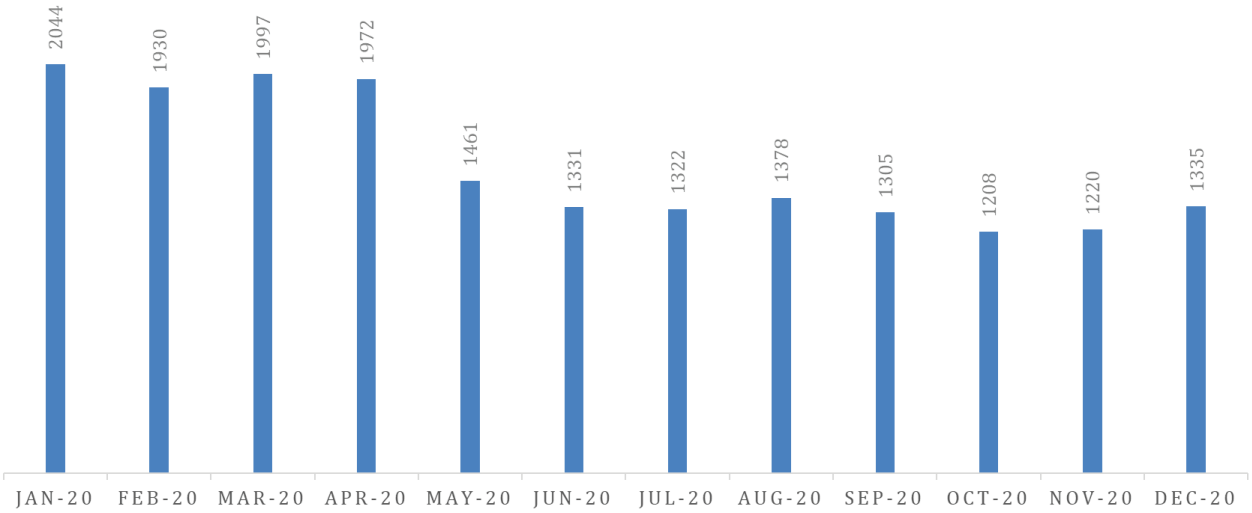


Figure 1.1.5: TB Treatment Outcomes per District

The national target on Treatment Success Rate for Lesotho in 2020 is set at 88% and for the past ten years the country's treatment success rate has not passed 80%. One of the reasons for the low performance on treatment success rate is the high case fatality which is above 10% yearly. The high case fatality rate has negatively impacted the treatment success rate. Furthermore loss to follow up and cases not evaluated were still high at 4% in 2020.

Disaggregation of the treatment outcomes by districts shows that five (5) districts achieved a TSR of at least 80% while the other districts recorded below 80%. Case fatality rate continues to be high in the ten (10) districts. Districts that had the highest case fatality rate are Quthing (18%), Berea (17%) and Qach's nek (16%).

Malawi

A number of interventions under this component were implemented during the period under review. The interventions implemented were aimed at enhancing early case detection and improving treatment success rates through the development and implementation of standardized TB prevention and treatment services.

Provide supportive supervision to review progress and mentorship (SCP, PPM, MDR TB, Infection prevention & Waste Management)

The period under review, the Project managed to carry out supportive supervision to all Project districts. The visits enabled the National level teams to work with their district counterparts on a number of areas including the provision of support to sputum collection points, MDR TB and infection prevention and waste management issues.

The visits among other activities, enabled the supervision team visit a total of 90 sputum collection points. All sputum collection points visited are functional as reviewed documentation shows that they are conducting health education campaigns, routine group meetings, collecting sputum, following up on patients.

However, it was noted that issues of volunteer dropouts are still an issue among the groups. The reasons cited for registering drop-outs include lack of monetary incentives, trekking to urban areas for employment and to a lesser extent, death.

Provide transportation and housing cost for patient to receive medical care

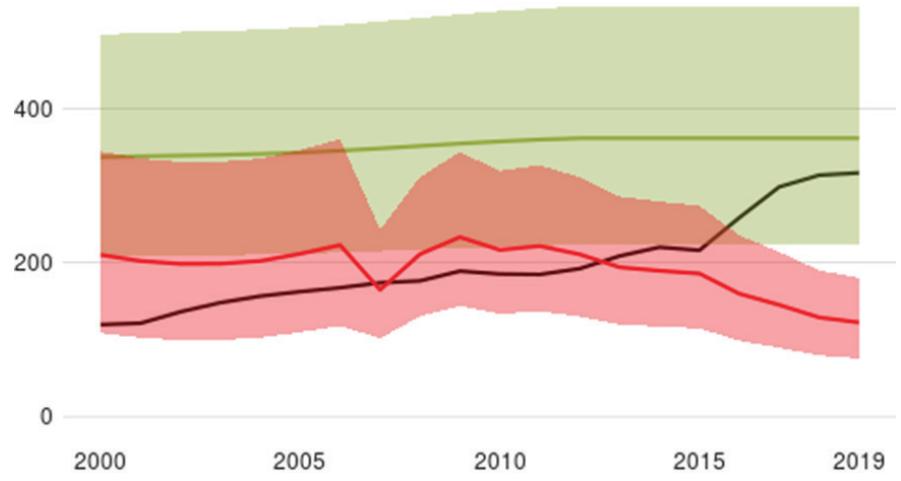
Under the period under review, the Project provided support for half way homes for 5 MDR TB patients. Halfway homes are provided to patients who mostly require referral for specialized care or have socio – economic problems that require assistance to facilitate effective treatment e.g. patients that have been forced out of the community or their housing at the time.

Mozambique

TB situation in Mozambique

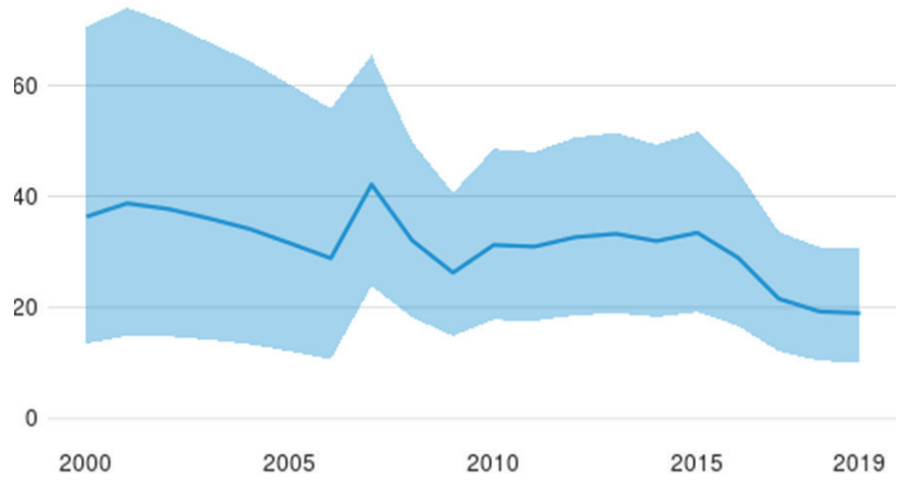
Mozambique appears on the WHO list of high-burden countries for TB, TB / HIV and MDR-TB. It is estimated that in 2019 the country had 361 new TB cases per 100,000 inhabitants (Figure 1). The incidence of TB remained stable between 2000 and 2018, and began to see a decline in incidence from 2019 (from 551 to 361 per 100,000 inhab.). TB and TB / HIV mortality has been on the decline since 2010 (WHO, 2020).

Figure 1.1.6 Incidence, reported new and recurrent TB cases, TB/HIV incidence



Source: WHO (2020)

Figure 1.1.7 Published estimates of TB and TB / HIV mortality rates with 95% CI, Mozambique 2000-2017

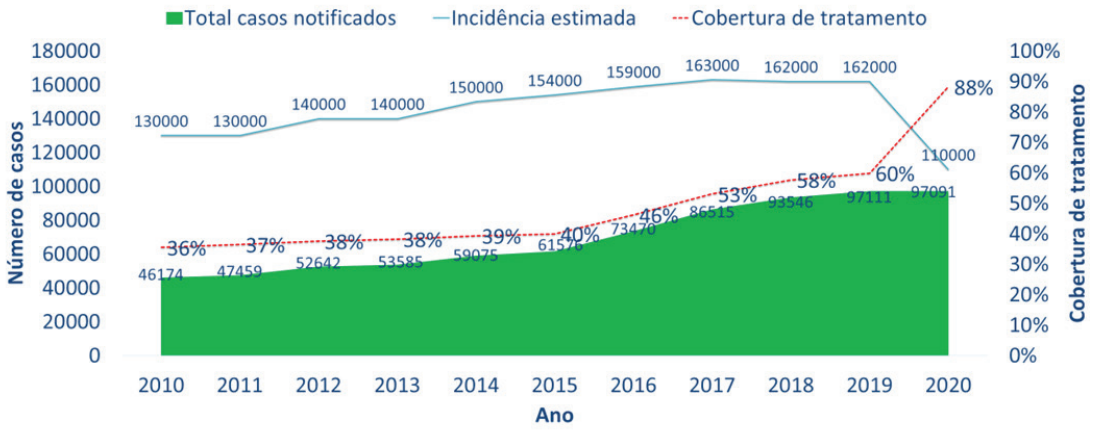


Source: WHO (2020)

Overall, TB notifications have doubled since 2010, with more dramatic increases occurring in certain provinces (for example, Gaza, Manica, Zambézia, Nampula). The discrepancy between the cases estimated by WHO and the cases reported by the PNCT has been observing a continuous reduction since 2015. That is, the coverage of treatment for TB increased from 36% in 2010 to 88% in 2020.

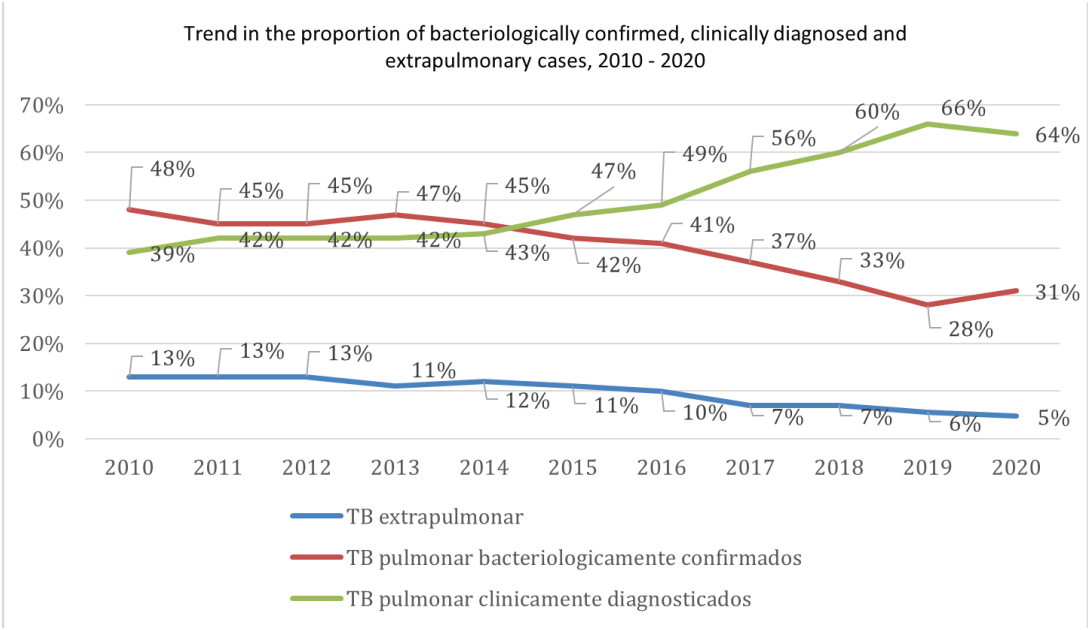
Figure 3. shows the trends in TB case reports by type: new bacteriologically confirmed, new clinical diagnosis, new extrapulmonary and retreatment until 2020, while figure 4 shows the proportion of new TB cases in these same categories. The noticeable change is the increase in the number of new TB cases that have been clinically diagnosed (smear and / or negative GeneXpert), from 22,164 in 2010 to 62,138 in 2020. This may be due to the increase in the clinical diagnosis of TB with chest radiography, clinical evaluation by HCWs with limited access to microscopy and GeneXpert. This trend can be expected in setting with high burden of HIV such as Mozambique and the increase in the diagnosis of childhood TB.

Figure 1.1.8 Number of TB cases reported (all forms), Mozambique, 2010-2018



There is a general increase in the absolute number of new TB cases confirmed bacteriologically (or with a positive smear) between 2010 and 2018 (Figure 4) where it peaked followed by a decline until 2020. In 2020, 31% of new TB cases in Mozambique was confirmed bacteriologically, a timid increase from 28% in 2019 (Figure 4).

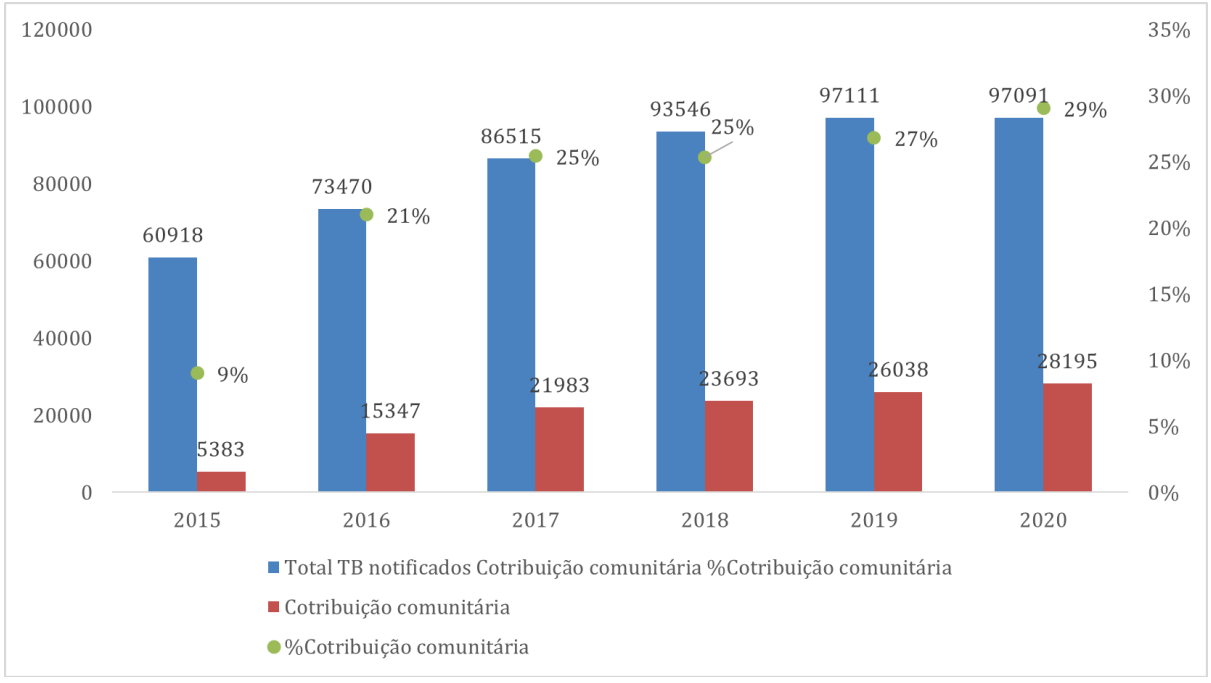
Figure 1.1.9 Percentage of new TB cases confirmed bacteriologically, clinically diagnosed (negative or unknown smear) and extrapulmonary of all new TB cases, Mozambique, 2010-2018



Fonte: NTP Annual Reports

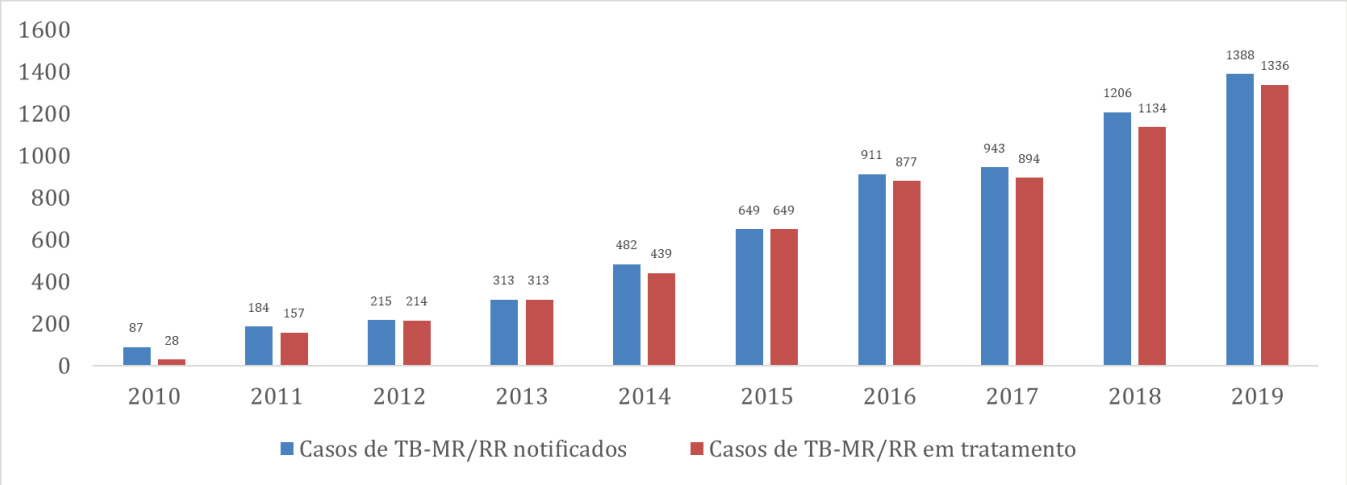
Since 2015, community health workers, community volunteers and traditional medicine practitioners have been trained to implement TB case detection activities. The proportion of cases referred by the community increased to 27% in 2019 and 29% in 2020 (Figure 5), which is similar to the 27% of TB cases referred by the community in the 61 countries that report this data (WHO, 2020).

Figure 1.1.10 Number and proportion of notified TB cases referred by the community in Mozambique from 2015-2018



According to estimates based on the 2007 national TB drug resistance survey, 3.7% (2.4-5.0%) of new TB cases and 20% (1.9-37.0%) of Previously treated TB cases have MDR / RR. The WHO estimated 4,900 new cases of MR / RR TB corresponding to an incidence rate of MR / RR TB of 16 per 100,000 inhabitants for 2019 (WHO, 2020). However, the PNCT reported 1,388 cases of TB-MR / RR, 28% of the WHO estimate.

Figure 1.1.11 Trends in notification and treatment of TB-MR / RR in Mozambique 2010-2019



The reported success rate for treatment of drug-susceptible TB was 93% in 2019, which exceeds the goal of 90% of the End TB Strategy. The country observed an increase in the treatment success rate to 61% of TB-MR / RR and 74% TB-XR from 50% and 32% of previous year respectively. NTP achieved high coverage of HIV services in a TB patient: 98% of registered TB patients knew their serological status and 97% of co-infected TB / HIV patients have started ART. TB screening and IPT coverage among new registered HIV patients have increased since 2009, 65% of PLHIV were screened for TB and 67% of eligible PLHIV received TPI (MISAU, 2019).

Regarding TB surveillance, NTP reached an important milestone conducting the first ever TB prevalence survey in Mozambique. The results were published in the global TB report released in 2020. NTP has developed the protocol for the next DRS-TB whose data collection is scheduled to start in 2021. Further, NTP started the implementation of the electronic system for individualized registration (SISTB) based on the DHIS2 system.

Innovative tuberculosis prevention, detection and treatment

Activities under component 1 support the country to improve the demand and availability of high-quality services for TB, TB-HIV and occupational lung diseases in selected geographical areas. The WHO End of TB Strategy, the Harmonized Framework for TB Management in the Mining Sector, the National Strategic TB Plan, and the annual plans of the project provided guidance for the implementation of activities from January to December 2020.

Improve case detection and treatment success

The results obtained with this project resulted from the implementation of several activities within the scope of this subcomponent. These included various demand and supply side interventions to improve early case detection and improve treatment success rates, in partnership with the various stakeholders. On the demand side, the project focused on raising awareness and improving general knowledge about TB; training key populations with TB, such as miners, former miners and their communities, to improve health-seeking behaviour, demystify TB-related stigma and strengthen community health systems. On the supply side, the project emphasized strengthening the capacity of the health system and services for key underserved populations; and praise the work of several stakeholders in combating tuberculosis in the general population.

TB Management

Improve TB case detection

The project supported several interventions to complement TB case detection efforts by various partners and focused on supporting interventions to reach vulnerable and underserved populations identified as having a high TB burden. The target populations included miners, ex-miners, their families, health professionals, correctional population, and children. The following are the interventions supported by the project to improve the detection of TB cases.

Intensified detection of TB cases

Mozambique has been intensifying the search for TB patients not diagnosed or reported by the NHS through interventions based at health facility (HF) and the community levels. At the HF level, they include (i) screening cough users; (ii) integrated TB screening at all doors of entry (regardless of risk level), (iii) TB screening in high-risk groups (eg health workers; miners and former miners; case contacts indexes; prisoners and PLHIV) and (iv) strengthening the sputum sample transport system. At the community level they include home tracking of index case contacts, screening of communities of miners and former miners. These activities, in addition to the SATBHSSP, are supported by different partners, namely the Global Fund to Combat Malaria, HIV and TB (FG) and USAID. SATBHSSP support for community activities covers the Provinces of Gaza and Inhambane, with the remaining 4 receiving partial support from FG and USAID.

Strengthening TB detection in the community

Through TB community-based activities funded by the SATBHSSP, 151,541 people from mine and x-mine workers communities were screened for TB in 6 Districts of Gaza Province. Of these, 2,786 were diagnosed for TB, of which 42% were bacteriologically confirmed. In Inhambane Province, 730 people were screened for TB and non was diagnosed.

Table 1.1.3: Trends of the TB screening cascade in a community of miners and former miners, Gaza and Inhambane, 2017 – 2020

Province	Year	# People screened	# Presumptive cases	# People diagnosed with TB	# Cases bacteriologically confirmed	Proportion of cases bacteriologically confirmed (%)
Gaza	2017					
	2018					
	2019	62,168	7,264	1,375	408	30
	2020	151,541	11,840	2,786	1,167	42
Inhambane	2020	730	37	0	0	0
Total2		**14,439**	**19,141**	**4,161**	**1,575**	**39**

Despite the restrictions related to COVID-19 response, community activities continued through telephone calls and selected home visits. This approach, associated with the integration of TB into COVID-19 diagnostic guidelines, may have yielded to higher number of people screened for TB in 2020 compared to the same period in 2019.

Strengthen of TB detection among high-risk groups (miners and ex-miners and healthcare workers)
To enhance TB case detection among high-risk groups, the SATBHSS supported TB screening at community and occupational health centres. In 2020, 5219 ex-miners were screened, of which 56 (1%) were diagnosed for TB and linked to care and treatment.

Table 1.1.4: Cascade of TB screening among miners and ex-miners, 2017 - 2020

	# Ex-/mineiros Rastreados por TB	# Ex-/mineiros diagnosticados com TB	# Ex-/mineiros diagnosticado com TB que iniciaram tratamento
2017	121	79	79
2018	8,259	41	41
2019	27,895	637	637
2020	5,219	56	56
Total	**41,494**	**813**	**813**

The number of miners or ex-miners screened has reduced considerably compared to the same period in 2019. This reduction is necessarily due to the interruption of the activities of mining companies in South Africa because of COVID-19 pandemic and the closure of the Health Centers Occupational Supported by the TIMS Regional Initiative in Gaza Province. Since the beginning of SATBHSSP, a total of 41,494 miners and former miners were screened and 813 diagnosed with TB. All miners diagnosed with TB initiated their treatment in Mozambique.

In the same period, 75,010 health professionals were screened, of which 1,500 were diagnosed with TB. The number of workers screened tends to grow each year, which may be associated with capacity installed and advocacy actions to strengthen measures of airbone infection control including TB.

Table 1.1.5: TB screening cascade among healthcare workers, 2017 - 2020

	#HCWs screened for TB	#HCWs diagnosed for TB	#HCWs diagnosed with TB that initiated treatment
2017	13,074	425	425
2018	17,787	404	404
2019	20,833	334	334
2020	23,316	337	337
Total	**75,010**	**1,500**	**1,500**

Enhancing TB case detection among children

The diagnosis of child-TB remains a challenge in Mozambique due to the challenge to obtain a sputum sample in children and the paucibacillary nature of the disease in this age group. To overcome this challenge and increase TB case detection among children, the following interventions were carried out: (i) procure devices to induce sputum and conduct gastric lavage; (ii) Develop and distribute updated guidelines for the diagnosis and management of child -TB including adolescents; (iii) integrate training child TB as part of sensitive and drug-resistant TB modules; (iv) and conduct supervision and provide technical assistance to HCWs.

During the reporting period, NTP reported 11,850 children (<15 years of age) diagnosed with TB, corresponding to 12% of the total cases reported in the same period.

Table 1.1.6: Number of children with TB reported in 2020

	# Children diagnosed with TB#	Proportion of Child-TB cases against all cases notified (%)
2017	11,198	13
2018	12,554	13
2019	12,853	13
2020	11,850	12

The reduction in child TB cases may be associated with reduction of the flow in health facilities observed during the second and third quarters despite the efforts to ensure continuation of TB services.

Key challenges

- The restrictions inherent to the COVID-19 pandemic and the closure of activities funded by the regional TIMS initiative in occupational health centers in Gaza Province contributed significantly to the reduction of coverage of TB screening activities in high-risk groups, especially miners.

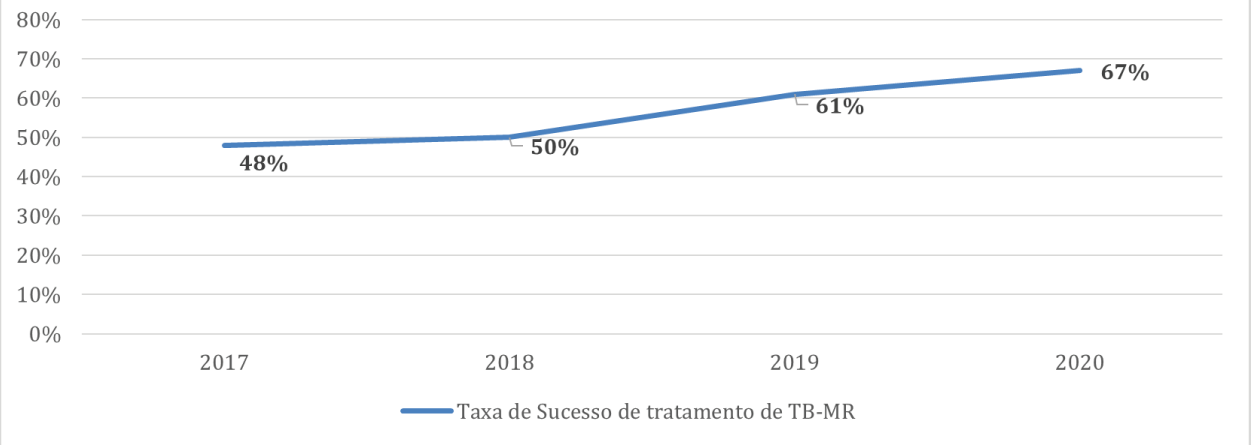
Next steps forward

- Establish mechanisms to resume occupational health services in occupational health centers in Gaza Province;
- Strengthen the integration of two-way COVID-19 / TB screening at the US and community level;
- Expand the coverage of community activities in the Provinces of Tete and Zambézia;
- Support TB screening activities at the prison level;
- Resume discussions with the South African TB Control Program to ensure referral and counter-referral of patients through an electronic platform "Cross-border Referral System" developed with the support of the regional TIMS initiative.

Strengthening treatment success

The low progress of the treatment success rate among patients with DR-TB has been the main challenge for the NTP. To reverse this scenario, NTP implemented the training of health professionals, DOTS-C, introduction and expansion of short-course regimens. As result of these and other factors, the success rate of MR-TB treatment has grown from 48% in 2017 to 67% in 2020.

Figure 1.1.12: Treatment Success Rate for MDR-TB 2017-2020.



Nevertheless, the low coverage of social protection approaches has been an important constraint. Currently, only MR-TB patients in Zambézia and Tete are receiving social support under the TB Response project funded by USAID.

Zambia

Enhancing TB case detection and treatment success

The Southern Africa Tuberculosis and Health Systems Support (SATBHSS) Project is supporting the TB response in Zambia with a focus on interventions outlined in the National TB Strategic Plan (2017-2021) hence the project is contributing to the goal of eliminating TB in Zambia by 2030. The interventions took into cognizance that over 25,000 undiagnosed and untreated TB patients which are missed annually are the main sources of TB infection. The project thus prioritized interventions which focused on creating demand and making services available to enhance early case detection and treatment to improve quality of life and reduce deaths. The following is a highlight of the progress made during the period under review.

Innovative TB Case Detection

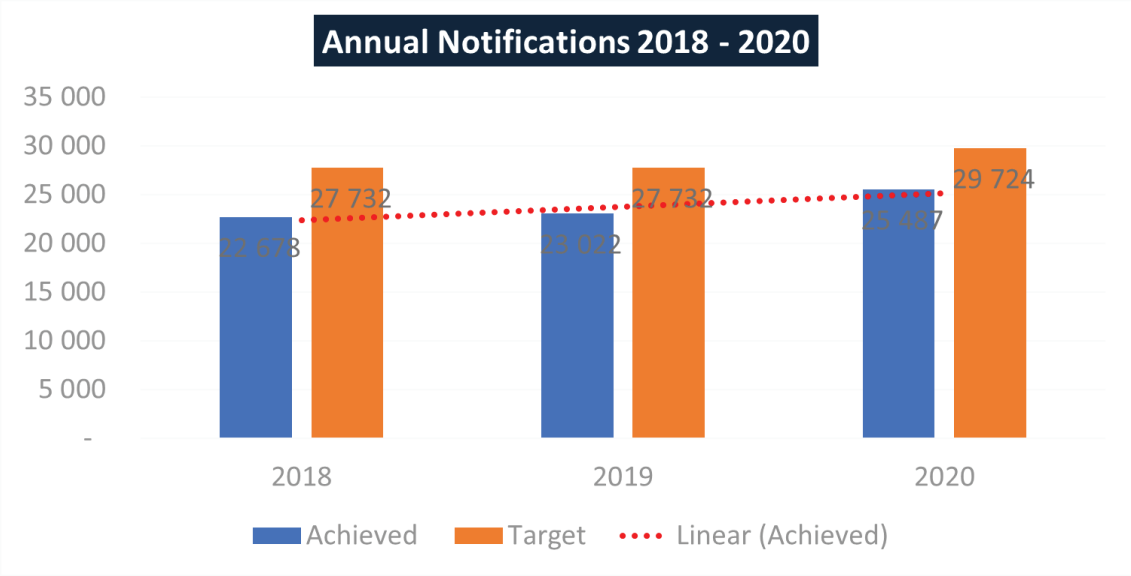
During the reporting period, a total of 25,487 TB clients were notified against a target figure of 29,727. For the first time in the history of the project, 2020 was the best performing year with quarter four being the best quarter where the achievement was above the quarterly target. The details of the contribution to the notification by district is depicted in table 1 below. Quarter two was the worst performing as the programme suffered a shock due to the outbreak of Covid-19. However, the programme came round the challenge and performed beyond all odds.

Table 1.1.7: Drug Susceptible TB Notifications by Quarter

District	Q1 - 2020		Q2 - 2020		Q3 - 2020		Q4 - 2020	
	Achieved	Target	Achieved	Target	Achieved	Target	Achieved	Target
Chikankata6	3	78	44	78	61	78	61	78
Chilanga	71	58	41	58	70	58	98	58
Chililabombwe	64	99	114	99	78	99	102	99
Chingola	220	279	254	279	295	279	382	279
Kabwe	190	269	182	269	340	269	459	269
Kalulushi	51	93	87	93	88	93	177	93
Kalumbila	55	32	16	32	70	32	52	32
Kapiri Mposhi	76	108	54	108	170	108	105	108
Kitwe	675	565	595	565	922	565	923	565
Luanshya	200	181	101	181	159	181	201	181
Lusaka	3,127	4,453	2,138	4,453	2,650	4,453	3,188	4,453
Mansa	190	211	158	211	165	211	210	211
Mkushi	74	49	27	49	35	49	34	49
Mufulira	181	176	205	176	346	176	402	176
Ndola	653	543	509	543	978	543	1,319	543
Shibuyunji	7	26	10	26	15	26	22	26
Sinazongwe	25	34	25	34	46	34	67	34
Solwezi	168	138	118	138	182	138	143	138
Zimba	24	39	36	39	26	39	18	39
Total	**6,114**	**7,431**	**4,714**	**7,431**	**6,696**	**7,431**	**7,963**	**7,431**

The annual notifications were compared from 2018 to 2020, which shows a positive gradient as illustrated below in figure 2. This was besides working in very difficult conditions because of the Covid-19 pandemic and extended load shading. Further, the national Data Quality Audit (DQA) report of 2019 shows that the level of underreporting and under notifications contributed to low notifications, which were reported at 17% and 33%, respectively.

Figure 1.1.13: Annual TB Notifications 2018-2020



It is now documented with evidence that part of the missed cases is not only due to poor case detection but also largely due to poor documentation especially at facility level. This is a low hanging fruit and part of the focus for the current implementation period. The magnitude of under reporting is relatively comparable to the findings in inventory studies done in the region, i.e. Malawi, South Africa and Kenya, of which the range was between 18 to 38% (NTLD, 2015). During the same period, the overall treatment success rate for drug susceptible TB was slightly below the target of 90% by 0.5%. With regards to DR TB, 535 were reported to be on treatment of which 116 either completed treatment, were lost to follow or had died. About 96% of all clients received nutrition and transport support.

Under the SATBHSS project, the following strategies were implemented to create demand in the general population for them to access available quality TB services.

a. Raising awareness about TB to create demand

The NTLP embarked on a number of activities to raise awareness in order to create demand for TB services and advertently alleviate the stigma. The programme optimized the World TB Day commemoration and undertook different demand creation activities. Among them was the dissemination of TB messages to the general population through the use of print and electronic media (such as television, radio and local newspapers), involvement of seven traditional leaders and use of the national soccer icon Kalusha Bwalya in disseminating TB messages through airing of the videos developed and use of electronic and static billboards. However, use of community volunteers to conduct community drama, door-to-door campaigns and distribution of Information Education and Communication (IEC) materials could not be undertaken due to the COVID -19 preventive and control measures instituted by the government. These measures have, however, been relaxed with effect from end of May as long as the staff and volunteers can adhere to preventive measures of always wearing a cloth mask when in public, social/physical distancing of at least 2 meters and use of hand sanitizers and washing of hands regularly.

The 2020 SATBHSS Annual Work Plan focused on strengthening community-based activities at district/facility levels to increase TB case detection, notification and treatment success through training of NHC, TB treatment supporters and Health Care Workers at facility and district levels. In addition, the provision of equipment for diagnosis of TB, support for intra-district and inter-district courier system, and piloting of the performance-based financing were some of the key activities undertaken in the quest to improve quality and availability of human resources in the target areas.

b. TB Diagnosis and Support

Strengthen community outreach activities to improve active case finding and contact tracing: given the low occurrence of active case finding and sub-optimal contact investigations, which is partly a result of weak community outreach programs, the NTLP invested in revamping community outreach activities. One way of doing this is by creating incentives (financial or otherwise) for community workers, most of who are currently working voluntarily. Strengthening community outreach will also help in the control of DR-TB by strengthening patient follow ups which improves adherence to treatment. To that regard, the project has rolled out the RBF (Result Based Financing) program to all the nineteen districts with a deliberate focus on strengthening community structures.

Strengthen the M&E framework especially at the lower level for better management of TB data: the survey found that at the lower levels, data management is done manually, which is strenuous bordering on data quality. Additionally, data management for community activities such as contact investigations are quite poor and lack proper and standardized registers with facilities having to use improvised ones. The NTLP is actually working towards digitalising data management to improve efficiency, including the introduction of community DHIS2, laboratory information system (Data2Care) and SMART CARE. SMART CARE will be for patient level data and DHIS2 for aggregate data.

Develop Standard Operating Procedures (SOPs) and algorithms for systematic screening and TB assessment of contacts in order to improve the management of contact tracing: current contact tracing activities are performed without proper guidelines and clear definitions of an index and a contact. There is also no established algorithm on how to screen and assess TB contacts. As a result, each facility is following different processes convenient to them. In facilitating to fill this gap, NTLP updated standard registers for contacts that hardly existed, which have been printed and distributed to all health facilities. Furthermore, NTLP developed, printed and distributed the algorithms for screening TB including contacts. To strengthen this position further, NTLP oriented TB Coordinators and Nurses in TB guidelines to help standardise the management of TB and contact tracing. The orientation emphasised that every level of the health service including the community should be aware of the high burden of TB and should use every opportunity to screen clients and patients for TB at every entry point into care and the community.

Strengthen the system of administering IPT to PLHIV who have latent TB infection: The survey found that the system of administering IPT is generally weak. The NTP should strengthen this system by first providing clear guidelines on how to manage PLHIV who test negative for TB. Secondly, the survey found poor record keeping regarding IPT. The NTLP should come up with a system of ensuring proper data management for IPT services. Strengthen the provision of nutritional and psychosocial counseling support to DR-TB patients to accelerate treatment: While Zambia is making important interventions in the control of DR-TB, nutritional and psychosocial counseling services are limited to a few health facilities. This needs to be improved by ensuring all health facilities providing TB services initiate DR-TB patients on nutritional programs and start providing counseling. This will improve adherence.

c. Mobile phone text messaging, using the short messaging service (SMS)

Awareness messages were also sent through short message system (SMS) on the two leading mobile networks (Airtel and MTN) in the country during the World TB Day commemoration. One of the well-received messages read, ***"Did you know that TB is curable? Go for TB testing at the nearest health facility today. TB testing and***

treatment is free and available. Kick out TB". An estimated 3 million people were reached with these messages. Feedback from the community at different health facilities indicated that the SMS were well received as more clients visited the facilities as a result.

d. Intensified TB Case Finding and Active TB Case Finding

During the reporting period, a total of 12,835 clients were detected through active case finding activities at correctional facilities, communities and among health care workers against a target of 7,000. The diagnosis provided that 6,073 were bacteriologically confirmed cases, whereas 6,762 were clinically diagnosed. The ACF and ICF activities were, however, halted due to the outbreak of COVID-19. Unlike this year, the facilities were well equipped with cartridges but could not fully undertake the activities due to the delay in approval of the 2020 budget as well as the outbreak of the COVID-19.

e. Public-Private Mix (PPM)

The project conducted sensitization meeting of mineworkers in all the 11 Large Scale Mining Companies on the Copperbelt and North-western Provinces. This resulted in a total of 2,961 mineworkers being reached with key TB messages. The sensitization of mineworkers was preceded by orientation of Human Resource and Occupational Safety and Health Managers from the targeted mining companies and a total of 22 managers were trained. The pictures below show the miners listening to the dissemination of TB messages from project implementation partners and stakeholders that included staff from MoH, MLSS, MSD, Ex-miners Association and Mine Workers Union.

Figure 1.1.14: Dissemination of TB messages to miners

Furthermore, the Ministry of Health through the National TB Program noted that there was a huge gap in the number of TB cases that the country was notifying and a number of factors were attributed to under notification. The associated factor was lack of reporting of TB cases by Private Health Facilities. The fact that there was a considerable part of the population who sought medical care from the private health facilities, made the Ministry initiate a private health facility mapping across the country. In most of the cases, the patients who sought medical care from the private health facilities were never notified to the National TB Program leading to under reporting. To that effect, the Ministry of Health through the Permanent Secretary's office directed that they report all presumptive and confirmed TB cases with immediate effect. In addition, the Head of private health facilities, were now expected to reach out at their respective District Health Offices for reporting tools and further guidance and support.

Results / Findings

A total of 188 private health facilities have been visited. The following figures summarize the progress made so far.

Table 1.1.8: Number of Health Facilities Mapped so far

Province	Number of Health Facilities%	
Copperbelt	70	37
Southern	27	14
North Western	23	12
Lusaka	17	9
Central	13	7
Muchinga	12	6
Western	10	5
Eastern	95	
Luapula	42	
Northern	3	

The health facilities mapped were further categorized as either being a clinic, hospital, laboratory or hospice. The majority of the facilities fell in the category of clinic at about 70% and lowest was hospices, which were recorded as 2%. Table 2 highlights on the overall distribution by type of facility.

Table 1.1.9: Type of Health Facility

Type of Health Facility	Number	%
Clinic	131	70
Hospital	52	28
Laboratory	32	
Hospice	32	

The other variable that was considered during the mapping exercise of private health facilities was the nature of business that they are involved in. this was broken into four broad categories of being for profit, affiliated to a company, faith based organization or non-governmental organization. About 75% exist because they are either existing for profit or are affiliated to a company. This is detailed in table 3 below.

Table 1.1.10: Nature of Business

Nature of Business	Number	%
For Profit	99	53
Affiliated to a Company	42	22
Non-Governmental Organisation	74	

In terms of provision of TB services, 71 % indicated that they provide some type of TB services, whilst 29% do not provide any TB service. The Table below summarizes reasons cited for not providing any TB service.

Table 1.1.11: Reasons for not providing TB services

Reasons for not lack of provision of TB services	Number	%
Inadequate or lack of screening and/or diagnostic tools/equipment	32	17
Other Reason(s)	27	14
Inadequate knowledge about TB	15	8
Inadequate Human Resource to provide TB services	10	5
No Financial Capacity	53	

The figure 1.1.15: below shows the type of TB services provided (%)

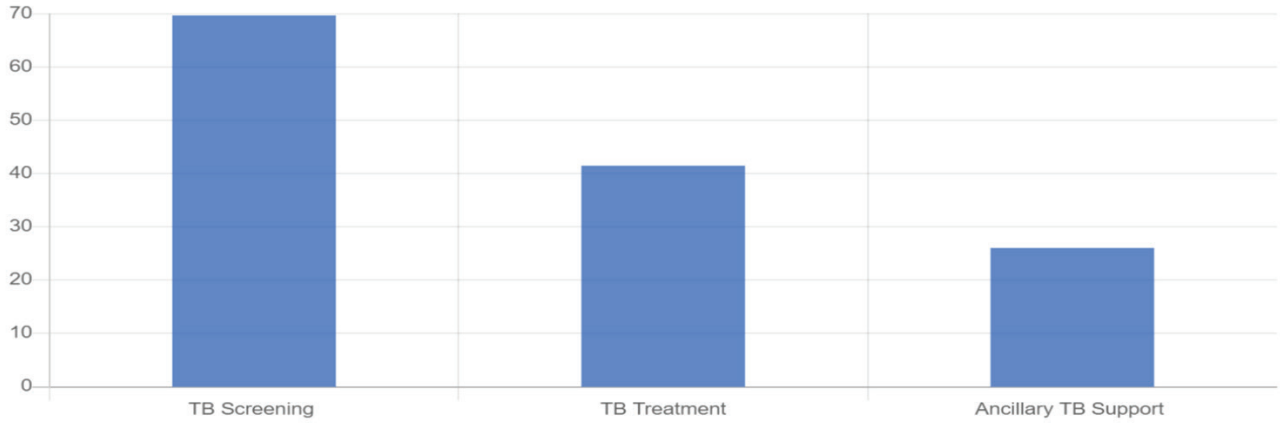
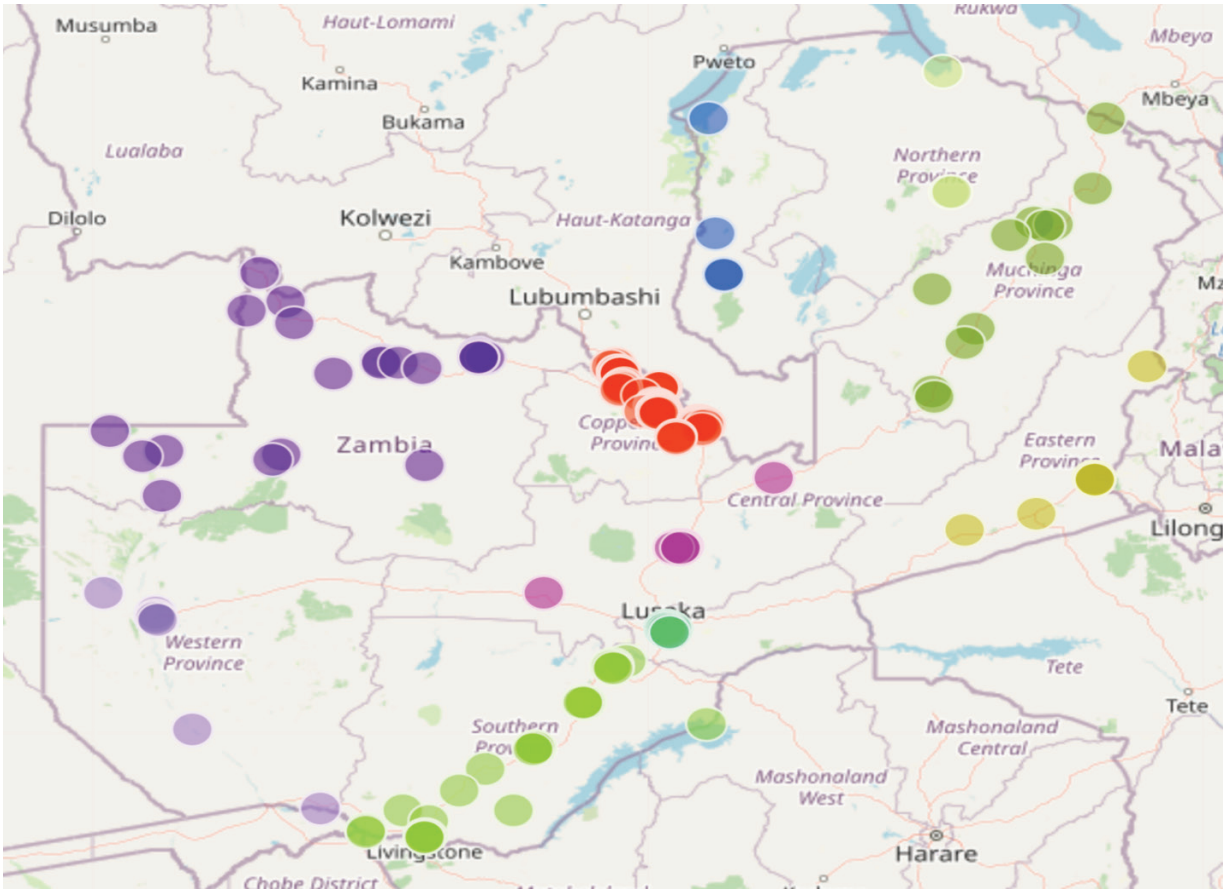


Figure 1.1.16: Distribution of private health facility across the country



f. Result Based Financing (RBF)

RBF continues to be implemented in all project target districts. New indicators have been developed to ensure that they contribute to case detection, initiation on treatment and treatment completion. Some of the achievements recorded at local levels include funds used to build TB corner at Luangwa clinic and procurement of other necessities for patients such as glucometers, hand held thermos scanners and cooler boxes for carrying sputum containers.

Figure 1.1.17: Pictures showing constructed TB corner & glucometer at Luangwa and Buchi clinics

TB corner at Luangwa Clinic in Kitwe

Buchi Small Clinic in Kitwe

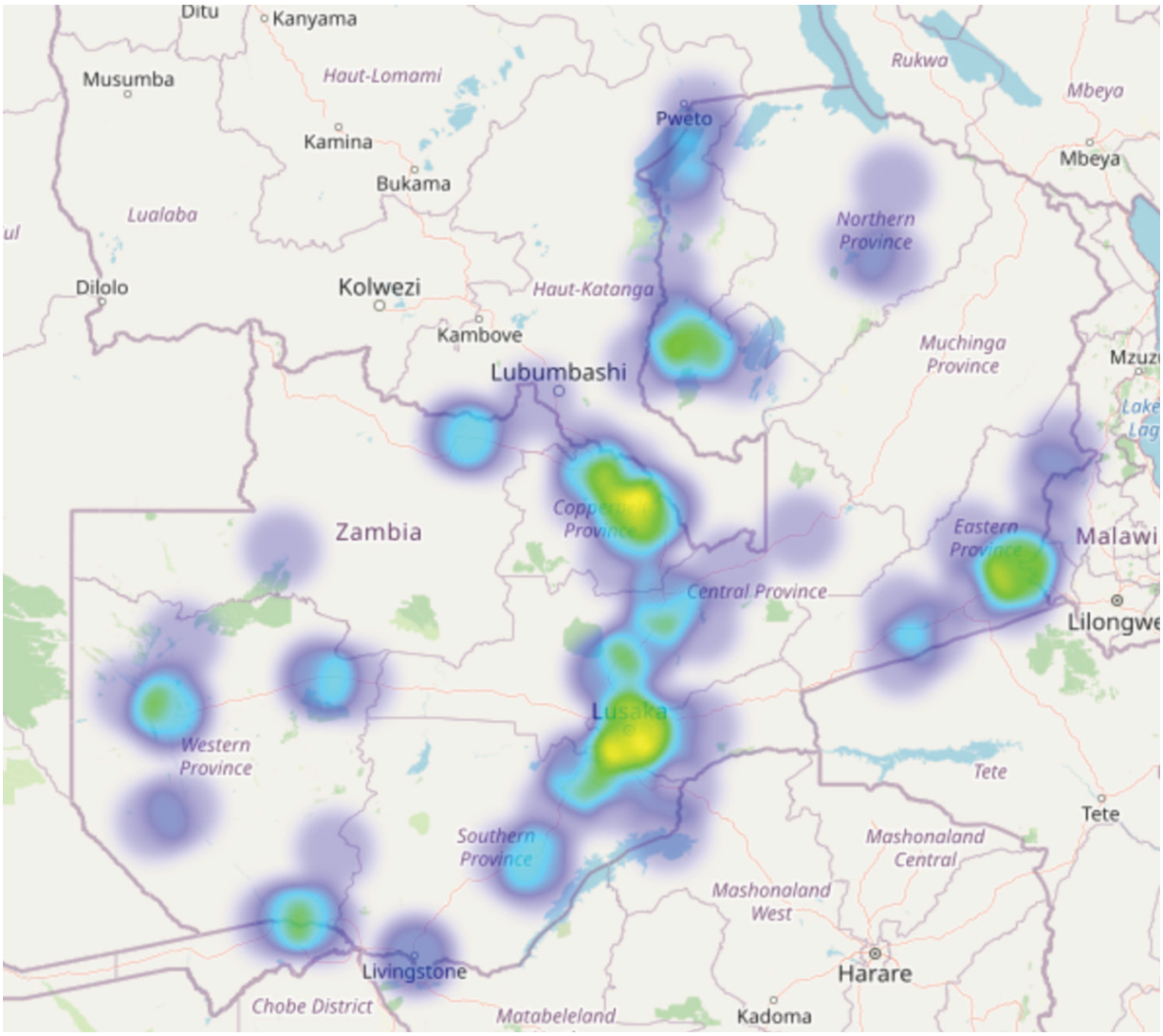
g. TB Patients Mapping

Over 565 MDR/RR patients have been mapped countrywide, out of an existing 635 at the time of reporting. Lusaka, Copperbelt, Western and Central provinces accounted for the highest number of MDR TB patients mapped. The geospatial mapping enabled the project to pinpoint the TB hotspots in selected communities, which were identified with high risk groups as a strategy to find the missing TB cases.

It has been established that some of these had completed treatment, died or re-located. The mapping exercise commenced November, 2019. Through this exercise, the treatment status of some DR-TB clients who were diagnosed but not initiated on treatment has been verified and these patients are being initiated on treatment. This exercise is also informed the DR-TB contact tracing which was conducted early this year. Of note is the data for Muchinga Province, which is yet to be uploaded.

The geospatial mapping is earmarked to further inform other interventions such as the placing of DR-TB community nurses as well as support routine surveillance for TB in identified households.

Figure 1.1.18: Number of DR-TB patients mapped by Province



Challenges in Mapping

The following setbacks were experienced whilst implementing this activity:

- Inadequate availability of logistics (fuel, transport and allowances) to conduct the activity in far flung areas
- Long distances to the residence of some DR-TB patients

Challenges in Case Detection

There has been progress in TB control. Some challenges have also been identified and need to be addressed in the way forward. Stigma towards TB is still an issue of concern. On a study conducted by the MoH (TDRC) in collaboration with the CDC revealed that 76% of miners are not willing to disclose their TB status to their employers, and 24% in the study would not disclose their TB status to their supervisors, inversely, 24% of the study participants said they would not share their TB status with their spouses or partners. This is a source of

concern as miners are afraid to share their status for fear of loss of employment. This is attributable to the current legislation governing TB in the mines which is under review.

Some of the private health facilities do not report TB cases to the National TB program as evidenced through the project baseline. This could account for some of the missing TB patients. Low index of suspicion among frontline health care workers is a key contributing factor to low case detection, together with limited number of health care workers with skill set to diagnose extra-pulmonary TB.

Observed gaps in TB case detection

Despite early gains in TB case detection, there are some gaps. The X-ray survey done by the MoH showed that 15.5 % of the 2,955 health facilities ranging from first, second and tertiary level do not have functional radiography (chest X-ray) which is an essential sensitive diagnostic tool. However, this survey only considered facilities with existing Chest X-ray machines. Countrywide, there are only 40% of health facilities with TB microscopy coupled with knowledge gap in diagnosis of extra-pulmonary TB and childhood TB. Inadequate expertise in reading of chest X-rays; inadequate funding and health personnel to support TB screening in key populations such as inmates and refugees; and inadequate tools for diagnosis of Childhood TB, such as sputum induction machines. Other gaps include inadequate skills to undertake Childhood TB diagnosis such as gastric lavage.

Currently, there are only three laboratory facilities with capacity to conduct Phenotypic and Genotypic culture/DST, and two of these are in one province. DR-TB surveillance is done using genexpert and all the Rifampicin Resistance (RR) is subjected to Genotypic and Phenotypic DST at the 3 Culture facilities. Sputum courier to the culture facilities has been a challenge as there is no dedicated courier system. Facilities send the RR samples as and when they have transport heading in the direction of the Culture facilities.

The SATBHSS project provided nutritional and transport support to 627 MDR-TB patients. Early gains are that patients who were lost to follow-up have been brought back on treatment. Similarly, the health condition of patients has notably improved since initiation of the support. Similarly, all DR-TB patients and their families receive psychosocial counselling treatment adherence. As a result of the above mentioned interventions, there has been a perceived positive change in treatment outcomes for both susceptible and drug resistant TB.

Summary of Achievements

- 25,487 TB cases notified despite the COVID-19 pandemic against a target of 29,727
- Treatment success rate dropped by 0.5% to 89.5% compared to last year and against a target of 90%
- DQA response strategy in use to guide targeted TB control and management per district/province
- Procurement/availability of sputum induction machines
- Onsite training of HCW's in gastric lavage using the newly acquired equipment
- Onsite orientation of HCWs in revised recording and reporting tools in TB management
- TB IPC on-site mentorship were held in all 10 provinces integrating COVID-19 prevention and control among health care workers during the IPC assessment reaching about 400
- HCWs
- Scorecard for TB and dashboard IPC have been developed
- Enhanced use of zoom platform for TB situation room for data reporting and mentorship during the COVID-19 pandemic reaching all districts and provincial teams and partners
- Mapping of private health facilities dealing with TB
- 655 MDR-TB clients receiving nutritional support
- All MDR-TB patients being reviewed at district level

2.1.2 Sub-component 1.2: Rolling a Standardized Package of Occupational Health Services and Mining Safety Standards Across the Four Countries

Regional Level
AUDA-NEPAD

The AUDA-NEPAD in collaboration with SADC Secretariat and the TIMS project supported the development of a regional harmonized Code of Practice on the management of Occupational Lung Diseases. The code of practice aims at strengthening the project countries' capacity to prevent, diagnose, and treat occupational lung diseases in the mining sector. The regional harmonized Code of Practice will be adapted and implemented by countries to strengthen their systems for management of occupational lung diseases.

The study on the State of Mine Health Regulation and Occupational Health and Safety Services noted that project countries do not have up to date occupational exposure limits. The lack of OELs was highlighted as an impediment to compliance monitoring and occupational hygiene in the mines. As part of responding to the report's recommendations, the Government of Mozambique has drafted OELs that are currently being reviewed at the national level. Technical assistance has therefore been provided to Mozambique to ensure that the draft OEL meet international standards. Exchange learning has been facilitated with the Department of Labor of South Africa to facilitate regional learning and knowledge exchange.

A regional mine inspection compliance tool was finalized through the community of practice on occupational health and safety. The tool aims at strengthening the monitoring of compliance to mine health regulations by mining companies. The tool is being piloted in Lesotho and Zambia. It is expected to be rolled out in other countries in 2021.

The implementation of Occupational Health Information Systems has been initiated in Zambia to strengthen the prevention, surveillance and management of occupational lung diseases and compensation. Implementation and data governance workshops for Zambia have been concluded, following which the steering committee, technical committee, and risk assessment committee were established. The IT governance workshop also discussed data hosting arrangements. System requirements specification and architectural design have been completed. Work is on-going on the development of Backend Schema and Database mapping for the system development. It is expected that the roll-out of OHASIS in Zambia will draw lessons to be utilized for implementation in the other countries.

Lesotho

Infection prevention and control (IPC) including TB Screening for Health Care Workers

The Ministry of Health IPC national team with technical with financial support from Eastern, Central and Southern African Health Community (ECSA-HC) conducted a series of trainings on Infection Prevention and Control for health care providers, districts rapid response teams and other key essential service providers from different sectors as part of capacity building to respond to the COVID-19 pandemic. The trainings were conducted from April to May 2020 and total of 440 Health Care Workers were trained. The trainees included Doctors, Nurses Hospital Administrators, Human Resources Officers, Environmental health officers, Laboratory staff, Pharmacy staff, Laundry, Mortuary, Cleaners, and Psychotherapists.

Health Care Workers fall in the category of high risk group due to their high vulnerability to TB infection. Under this project a total of ten (10) wellness centres were established and provided with equipment to intensify TB screening among health care workers. To date five (5) wellness centres have been established and are operational. In 2020, the plan was to operationalize five (5) additional wellness centres. The process was delayed due to national COVID-19 lock down restrictions. During this period active TB case finding on the established wellness centres was not performed. Only passive TB case finding was conducted as shown on the table below.

Table 1.2.1 TB case detection among HCWs (January - December 2020)

Wellness Centre	HCW screened for TB	Presumptive cases	Diagnosed with TB	Initiated on TB treatment
Ntsekhe Hospital	33	30	1	1
Maluti Hospital	684	15	1	1
Motebang Hospital	91	7	3	3
Mamohau Hospital	1	0	0	0
Scott Hospital	17	2	2	2

Malawi

Training on technical and occupational health service (long term training)

In a pursuit to support the Human Resource base for the country in occupational health, the Project facilitated the finalization of the application processes for one Medical Doctor who has been accepted into a Masters' Degree in Occupational Medicine at the University of Cape Town in South Africa. This would be the fourth Officer to be supported by the Project for a post-graduate qualification after 3 others who already qualified for the award of Masters' degree.

Mozambique

Implementation of the standardized package for occupational health and safety services in the mining sector.

In order to develop a standardized package of occupational services, MISAU, through the National Program for Occupational Health Services, planned the following activities:

- Strengthen the capacity to implement occupational health services through the development of clinical protocols for occupational lung diseases;
- Elaborate the National Strategic Plan of the National Occupational Health Program
- Strengthen the information system through the elaboration of registration and reporting tools.

Strengthening the capacity to implement the standardized occupational health services package

To address low capacity of health professionals to offer occupational health services in line with the international standards, PNSO complete in 2020 the development of national guidelines for the screening, diagnosis and management of occupational diseases. In parallel, PNSO concluded, with technical support from the World Bank and AUDA-NEPAD, the preliminary version of the strategic plan of the program for 5 years and is currently awaiting comments from AUDA-NEAPAD on the final version.

During this period, 5,219 miners and former miners were screened for occupational lung diseases.

Strengthening of the PNSO Information System

The lack of registration and reporting tools constitutes one of the main obstacles to stregnthen occupational disease surveillance in Mozambique. In this context, PNSO initiated and concluded, with technical support from AUDA-NEPAD, the development of data recording and reporting instruments. Currently, they are in the process of inserting it in the electronic platform of the Electronic Health Information System of MISAU based on the DHIS2 system.

Zambia

The three main activities funded under this subcomponent include: (i) strengthening the capacity of public sector agencies responsible for mine safety to undertake inspection of mines with an emphasis on determining mine dust levels and control measures put in place; (ii) expanding periodic screening and referral for occupational lung diseases and other diseases in line with standards set within the sub-region and international best practices; and (iii) developing/strengthening care programs for occupational lung diseases. The project in Zambia is currently providing a comprehensive package of occupational health services through OHSI, MSD, OHSD and health facilities using a multi-sectoral approach.

Environmental Monitoring in Mines, Quarry areas and Related Industries

Inspection of mines is a function of the Mines Safety Department under the Ministry of Mines and Minerals Development. Under the SATBHSS Project, inspectors from both MLSS and OHSI have been co-opted into the MSD inspectorate team. The main essence of undertaking the inspections include prevention of the production of inhalable dust at source, prevention of hazards at work places and conduct of mining activities to prevent exposure. The other reasons include raising awareness on workplace safety, health and environmental protection while enforcing compliance with OSH laws in mining and related operations.

With regards to Project implementation, the Mines Inspectorate key performance indicators include counting the number of mines inspected at least twice in a year and checking those that remain compliant with national laws and regulations. To that end, MSD uses the first inspections to identify non compliances in the workplaces, issue appropriate directives to ensure compliance. In addition to identifying new non-compliances, the second inspection visit is also used to check compliance to all directives issued in the first inspection visit using the Actionable Issues Tool.

Screening for Occupational Diseases

Tuberculosis and silicosis in mine workers have been classified as occupational lung diseases (Workers Compensations Act No.10 of 1999). The OHSI is mandated by the Workers' Compensation Act No. 10 of 1999 to carry out medical examinations of all prospective, current, and former miners in Zambia by administering initial, periodic (annual), discharge, and post-career medical examinations of miners, and is charged with analyzing and reporting surveillance data on occupational lung diseases in the mining sector.

Key achievements

The department of OSH under MLSS was able to train 20 ex-miners in Mkushi to form a cooperative to undertake income generating businesses. However, other trainings in targeted districts and follow ups could not be undertaken due to the restrictive COVID-19 control and preventive measures instituted by the government.

ToRs for mapping of ex-miners were revised after feedback from the World Bank and final submission made and to be uploaded into STEP for a no objection. The OSHD has been able to provide specifications for various OSH monitoring equipment and computers for Procurement. Then MLSS has also been able to finalize development of the Communication and Advocacy Strategy for miners and ex-mine workers. Progress has also been made towards the finalizing the development of the National OSH Policy in progress

The Mine Safety Department (MSD) extended its coverage and identified a total of 301 active mining companies across the country of which 87 were inspected during the reporting period in 2020 in 18 districts, which is 29% achievement against a target of 60%. During the inspections, 191 issues were raised with 87 mining houses and 32 of them closed resulting in 16.8% compliance. Personal Hygiene materials provided to staff for prevention against OVID-19 (Hand sanitizers, Hand Soap and Disinfectants) and guidance on use of mouth pieces for breathrizers was provided to the mines. The MSD also had a few civil works outstanding from 2019 and completion is at 98% which has resulted in improved work environment and motivated staff.

For the period under review, OHSI screened a total of 71,218 miners (67,328) and ex-miners (3,890). The number of miners screened in the first half of the year dropped by 12.7% from what was recorded during similar period last year which can be attributed to the COVID-19 pandemic and measures put in place. Table 5 below shows the number of category of workers screened and their respective contribution to overall screening.

Table 1.2.2: Number of Workers Screened by Category

Category of Workers	Number Screened	Proportion Screened
Ex-miners	3,890	4.4%
Miners	67,328	76.8%
Non Miners	1,297	1.5%
Independents	15,150	17.3%
Private Clients	46	0.1%
TOTAL SCREENED	**87,711**	**100.0%**

Out of the total screened, 51 clients were found with Pulmonary Tuberculosis and initiated on treatment; 18 where found with Silicosis and 4 had both TB and Silicosis. During the same period under consideration, 231 miners and ex-miners were certified, 186 were receiving compensation (80.5%) and 45 certified but not yet receiving compensation.

Table 1.2.3: Miners and Ex-miners certified and being compensated

Certification Status	Number of Miners & Ex-miners
Outreach Screening of Miners	17,277
No. eligible for compensation	231
No. certified, not compensated	45
No. certified, receiving compensation	186
Proportion certified, receiving compensation	80.5%
No. referred to health facility	**51**

Awareness raising on OHS among miners was done through an advert running on ZNBC TV twice a week for 8 weeks; running 1 program on radio in five languages and production of calendars.

Some of the key lessons and best practices include the collaborative programs among OHS stakeholders have led to improvement in efficiency of the implementing agencies in terms of carrying out their mandates in management of occupational safety and health. This collaborative approach has helped in easing the transport and dust sampling equipment problem.

The MSD continues experiencing transport challenge as new fleet is awaited. Other challenges include lack of knowledge on safety and health among Artisanal miners; inadequate dust sampling instruments, continued use of dust analysis laboratories under the mines which compromises results credibility, an increase in mine accidents related to contracted firm employees and lack of legislation to facilitate resource mobilization to sustain MSD operations after the project life span.

2.2 Component 2: Regional Capacity for Disease Surveillance, Diagnostics, and Management of TB and Occupational Lung Disease.

2.2.1 Sub Component 2.1: Improving quality and availability of human resources in the target areas

A. Training and human resource development

As part of continued national-level capacity building, ECSA-HC supported several training and capacity building workshops to enhance the countries' capacity to deliver on project objectives. The training activities prioritized, and carried out in year 3, were as follows:, 1,357 trainees were trained in the following areas covering all the countries in most of the training (certification as African Society for Laboratory Medicine – ASLM Step Wise Laboratory Quality Improvement Process Toward Accreditation (SLIPTA) auditors, Laboratory Quality Management System (LQMS) Mentors, LQMS and ISO Standards, implementation of 1st and 2nd line drug susceptibility test using line probe assay, laboratory based surveillance, Threats Hazards Identification and Risk Assessment (THIRA); infection control and health care workers .

The AUDA-NEPAD supported training for key personnel on occupational health and safety. A total of 26 medical doctors and radiologists from Zambia were trained on ILO chest X-ray classification in collaboration with the University of Cape Town. The training was aimed at strengthening capacity for diagnosis of occupational lung diseases. Forty mine inspectors were trained in collaboration with TIMS project on dust control and Risk Assessment as part of strengthening public sector capacity to conduct inspection. In addition, as part of response to COVID-19, the AUDA-NEPAD, in collaboration with AUC, ECSA-HC, ILO, Department of Labor and Department of Health of South Africa, spearheaded online training programme on different areas COVID-19 workplace response. A total of 2201 participants were trained.

Lesotho

The project continued to support critical human resource in the provision of quality TB and occupational health services. At the national level, four (4) M&E officers and two (2) technical staff namely the Childhood TB training and Program Officer and National Community TB and Leprosy Programme Manager were still in place at NTLP. In strengthening the laboratory services the project is supporting the Laboratory mentor and Laboratory Technologist. Implementation of the project activities in the Ministry of Mining and Ministry of Labour and Employment was strengthened with the engagement of the OSH Specialist.

Malawi

In a pursuit to support the Human Resource base for the country in occupational health, the Project facilitated the finalization of the application processes for one Medical Doctor who has been accepted into a Masters' Degree in Occupational Medicine at the University of Cape Town in South Africa. This would be the fourth Officer to be supported by the Project for a post-graduate qualification after 3 others who already qualified for the award of Masters' degree.

Mozambique

According to the 2017 annual report of the National Directorate of Human Resources (MISAU), the distribution of human resources is not equitable when compared to the density of the population. The ratios in Nampula and Zambézia, despite being the high populated provinces, are the lowest. This fact is aggravated with the high proportion of less qualified professionals and high internal turnover of health personnel and for national and international organizations. In this context, 146 health professionals were trained on diagnosis and management of occupational lung diseases. The clinical tutorial activities for TB and other training planned for the current period did not take place due to the restrictions associated with the COVID-19 pandemic. Alternatively, technical support sessions were held using communication technologies financed by SATBHSSP.

Zambia

For the 2020 implementation plan, a number of quality improvement activities for available human resources were highlighted, even though a substantial number of these activities have not been undertaken yet. So far, only preparations have been initiated awaiting the opening up of certain sectors of the economy within the region that were closed due to the outbreak of the COVID-19 disease. Two Industrial Hygienists are scheduled to obtain Master Degree in Occupational Health and Safety and have already been registered with the Copperbelt University. Further, 23 doctors were trained in A-reading while 4 were trained doctors (1 Radiologist, 1 Pathologist, 1 Laboratory Scientist, 1 Radiographer).

The orientation of staff in Miseq sequencing techniques; training of an Equipment Officer in equipment service, maintenance and calibration; training of Inspectors in Risk assessment and OSH audits/ Industrial laboratories management and Training of laboratory staff in drug susceptibility testing could not take place due to the outbreak of Covid-19 pandemic and have been planned for execution in 2021.

2.2.2 Sub Component 2.2: Strengthening diagnostic capacity and disease surveillance

A. Global Health Security/Disease Surveillance, Preparedness and Response

As part of strengthening cross-border surveillance and emergency preparedness and response, the project supported and or provided technical assistance in a number of areas to ensure enhanced capacity of preparedness and response. These areas are as follows: ***(i) Cross-border disease surveillance and response -*** to date, the project has established 12 of the 26 identified cross-border zones between the 4 project countries and their neighbours that are not in the SATBSS project (i.e. South Africa, DRC, Tanzania and Zimbabwe). The innovation of cross-border zoning and establishment of committees has provided a platform for enhanced cross-border collaboration between districts of neighboring countries through establishment of formal and informal communication channels, implementation of joint work plans and joint outbreak investigations among others; (***ii) capacity enhancement on preparedness and response.*** ECSA-HC has conducted capacity building of zonal members through trainings like Threats and Hazards Identification and Risk Assessment (THIRA), donning and doffing and table top simulations; ***(iii) Simulation exercises:*** following the declaration of the DRC Ebola outbreak as a threat of international concern, countries have enhanced their preparedness. To test the level of preparedness, ECSA-HC supported the planning, execution and after-action review of Field Simulation Exercise in Lesotho and Malawi where detailed action plans were developed from the observations and recommendations. Five table top simulation exercises were conducted using the cross-border zone platform to test emergency preparedness and response plans based on the various risks for various diseases including Ebola, Cholera, Rabies and countries like Zambia and Malawi utilized some of the findings to revise their preparedness plans. This also assisted to improve inter-agency collaborations in preparedness and response.

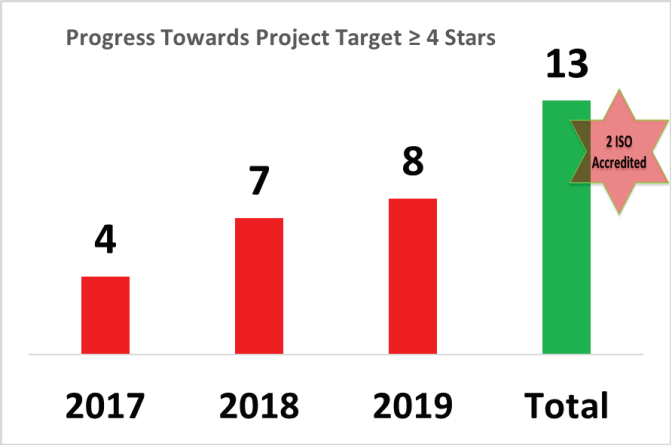
Support on COVID-19 Response: As countries raised the containment measures to control the spread of COVID-19 by imposing travel restrictions, ECSA-HC discussed and agreed with the countries to utilize technology to continue to offer the much-needed capacity building support for effective response to COVID19. ECSA-HC utilized the networks that have been built over time through various projects implemented in the region (EAPHLN, SATBHSS projects and the Global fund TB laboratory project) for disease surveillance, emergency preparedness and response that includes Public Health Institutes, Cross-Border zones and the multisectoral Committees and local and regional Member States partners including WHO, Africa CDC and others to organize online trainings and expert panel discussions and knowledge exchange among the responding teams in the countries and using local expertise to expand the capacities within countries. The following online and local support was provided to address the gaps in the project countries and supplement the ongoing response initiatives; ***Online training and knowledge exchange opportunities.*** Based on consultations and express request by the countries, the following needs have been identified and sessions are running on the virtual platform (i) Clinical Management of COVID 19; (ii) infection prevention and control; (iii) training of Rapid Response Teams (including contact tracing, Port Health screening); (iv) Diagnosis of COVID 19. This platform is reaching countries far beyond those that are covered by the various projects under ECSA-HC. ***Local capacity building using internal expertise. Utilizing the expertise*** built over the time in various technical areas within the project countries, ECSA-HC with the funding from the Bank projects is identifying the pool of expertise within the countries trained under the project and through other initiatives to support in expanding the capacities for response to COVID-19 contributing to fill the gaps within the countries based on the expressed needs. The critical areas supported so far include: - (i) cascading training in infection prevention and control to districts – ***Lesotho;*** (ii) Technical assistance to enhance capacity for the Rapid response teams (contact tracing, screening, case management, IPC and patients' movements) and surveillance at priority points of entry and high risk districts – ***Zambia (10 districts) and Malawi (Districts in Lilongwe and Blantyre).***

The AUDA-NEPAD facilitated the established an AU Expert Group on COVID-19/OSH which provide technical guidance in workplace response to COVID-19. Through the expert group, 12 OSH/COVID-19 training modules were offered to over 2000 participants across the continent virtually. The trainings which were offered in partnership with ILO, NIOH, MBOD, and ECSA-HC has supported countries' response to COVID-19 in the workplace. Furthermore, six OSH/COVID-19 sector-specific guidelines were developed and are being used as guidance documents for training project countries. Countries are also using the guidelines to create their guidance documents for the workplace response. The following guidelines have been developed:

1. COVID-19/OSH Risk Assessment Guidelines: ISBN: 978-1-990962-91-2
2. COVID-19/OSH Guidelines for Mining Industries: ISBN: 978-0-621-48631-5
3. COVID-19/OSH Guidelines for the Occupational Safety, Health and Wellness of Health Workers: ISBN: 978-0-621-48632-2
4. COVID-19/OSH Guidelines for Education Sector: ISBN: 978-0-621-48633-9
5. COVID-19/OSH Guidelines for Food and Retail Sector: ISBN: 978-0-621-48634-6
6. COVID-19/OSH Clinical Occupation Health Guidelines: ISBN: 978-0-621-48635-3

B. Laboratory systems improvement

ECSA-HC contributed to building capacity of project countries to implement laboratory system strengthening and quality management systems towards accreditation through training and certification of the remaining 6 laboratorians (cumulative total of 20 since 2017) as ASLM SLIPTA certified auditors. The project has increasingly started utilizing these project trained assessors for its annual peer SLIPTA audits. To date, all 13 laboratories from the 3 project countries have attained the project's target of 4stars. Two of the project laboratories from Zambia have attained ISO 15189 Accreditation with 5 more earmarked for accreditation in 2020. In addition, ECSA-HC provided technical assistance in development of structured mentorship guidelines for Malawi and an accreditation roadmap for Lesotho. Support was provided to the countries to implement laboratory-based disease surveillance to increase the capacity for early detection. Zambia was supported to roll out second line DST using line Probe Assays (LPA). The project also supported the National TB Reference Laboratory – Mozambique process of attaining Supra Reference Laboratory (SRL) status, which will strengthen its capacity to support the TB network in Mozambique and the region (including African Lusophone countries).



During the year 2020, the following was achieved under this sub-component:- (i) conducted series of webinars, training series and knowledge exchange on best practices for restoring TB services during COVID-19,clinical case management for COVID-19, epidemiology and surveillance of COVID-19, infection prevention and control (IPC) for COVID-19 and TB, rapid response teams training on contact tracing models; laboratory diagnostics, sample transportation and testing options; Biosafety and quality management systems and integrated COVID-19 testing; events based surveillance and community engagement in response; (iii) provided support through the project to respond to the COVID-19 outbreak to support (a) Malawi - training of Rapid response team on surveillance, case management, contact tracing to Rapid response teams in Lilongwe and Blantyre, (b) Lesotho to undertake capacity building on infection control to protect health care workers from contracting COVID-19 during service delivery; and (c) Zambia – to enhance capacity of screening and surveillance at 10 points of entry; (iv) organized virtual cross-border meetings (multilateral and bilateral) focused on COVID-19 response that culminated in facilitated cross-border movement especially for track drivers (COVID-19 testing and certification- Zambia/Tanzania etc);

COUNTRY LEVEL

Lesotho

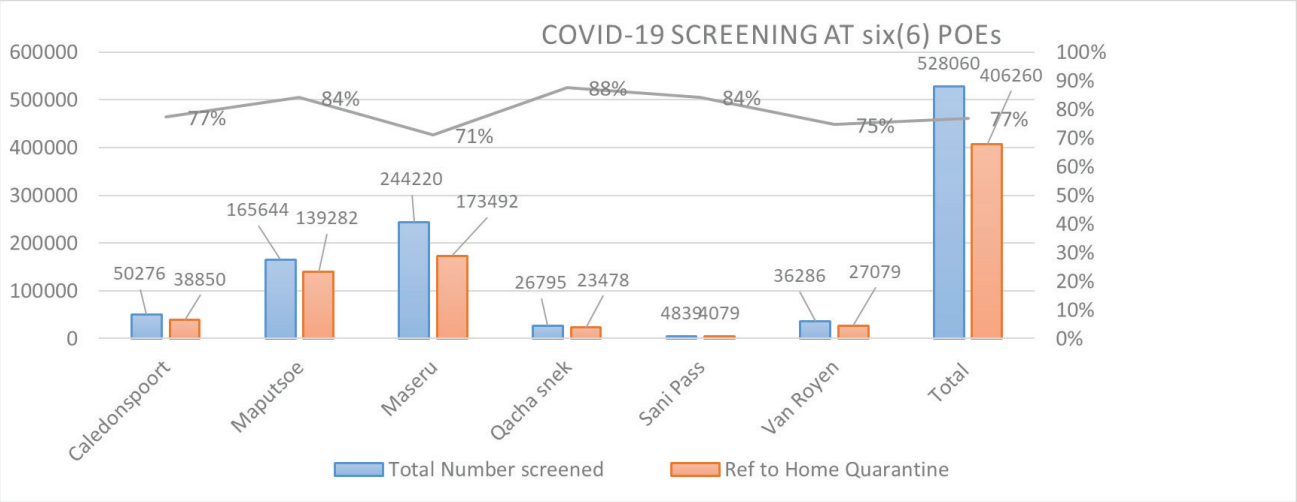
Strengthening diagnostic capacity and disease surveillance

Employ nursing sisters for 3 designated points of entry

Nurses were engaged and placed at the Points Of Entry (POEs). The services provided at the POEs include the following; HTS, STI and TB screening, health education to travelers, condom demonstration and distribution and treatment of minor ailments and first aid. The table below shows the distribution of the nurses at the five POEs. In response to COVID-19 pandemic, additional nurses have been engaged on contract basis to capacitate POEs to cope with the work volume experienced due to COVID-19.

During this period all POE facilities were primarily focusing on COVID-19 screening. The bar-chart below show COVID-19 screening at the POEs from January – December 2020.

Figure 2.2.1: COVID-19 screening at the POEs from January – December 2020



On March 11, 2020, the WHO declared COVID-19 as a global pandemic. COVID -19 screening was intensified in all major Points Of Entry and by the end December 2020 the number of travelers screened was 528060, 46% (244220) were screened at Maseru POE, while Maputsoe POE screened 31% (165644) of the total travelers screened. The results of the first COVID-19 were received by the National Reference and IHR National Focal Person on the 13th May from National Institute of Communicable Disease South Africa and communicated to WHO on the 14th May 2020. At the end of December 2020, the cumulative number of positive cases were 3094 while the number of tests conducted were 33109.

Covid-19 Response activities

In response to COVID-19 pandemic a private service provider was engaged to create awareness campaigns in the community COVID-19. Education messages were produced and disseminated through television and local radios, Awareness messages were put 172 vehicles particularly passenger taxis, buses and official vehicles, two mobile bill boards carrying COVID-19 messages were hired. These mobile billboards were placed at strategic places where they were accessible to the general public. Short messages were also produced and placed as adverts on local newspapers such as the Lesotho Times, Public eye, Sunday Express, Lentsoe la Basotho, informative and The Post. PPE was also procured for the health care workers, these included 16,250 gowns, 4,176 N95 masks, 3,360 face shields, 840 surgical masks, 60 IR thermometers.

Laboratory System Strengthening

Renovation of MoTEBAng Laboratory to establish TB diagnosis area
The renovation of MoTEBAng Hospital Laboratory was initiated in 2019 and completed in August 2020. The renovation involved conversion of the X ray room into TB laboratory, expansion of the working space in the main Laboratory, conversion of the ablutions into a VMMC clinic, installation of working benches to both TB laboratory and the main laboratory, provision of the backup generator for the TB laboratory, erection of chemical special conservancy tank for the TB laboratory, installation of mechanical and electrical works in the TB laboratory and installation of galvanized water tank for entire laboratory.

Mentorship and supportive supervision for 3 Laboratories, NTRL, MoTEBAng and Mafeteng
Implementation of quality management systems (QMS) in TB laboratories ensures that the results issued by TB laboratories are accurate, reliable and timely. Under the project three laboratories are supported with routine mentorship and supportive supervision to enable them to qualify for accreditation. From October 2019 to March 2020 mentorship was conducted at NTRL and Mafeteng Laboratories. Mentoring was not carried out at MoTEBAng laboratory due to COVID-19 lockdown measures.

Internal audits performed on the two laboratories showed that both laboratories regressed from the results of peer to peer audits conducted in May 2019. NTRL regressed by 8% while Mafeteng regressed by 17%. The regression has negatively affected the SLIPTA star rating of the two laboratories. NTRL moved from a 4 star rating to a 3 star rating, while Mafeteng laboratory declined from a 4 star rating to a 2 star rating. The low results realized at NTRL were attributed to low staff morale while staff shortage in Mafeteng laboratory was the main challenge. The two tables below show the comparison of peer to peer audit and internal audit results of the two laboratories.

Figure 2.2.2: Peer to Peer Audit

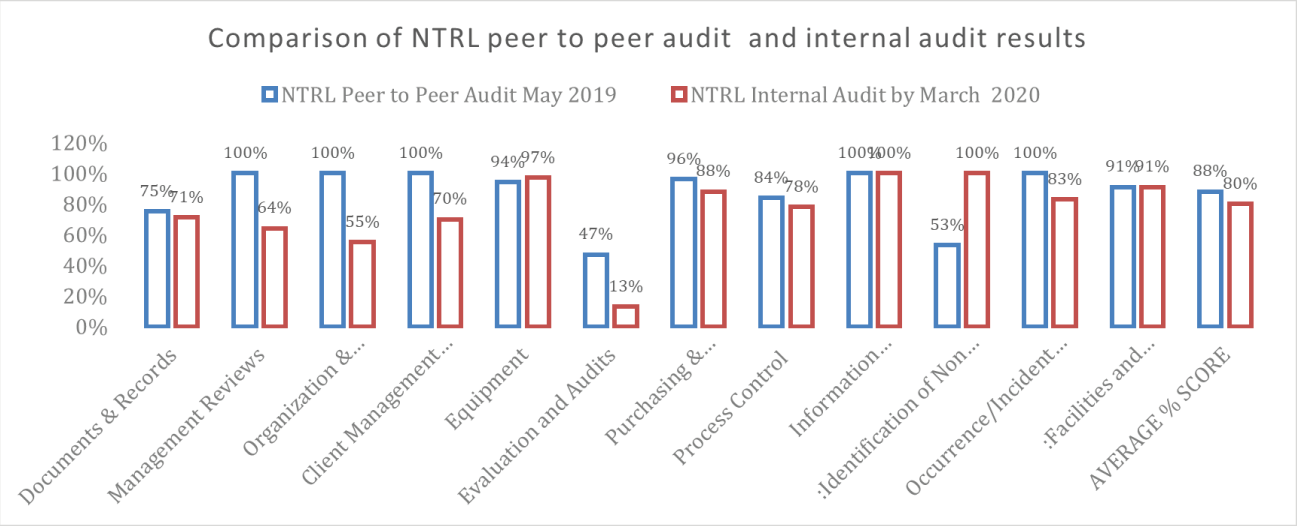
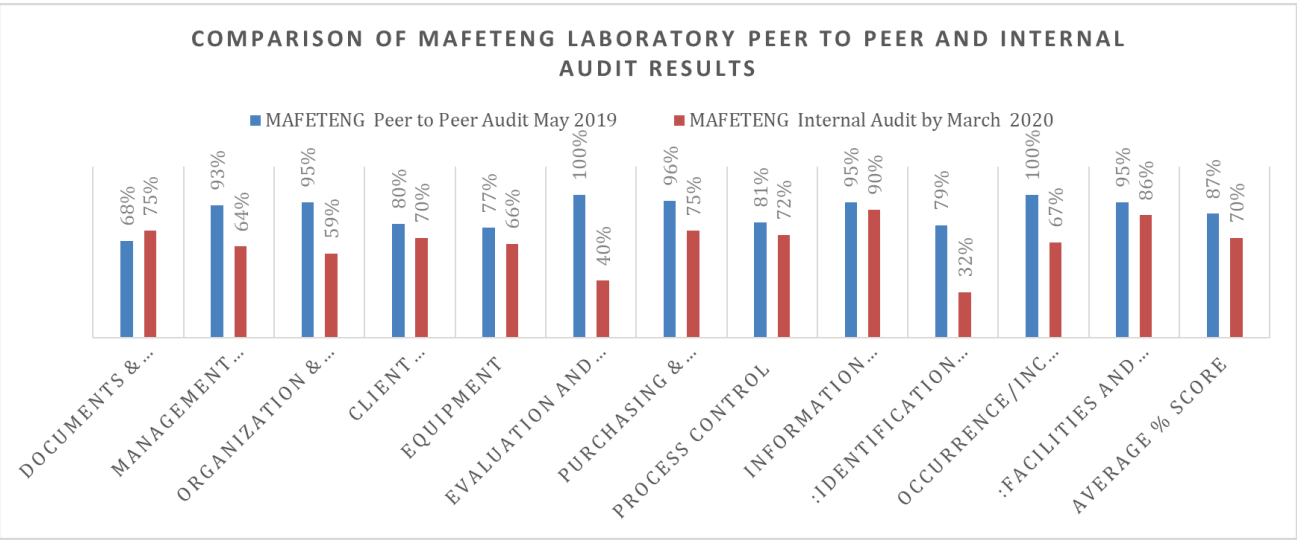


Figure 2.2.3: Laboratory Audit



Procurement of TB culture/ 1st line DST reagents and consumables

Procurement of GeneXpert cartridges for intensified case finding among miners (30,000.00 units) was initiated in 2019 but delivery was done in April 2020. These consumable are procured with the guidance of supply chain department of MOH. And their distribution to laboratories follow the MOH procedures.

Procurement of container turned into storage including shelving for NTRL

Two (2) biosafety cabinets were procured in 2019 for NTRL Laboratory. Delivery of this equipment was disrupted by COVID 19 national lockdown movement restriction. Delivery and commissioning was done in September 2020.

Strengthening mine health regulation

The activities planned for this period included finalization of the OSH policy and review of existing OSH regulations and mine regulations. Routine inspections to mines to assess compliance with regulations and standards were also planned during this period.

Occupational Health regulations through legislative reviews and development

The OSH Policy was presented to the Minister of Labour and the Minister of Mining. The policy was approved by cabinet in October 2020. Stakeholders dissemination workshop was held in December 2020.

Mine Health and Safety Legislation Review

The review of the Mining act of 1981 was put on hold during this period due to lack of funds. Procurement processes to identify the consultant for Ministry of Mining were initiated towards the end of June. By December, the consultant was identified. The review of the legislation is expected to commence in February 2021.

Joint inspections in the Mines to ensure compliance with OSH legal provision

This activity was put on hold in the first six months of the year due to funds that were relocated to COVID-19 activities. Inspections commenced on the fourth quarter of 2020. Eight (8) operational mines were visited. Five (5) of these mines were visited twice. Four (4) of the five (5) mines were compliant with national mine health regulation.

Medical Surveillance

The mines continued to provide Occupational Health Services and Primary Health Care Services to the employees and this included screening for COVID-19. The services were provided either on site or outsourced to private facilities. The table below shows COVID-19 cascade reported from three mines.

Table 2.2.1: Covid 19 Cascade

Mine	Clients Tested	Positive	Recoveries	Isolation	Fatalities
Letseng	1,504	80	64	14	2
Kao	72	15	9	6	0
Moradi Morija	1	1	1	0	0

Compensation for Migrant Mine workers

EX-MINERS ASSOCIATION THAROLLO LABOUR LAW AND INDUSTRIAL RELATIONS Joint Venture CONSULTANCY was engaged in June 2019 for eighteen (18) months, for the implementation of tracking and tracing of miners, ex-miners and dependents for compensation claims for occupational lung diseases. The intervention is implemented in three districts namely Berea, Leribe and Botha Bothe. The main activities implemented by the NGO included creating a database of miners and exminers in the three districts, referring eligible exminers to Bots'abelo Occupation Health Clinic for occupational lung diseases screening, compilation of the documentation (missing and new) for miners and exminers eligible for compensation to facilitate submission to MBOD, conduct TB screening for with the assistance of village health care workers at the community and referral patients for TB treatment initiation.

In December 2020 the cumulative number of miner and ex-miners identified and registered in the data base in the three (3) districts was 5178 , 169 miners and ex-miners were screened for occupational health diseases for benefit medical examination at Bots'abelo occupational clinic. Furthermore 538 miners and exminers were screened for TB at community level. The performance by the NGO was negatively affected by the COVID-19 lock down measure. The NGO is implementing an acceleration plan which will end in June 2021.

Malawi

Conduct a multi-sectoral Point of Entry Capacity Assessment

The Project supported points of entry capacity assessment for Songwe and Mbirima border posts in Chitipa and Karonga districts. The assessments were undertaken in the wake of covid-19. The 2 border posts were earmarked for assessment as they are some of the busiest ground crossing that the country has. The assessments were therefore conducted so as to ensure that capacities for public health preparedness and response for Karonga and Chitipa are established and strengthened commensurate with the risks associated with COVID-19, Ebola and measles among other infectious diseases.

Finalization and Dissemination of Public Health Act

The Project continued its support towards the review of the Public Health Act by supporting a Commissioners meeting with Ministry of Health management. The meeting was aimed at the Law Commission to brief and exchange notes with the Ministry of Health Management Team on submissions that the Commission had received from the regional consultations that were undertaken in 2019. The meeting enabled the ministry to provide some clarifications and comments on the submissions.

Mozambique

Strengthening the capacity for disease diagnosis and surveillance

Interventions under this subcomponent aim to ensure (i) the strengthening of the regional capacity for diagnosis and networking, (ii) the improvement of access to diagnostics for TB and occupational diseases in the target areas; and (iii) enable participating countries (Mozambique) to strategically renew surveillance systems to support pandemic preparedness and response.

Strengthening the diagnostic capacity of TB and occupational diseases in Mozambique

Low diagnostic capacity is among the main deficiencies of the National Health Service in Mozambique. This is reflected by the low coverage with WHO recomended rapid diagnostic tools and antibiotic sensitivity tests. In this context, NTP acquired 20 GeneXpert devices, with the support of 50 LED microscopies and strenghtned sputum sample transport network with motorbikes and coller boxes. This enable the expansion of the coverage of antibiotic sensitivity tests and the GeneXpert network across priority sites.

During this period, GeneXpert devices supplied by SATBHSSP processed 20% (13,727) of total samples processed in the priority areas, contributing to the detection of 1,390 TB cases.

Table 2.2.2. Total samples processed by GeneXpert devices financed by SATBHSSP

	Total of samples processed by GeneXpert	Total of tests turned positive
GeneXpert supported by SATBHSS project	13,727	1,390
GeneXpert funded by other projects	54,665	6,345
Total	**68,392**	**7,735**

Despite having allocated at least 1 GeneXpert device per district, the coverage GeneXpert and microscopy services still 10% and 42% within National Health Service.

Strengthening the capacity for disease surveillance and emergency preparedness and responding to public health events

In response to gaps in surveillance, preparation for responding to events of importance to public health, the following activities were planned for the reporting period: (i) establishment / operationalization of cross-border outbreak management committees with Zimbabwe and Tanzania; (ii) reinforcing the degree of preparedness to respond effectively to events of public health interest through table simulation exercises.

In the same period, 2 cross-border committees were established with the Republic of Tanzania and Zimbabwe respectively. These countries received support from ECSA-HC and WHO - African Region to carry out joint assessments that highlighted the need for training of health professionals allocated at crossing points between countries; the need to train health authorities at the districts that comprise the committees on cross-border response coordination mechanisms under the International Health Regulations. These findings informed the elaboration of joint action plans that will be supervised by the respective epidemiological surveillance departments.

Figure 2.2.4. Demonstration of PPE donning and doffing exercise at the Ebola table simulation during the cross-border meeting in Tanzania

No outbreak was reported within cross-border zones with Malawi and Zambia, however, technical support visits took place in the either side of the border aiming to:

- Develop COVID-19 patient referral system, between border health units;
- Investigate rumors of COVID-19 cases in the community;
- Conduct in-service training for technicians at the installation and district level;
- Develop the contingency plan to respond to events of relevance to public health;
- Support pre-epidemic preparedness for emergencies arising from natural disasters.

Figure 2.2.5. Cross-border participants conduct a field visit at the Machipanda / Forbes border health post during the cross-border meeting held in Mozambique

No outbreak was reported within cross-border zones with Malawi and Zambia, however, technical support visits took place in the either side of the border aiming to:

- Develop COVID-19 patient referral system, between border health units;
- Investigate rumors of COVID-19 cases in the community;
- Conduct in-service training for technicians at the installation and district level;
- Develop the contingency plan to respond to events of relevance to public health;
- Support pre-epidemic preparedness for emergencies arising from natural disasters.

2.3. Subcomponent 2.3: Strengthening mine health regulation

Under this subcomponent, the project focused on strengthening the regulatory framework in relation to occupational health and safety, including the mining sector, by reviewing existing legislation against gaps to addressing health and safety in the mining sector according to international standards and developing guidelines to guide the implementation of occupational health and safety measures.

Review of existing legislation

The review of legislation on occupational health and safety was led by MITSS with the technical support from AUDA-NEPAD and the World Bank. During this period, 2 workshops were held to get insights from key stakeholders and to address the observations of the World Bank and AUDA-NEPAD. Currently, the technical team is accommodating the comments from stakeholders. The final report is expected to be issued by 3rd. Quarter of 2021.

Development of guidelines for inspection in health, hygiene and occupational safety in the mining sector.

The development of inspection guidelines was coordinated by MIREME. During this period, the contracted consultant was able to submit the final version of the guidelines after accommodating the comments of AUDA-NEPAD and the World Bank. It was approved by the MIREME directorate.

Evaluation of the compensation system

The clearing system review process has seen significant progress. The preliminary version was finalized and evaluated by AUDA-NEPAD and experts from the World Bank. The consulting firm is currently accommodating comments from different stakeholders and writing the final report. It is expected that this will be approved by the direction of MITSS in the 1st. Semester 2021.

Zambia

Under this component, the project supported interventions to expand diagnostic capacity and networking, enhance access to diagnosis of TB and occupational lung diseases, and strategically revamp disease surveillance.

Diagnostic Capacity

Since 2015, TB diagnosis in Zambia is carried out according to WHO recommended standards and methods which include rapid molecular tests such as GeneXpert MTB/RIF assay (Cepheid, USA), sputum smear microscopy and culture based methods. There are also tests for resistance to first line and second anti-TB drugs using GeneXpert MTB/RIF (GeneXpert) and line probe assays (LPAs).

Currently there are 254 GeneXpert testing sites, three phenotypic culture and drug susceptibility testing (DST), three labs offering Line Probe Assay (LPA), urinary Lipoarabinomannan (LAM) testing, and computer-assisted digital X-ray. The NTLP recently adopted the Lipoarabinomannan (LAM) test in the diagnostic algorithm. Other areas outside the project districts have also benefitted from the project through acquisition and allocation of GeneXpert machines LAM strips, Xpert MTB/RIF cartridges and motorbikes for intra-district courier. The figure(s) below summarizes the national diagnostic capacity for TB and occupational lung diseases.

Table 2.3.1: Current TB diagnostic capacity in Zambia

Province	Number and % of diagnostic sites		Number and % of diagnostic sites		Number and % of diagnostic sites		Number and % of diagnostic sites	
Copperbelt	24	6%	9	4%	24	6%	19	7%
Northern	27	7%	10	5%	26	7%	12	4%
North Western	28	7%	15	7%	28	8%	3	1%
Central	36	9%	21	10%	35	9%	35	12%
Luapala	33	8%	13	6%	32	9%	24	9%
Copperbelt	78	19%	42	20%	77	21%	70	25%
Southern	52	13%	28	14%	38	10%	46	16%
Lusaka	59	14%	42	20%	48	13%	48	17%
Western	17	4%	12	6%	16	4%	17	6%
Eastern	54	13%	15	7%	46	12%	7	2%
Eastern	408	100%	207	100%	370	100%	281	100%

During the 2020 period the project has planned to strengthen the diagnostic capacity for TB by procuring 200,000 gene Xpert cartridges. the procurement of the Xpert MTB/RIF cartridges will ensure non interruption of Xpert MTB/RIF testing due to stock outs. This procurement is awaiting clearance by the World Bank. Other procurements are for laboratory consumables for DST and other tests as tabulated below;

Table 2.3.2: Key Laboratory Activities and Implementation Status

Key Activity	Expected Output (Target)	Actual Output	Comments
Strengthen SLMTA/SLIPTA by conducting External Quality Assurance to the 14 TB Diagnostic facilities	Conduct Quarterly AFB Smear microscopy EQA to TB diagnostic facilities	AFB smear microscopy EQA conducted for first quarter, 2020	Done
Strengthen SLMTA/SLIPTA by ensuring that equipment is well serviced and calibrated on time	Service and calibrate Laboratory equipment	Memo approved in March, 2020, tender awarded	Awaiting for the awarded contractor to be on site
Procure Laboratory consumables and kits M	Procure laboratory kits and consumables for performing molecular second line Susceptibility testing	emo approved in March, 2020, tender awarded	Awaiting delivery
Procure Laboratory consumables/ equipment and kits	Procure Laboratory commodities to enable do first and second line DST	Memo approved in March, 2020, tender awarded	Awaiting delivery
Procure Laboratory consumables and kits P	rocure Laboratory commodities to enable do first and second line DST	Memo approved in March, 2020, tender awarded	Awaiting delivery
Procure laboratory consumable for the Chest Diseases Laboratory	Procure Laboratory reagents to enable perform TB smear microscopy	Memo approved in March, 2020, tender awarded	Awaiting delivery
Strengthen SLMTA/SLIPTA through enhancing Biosecurity and biosafety	Hold a five days training for 20 Lab staff in Biosecurity and biosafety	20 lab staff trained in Biosecurity and Biosafety for TB and integrated COVID-19 aspects	Done

However, the COVID-19 pandemic has affected the implementation as guidance on the program integration took some time to be effected.

Diagnostic capacity for Occupational Lung Diseases

The Occupational Health and Safety Institute (OHSI) has the legal mandate to screen and diagnose occupational lung diseases including TB and Silicosis. The diagnostic capacity for occupational lung diseases in Zambia included chest X-ray and lung function tests, GeneXpert MTB/RIF and Acid-Fast Bacilli smear microscopy. With support from the project, the diagnostic capacity for occupational lung diseases has been expanded through procurement of modern equipment to enhance the capacity to diagnose Silicosis and other occupational health conditions and diseases. The equipment procured included one GeneXpert (4 Module), four Gravimetric Dust Samplers, two Sound Level Meters, two diagnostic audiometry machines, two Lung Function Test Machines, two Gas and Dust Detecting Digital Machines, two Class II Biological Safety Cabinets, two BVC Control W/4l PPP Bottle and two X-Ray diffractometry machines (XRD ADX 2500 yet to be installed). This has strengthened capacity for diagnostics for silicosis and Tuberculosis.

Overall, the interventions introduced by the SATBHSS project to enhance diagnosis capacity in the country are the ones highlighted in the National TB Strategic Plan (2017-2021). As such, these have been integrated into the routine laboratory practice in all health facilities and will be sustained beyond the life of the project.

Gaps identified in the diagnostic capacity

- Equipment utilization rates: Low utilization of the GeneXpert observed due to limited sample transportation system coupled with increased load shedding and sporadic shortage of Xpert MTB/RIF cartridges The first six months of 2020, TB testing has been affected by COVID-19 as lab staff were scared to process sputum and also some GeneXpert machines have been re-directed to COVID-19 testing.
- Geographical coverage: Some of the newly created districts do not have TB diagnostic facilities. These have to rely on the nearby districts for sputum examination.
- Sample transportation system: Inadequate packaging materials, fuel and motorbikes per district. This has resulted in delayed diagnosis as available motorbikes only service each catchment area once a week.
- BSL 3 Level facilities (for TB culture): Need for Equipment replacement and upgrading of 2 culture facilities (CDL and TDRC) to level 3 containment and service contract. There is also need to provide Laboratory Information Management System (LMIS) for CDL and TDRC which are using paper based method.

Disease Surveillance, Epidemic Preparedness and Response

The Zambia National Public Health Institute (ZNPHI) has been given the mandate for ensuring the public health security of the country through a robust surveillance and disease intelligence system. Disease surveillance in Zambia is conducted in the context of the Integrated Disease Surveillance and Response (IDSR) approach which is a WHO strategy for surveillance in the African Region. IDSR implementation in Zambia began in 2002 and aims to ensure that surveillance for various diseases is conducted with integration of human, financial and other resources. The 19 priority diseases for which surveillance is conducted are highlighted in the IDSR Technical Guidelines and are based on the Public Health Act, the International Health Regulations (IHR) and include other diseases of public health importance including maternal deaths, hypertension and diabetes.

The ZNPHI is responsible for ensuring that events of public health importance are promptly detected and reported with comprehensive interrogation and analysis of the generated data to inform public health actions, response and policy. In the Zambian context, Provincial and District Surveillance Officers anchor surveillance activities at their respective levels while surveillance focal persons lead surveillance activities in the facilities and communities.

Zambia is receiving support under the SATBHSS Project to address gaps in disease surveillance, epidemic preparedness and response. Under Component 2.2 of the SATBHSS 2020 budget, the Ministry of Health through ZNPHI was allocated a total of $502,624.40 for disease surveillance including cross-border initiative activities. Following the outbreak of Corona Virus Disease (COVID-19) in China in late 2019, the disease spread rapidly to over 212 countries across the globe dimming it one of the biggest pandemics in recent years. As of 17 June 2020, there are 8,043,487 confirmed cases of COVID-19, including 439,487 deaths, reported to WHO. The first cases in Zambia were reported on 18 March 2020. These cases along with 26 others all had a history of travel to Europe or Asia. Within three weeks, cases were noted among people without history of travel but in contact with confirmed cases. Since, there is an increase in local person to person transmission with increasing geographic spread (about 31 districts affected). A total of 1,405 confirmed cases have been recorded with 11 deaths.

To support the gaps identified in the National COVID-19 Preparedness and Response Plan, the World Bank granted IDA No Objection to vary funds amounting to $502,624.40 for COVID-19 Prevention and control activities. However, due the outbreak of the COVID-19 pandemic, all resources under surveillance were redirected to support the response to the COVID-19 outbreak as shown below;

Table 2.3.3: Activities whose funds were varied to support COVID-19 response

Activity #	Activity Name
Activity 2.2.1.1I	DSR/eIDSR Data Harmonization Exercise
Activity 2.2.1.2A	ssessment of Health Facilities Implementing eIDSR in Rufunsa and 1 SATBHSSP district
Activity 2.2.1.3T	echnical Support to Provinces on IDSR/eIDSR implementation
Activity 2.2.1.5I	DSR Curriculum Development Taskforce Quarterly Meetings
Activity 2.2.1.6	EBS Provincial Trainings
Activity 2.2.1.9	EBS Training of Community Volunteers
Activity 2.2.1.11	Printing of EBS implementation tools
Activity 2.2.1.13	EBS Development of Electronic Tool
Activity 2.2.1.14	Evaluation of EBS Pilot Districts
Activity 2.2.2.1	Hold 1 national annual surveillance meeting
Activity 2.2.2.2	Support to the Field Epidemiology Training Programme (FETP)
Activity 2.2.2.3V	accine Preventable Diseases Risk Assessment
Activity 2.2.3.1	Hold quarterly (bi-annual) one health surveillance review meeting
Activity 2.2.4.1C	ross-Border initiatives
Activity 2.2.4.2T	raining of Points of Entry in Surveillance
Activity 2.2.5.1C	onduct joint outbreak investigations for priority diseases
Activity 2.2.5.2S	imulation Exercise
Activity 2.2.6.1	On-Site Microbiology mentorship
Activity 2.2.6.2	On site Laboratory Quality Management Systems mentorship in 3 laboratory

Table 2.3.4: COVID-19 related activities supported under ZNPHI

2. Surveillance, active case detection and contact tracing
2.1 Support towards active surveillance activities in pre & epidemic phase
2.2 Training and roll out of community EBS
2.5 District Cross border surveillance meetings (between neighboring districts)
3. Case Management and IPC
Infection prevention and control
4. Laboratory testing, specimen management, testing reagents, training
4.1 Train Laboratory personnel in COVID-19 testing, Biosecurity & Biosafety
5. Trainings & capacity building
5.1 Training clinical teams in COVID-19 management (Northern Region)
5.2 Training clinical teams in COVID-19 management (Southern Region)
5.5 COVID-19 Tabletop exercises in the at risk provinces (Southern Region)
5.6 COVID-19 Tabletop exercises in Lusaka
9.2 Personal Protective Equipment (PPE)

Implementation Status

The following Table 2.3.5. Summarizes the implementation status to date.

Table2.3.5: Summary of Implementation Status

Activity	Status
1. Surveillance, active case finding and contact tracing	• Requests made and implementation plan developed (pending approval by PS)
2. Case management and IPC; Training & capacity building	• Conducted TOT in case management and critical care • Total of 400 HCWs from all districts in Southern, Muchinga, Eastern & Copperbelt provinces trained • Overall objective was to build the capacity of HCWs to manage COVID-19 cases; build skills to further cascade the trainings to other HCWs and facilities
3. Training of Laboratory staff in COVID-19 testing, Biosecurity and Biosafety	• Requests made and implementation plan developed
4. Personal Protective Equipment (PPE)	• Re-assessment of breakdown of PPE currently needed following procurement from other sources/partners
5. Training of staff working at priority Points of Entry (POE) on COVID-19	• This was supported by ECSA-HC • Budgets approved and teams constituted

Other activities which have been conducted include Cross-Border collaborations as follows

Zambia-Zimbabwe

- Virtual meeting conducted on 15 May 2020 to share updates and explore collaboration on COVID-19 screening, information sharing on contacts and cases and joint interventions
- On-going inter-district informal communications on COVID-19 at Chirundu Border
- Coordination of physical meeting to harmonize interventions and approaches (scheduled to take place this week in Chirundu) with support from IOM

Zambia-Tanzania

- Two virtual meetings and teleconferences conducted to share updates and explore collaboration on COVID-19 screening, information sharing on contacts and cases and joint interventions
- On-going inter-district informal communications on COVID-19 at Nakonde Border
- Agreed on facilitation of screening and medical certifications (these are yet to be implemented/ facilitated)

2.3 Component 3: Regional Learning and Innovations and Program management

2.3.1 Sub-component 3.1. Operational Research Knowledge sharing and Program Management

A. Conducting priority regional operational research studies

Under the SATBHSS project, a number of regional studies were approved for regional implementation and coordination. These studies are cross cutting among the participating project countries and it was envisaged that a common methodology be adopted to ensure cross country learning. While the coordination is at regional level, data and findings will be owned by the respective countries as stipulated in the Subsidiary Agreements between the Countries' and the regional organizations. In the year 2020 the following activities were implemented as indicated below: -

(i) Cost benefit analysis and health impact study of investing in TB control - All four countries have completed the study and the final draft report was submitted for a review and comments by all stakeholders involved. Feedback meetings were conducted by consultant to three countries (Malawi, Zambia and Lesotho) and the last feedback meeting for Mozambique will be done at the end of October 2020.In summary, Lesotho, found evidence of improvement in all four key intervention variables and a wide range of productivity losses for TB patients. The mining facilities reported very small impacts from TB and other occupational lung diseases. The benefit-cost ratio was highly favourable, with a $9.02 in economic benefits for every dollar invested. Malawi data revealed substantial productivity loss among TB patients throughout the episode of illness and a reduction in the number of days between onset of TB symptoms and receiving a TB diagnosis. However, there was mixed evidence associated with SATBHSSP: improvement in three key intervention variables, worsening in an additional three intervention variables, and no change in one intervention variable. Combining all outcomes, the overall benefit-cost ratio was -0.07. Mozambique data showed that SATBHSSP was associated with favourable changes on all of the health impact measures available. However, none of these changes was statistically significant.

(ii) Regional out of pocket study as a barrier to access TB services in the region. Lesotho has completed the study and the final report has been submitted to the regional consultant for the regional analysis and comparison with the other participating countries. The overall out-of-pocket expenditure for the treatment of a single episode TB was M3391 (~US$ 260), which is significant when comparing to the minimum monthly wage of a domestic worker which starts at M624 (US$48) or a factory worker who earns approximately M2000 (US$153) per month. The OOPE for MDR-TB is greater at a total cost of M47,053 (US$3,619) which comprises mainly of direct non-medical costs of M44, 894 (US$3,453). The study finds that the health system in Lesotho has been successful in keeping the direct medical cost for diagnosis and treatment of TB low. However, the non-medical and indirect costs are the cause of driving a sizable proportion of individuals into the 'medical poverty trap'. Nearly a quarter of individuals resorted to coping strategies to deal with the associated financial stresses from TB. Approximately 21% borrowed money to cover costs incurred during TB treatment while 5% sold their personal property to finance the cost incurred during TB treatment. Those with MDRTB are hardest hit by the financial implications, with 80% reporting receiving support – mainly in the form of food from family. Malawi has completed the study and submitted draft report for a review. They have also shared a data set with the regional consultants so that it can be included in the regional analysis of the study. Mozambique has managed to engage a consultant to undertake the study, so far, the study proposal which includes data collection tool was sent for the ethical review. Inception meeting conducted in the third week of October 2020. Zambia is finalizing the procurement process for another consultant to conduct the study; the process was delayed after failing to engage the previous selected firm after conducting due diligence process and found that the firm has no technical capacity to conduct the study

(iii) Review of implementation of harmonization of TB management guidelines. Data collection has been completed in all the countries and a draft report was shared by the consultant for a review. However, the draft report could not provide all required information on implementations of harmonization of TB managements in SADC countries, and did not provide clear measurement of the level of implementation of harmonized frameworks in SADC, in line with data collected from countries and existing evidence in the various sources of

information. As such, the report was not acceptable and attempts to have the consultant produce a better report were not successful. ECSA-HC has put together information and is in the process and finalizing re-writing the report to be accomplished by Mid-March.

(iv) Opportunities for Private Sector Participation in TB Control. The AUDA-NEPAD in collaboration with project countries undertook a study to assessment of the level of engagement of private sector in TB control. The study which targeted both for-profit and not-for profit private sector such as NGO's, Faith Based clinics and hospitals has been finalized and the report has received feedback from project countries and partners. The study aimed at identifying opportunities, risks, challenges, and key strategic priorities to further expand private sector support to TB prevention and care. Additionally, the study provided recommendations on the development of a regional strategy for private sector engagement in TB control based on identified opportunities and lessons learnt.

(v) Baseline study on Mine Health Regulation and Occupational Health and Safety Services in Southern Africa. The aim of the study was to (i) assess the baseline situation of legal frameworks and management systems for occupational health and safety in Lesotho, Malawi, Mozambique, and Zambia, in comparison with international best practice; and (ii) assess the engineering and management systems in place for dust control and monitoring practices in mines in the four countries. The analysis of legal frameworks, and management systems for occupational health and safety was finalized in 2020 and the report thereof has been published following approval by project countries. The report for the second part of the study which focuses on assessing engineering controls and management practices for dust control is being finalized.

(iv) Use of research evidence for policy change and programming: following the completion and dissemination of regional studies to the four project countries, and the completion and dissemination of country studies, ECSA-HC in collaboration with AUDA-NEPAD, provided support to countries to package research findings for high level advocacy and for utilization of evidence to improve policy and programme implementation. The following activities were conducted:

(a) Regional workshop to develop policies briefs using research results, and best practice implementation. The following briefs were developed (i) "Tuberculosis impoverishes the Kingdom of Lesotho" with findings and policy recommendations regarding the economic burden of TB on patients detected with TB and their households; (ii) "untreated TB – a barrier to eliminate TB in Mozambique" with findings and policy recommendations regarding the implications of under-notification of TB cases between different levels of care on ending TB; (iii) E-health systems improve community TB control in Malawi, highlighting best-practice implementation and policy recommendations from the CoE; (iv) challenges of linkage to care of miners and ex-miners with TB in Zambia; Crystalline Silica dust exposure management in Southern Africa; Involving private sector in fight against TB in SATBHSSP countries; Ending cross-border TB in SADC region. Policy briefs were presented to the RAC, to advocate for political commitment in addressing some of the findings and advancing the implementation of policy recommendations.

(b) Evidence-based planning: a multi-stakeholder model for evidence-based TB and OHS planning was developed with support from ECSA-HC and piloted in Lesotho to support their TB programming, SATBHSSP investment plan and 2021 annual plan. The model uses all the research, data and all relevant evidence in the country, to develop customized and cost-effective interventions, based on country evidence and best-practice in Lesotho and all over the world. It also provides assumptions to prioritise the most cost-effective and context-specific interventions for sub-national levels, and to quantify the potential contribution on TB outcomes. The same model will be disseminated for adoption in other project counties.

B. Knowledge sharing

Within the roles of ECSA-HC in facilitating knowledge exchange and regional learning, , ECSA-HC coordinated the following:

(i) ***Conferences and symposia:*** ECSA-HC in collaboration with the four participating countries hosted satellite symposia sessions in the International Conferences that provided opportunities for the project countries to showcase the project results regionally and globally. During the 50th Union World Conference on TB and Lung Health in Hyderabad in India, ECSA-HC organized a session to share the findings of the studies conducted in the countries as well as the regional studies;

(ii) ***SATBHSS Project Web Portal:*** ECSA-HC and AUDA-NEPAD Agency is responsible for managing, coordinating and providing technical support to the four countries in communication, advocacy and outreach. A communication, advocacy and outreach strategy for the project was developed. As part of that strategy, ECSA-HC developed a regional project website and the countries web portals through consultation with the country teams who continuously provide content for the website. The country teams were trained on content management and have continuously updated the portal with contents with the support from the AUDA-NEPAD Agency. The portal is fully functional and available through the following URL - **http://satbhss.org.**

Lesotho

In an effort accelerate implementation of operational studies in Lesotho, Ministry of Health requested technical support from ECSA-HC to facilitate a Research methodology workshop in February 2020. The purpose of the workshop was to assist the MOH team to review existing research protocols and come up with new research topics if necessary. At the end of the workshop five (5) zero draft protocols were developed and lead investigators identified.

The second deliverable was a schedule with timelines for completing the protocol with the technical support from ECSA-HC. Based on the schedule all the five protocols were planned to be completed and approved by Ministry of Health Research Committee by end of June 2020. However, as a result of the COVID-19 national lock down measures, competing activities including lack of funding, the studies were moved to 2021.

Table 3.1.1: Research Topics

Research topics for Lesotho under the SATBHSS project
Burden of Tuberculosis and the associated risk factors among Healthcare Workers in Lesotho
Factors associated with TB mortality in Lesotho
Factors associated with TPT uptake among under five(5) contacts of bacteriologically confirmed TB cases
TB treatment outcomes of TB/HIV in Public Facilities, Leribe district, Lesotho
Knowledge Attitude's and Practices towards occupational lung diseases including TB in the Lesotho mining sector

Malawi

The project undertook the dissemination of findings with all districts that implemented two research studies: *Prevalence of Pulmonary Tuberculosis and TB/HIV co-infection among miners in selected districts of Malawi in 2018* and *Assessment of Tuberculosis prevention and care measures in Mining Industries in Malawi.* The meetings enabled the districts receive the findings and plan a course of action on how to deal with the findings. It is anticipated that the districts will come up with activities that will be implemented in the communities as a result of the study findings.

Data collection on the second study on Assessment of tuberculosis prevention and care measures was also was finalized. Data entry and analysis will be carried out in Q3.

Apart from the 2 studies, the Project also supported a study on Out of Pocket Expenditure as a Barrier to Accessing TB Services. The study was finalized in the period under review and dissemination of results would follow in the second half of the year.

Further, the project, undertook an evaluation study on the centers of excellence. This followed a recommendation during the mid-term review. It is anticipated that the findings will inform how the implementation of the centers of excellence will be approached going forward. Dissemination of findings of the review will be done the second half of the 2020 fiscal year.

Mozambique

Operational research activities within the scope of the SATBHSS project in Mozambique are in line with the priorities identified during NTP program review led by WHO. In this context, 8 studies were commissioned (table 6). Of these, 4 were temporarily interrupted due to the restrictions of COVID-19 and others are awaiting the World Bank's no objection to proceed with the implementation. At the regional level, Mozambique is engaged in conducting the assessment of the catastrophic costs affecting TB patients. For this purpose, MISAU hired Genesis Analytics to implement the study. The protocol was developed and submitted for evaluation by the National Committee on Bioethics for Health. The field activity will take place on the 1st Quarter of 2021.

Table 3.1.2. Progress of country and regional studies supported by SATBHSSP

Conduct TB inventory study	The study was postponed to 2021 due to the restrictions due to the COVID-19
Conduct 3rd National Drug Resistance Survey	The protocol for carrying out this study was developed and approved by CNBS. The SATBHSS project will cover the logistics of sample processing, genotyping and analysis of the results. Currently, the World Bank's opinion on the memorandum of understanding between MISAU and the Supranational Laboratory in Milan is awaited.
KAP study among TB risk groups in Mozambique	The study protocol was prepared and approved by CNBS including the administrative approval of S.Excia. Minister of Health. The World Bank recommended that data collection be done at the level of the priority areas of the SATBHSSP. The protocol is currently under review to accommodate the World Bank's observations.
Study on health / community systems and barriers associated with patients to implement collaborative TB and HIV activities in Mozambique	The protocol for this study was developed. The field work was postponed to 2021 due to COVID-19 restrictions.
Compare the different models for integrating TB and HIV activities in community and health settings and assess their impact on TB and HIV outcomes	The protocol for this study was developed. The field work was postponed to 2021 due to COVID-19 restrictions.
Assessment of barriers to TB Services related to Community, Human Rights and Gender	This study was carried out. The final report was approved and shared with the different stakeholders.
Evaluation of the clinical evolution of co-infected TB / COVID-19 patients	The protocol for this study was developed and approved by CBNS. Currently, the data collection is ongoing
Pilot of the strategy for monitoring treatment under direct observation using digital technologies - Video-DOT	The protocol for this study was developed and submitted for evaluation by CNBS. However, due to the high cost of this approach, the World Bank team proposed that the approach be revised in order to find cost-effective alternatives.

South-South knowledge sharing and learning

In 2020, MISAU carried out technical support and knowledge exchanges visits within the border zones with Malawi, Zambia and Zimbabwe to establishing an efficient referral and counter referral system for patients with COVID-19 between the border zone and reinforcement units. mutual capacity in pre-epidemic preparedness for emergencies arising from natural disasters and development of the contingency plan to respond to events of relevance to public health.

Zambia

A number of operations research studies were planned to be executed during the period under review. Two research studies have been concluded and manuscripts have since been developed. Table 4.1 below summarizes the researches that were scheduled to be undertaken during the period under consideration.

Table 3.1.3: Status of Operational Research and Other Studies

SN	Title of Study	Status	Next Steps / Milestones	Responsible
1.	Baseline assessment of Silicosis – Retrospective Study	Contract signed and data collection started but could not continue due to demand for ethical clearance	• Obtaining ethical clearance from TDRC • Reading of chest radiographs and draft report	OHSI
2.	Mortality attributed to TB among patients in Zambia	Evaluation done awaiting approval by the MPC	• Granting and signing of contract	NTLP
3.	Out-of-Pocket expenditure for TB	Evaluation done and firm selected	• Awaiting approval by the MPC before awarding contract to selected firm	NTLP

2.3.2 Sub-component 3.2. Centres of excellence in TB and Occupational lung disease control

Centres of excellence

Countries prioritized establishment of CoEs as follows: - Lesotho - CoE in Community based TB Care, Malawi - Community TB and Integrated Disease Surveillance, Mozambique - Management of Drug-Resistant Tuberculosis and Pediatric TB Management and Zambia – Occupational Health and Safety. ECSA-HC under the SATBHSS Project: (i) supported countries in the development of concept notes for the establishment of Centres-of excellence and currently supporting the implementation; (ii) ECSA-HC provided further implementation support for the CoE in Lesotho, by facilitating a knowledge exchange on performance-based funding for community TB care with Rwanda; support for developing the framework for performance-based funding and to engage and develop the capacity of an NGO and village health workers to manage the components of the CoE; for developing the guideline for community TB care, tools for recording, reporting and performance acceleration; and 6-month evaluation of the outcomes of the CoE with recommendations to maximize results and the way forward; (ii) provide support to Mozambique to evaluate the CoE, and develop indicators for performance acceleration. Additional support is being provided on countries' request.

Lesotho

Centre of excellence - Community TB Management

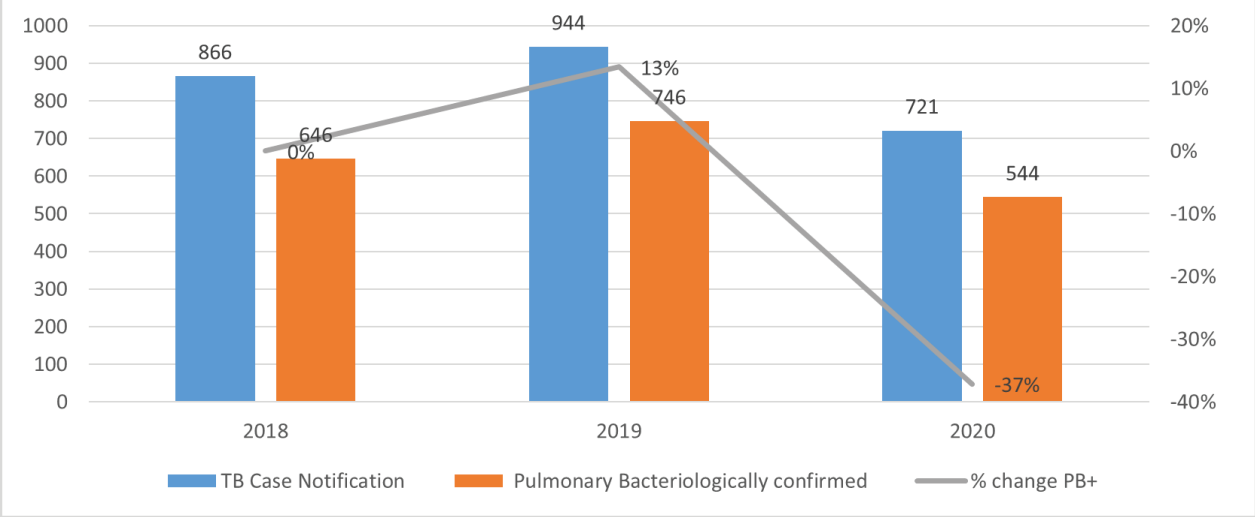
In June 2019 Partners In Health was engaged to implement the Centre of Excellence (COE); community TB care in Leribe and Berea districts for a period of two years. At the end of the two years the two districts are expected to notify 986 TB cases as result of community screening, which is 5% of the total notification of each district. Treatment Success rate for Leribe and Berea districts is expected to be 87% and 85%.

The interventions implemented in this model entails community-based TB screening, referral and linkage to care, retention in treatment through community based Direct Treatment Observation (DOT) and psychosocial support, it also includes contact tracing and screening, and TB prevention through provision of preventive TB treatment to children under the age of 5 and promotion of TB literacy. The model has also adopted an integrated health care approach that encompasses provision of HTS and linkage to care, screening and referrals for child nutritional status, nutritional supplementation and immunization, screening for non-communicable diseases (NCD) with focus on diabetes and high blood pressure.

To date 1635 VHWs and VHW supervisors from Leribe district were trained on TB care and management in Leribe District. The training also included capacity building on establishment of cooperatives by the VHWs. To date twenty-two (22) VHW cooperatives have been established. Two hundred and thirty-one (231) TB cases were notified as a result of community TB screening by the VHWs and this contributed to the overall TB notification in Leribe district. 7631 clients were screened for NCDs during the mobile outreach campaigns. Furthermore 1236 clients were reached with HTS services during the outreach campaigns.

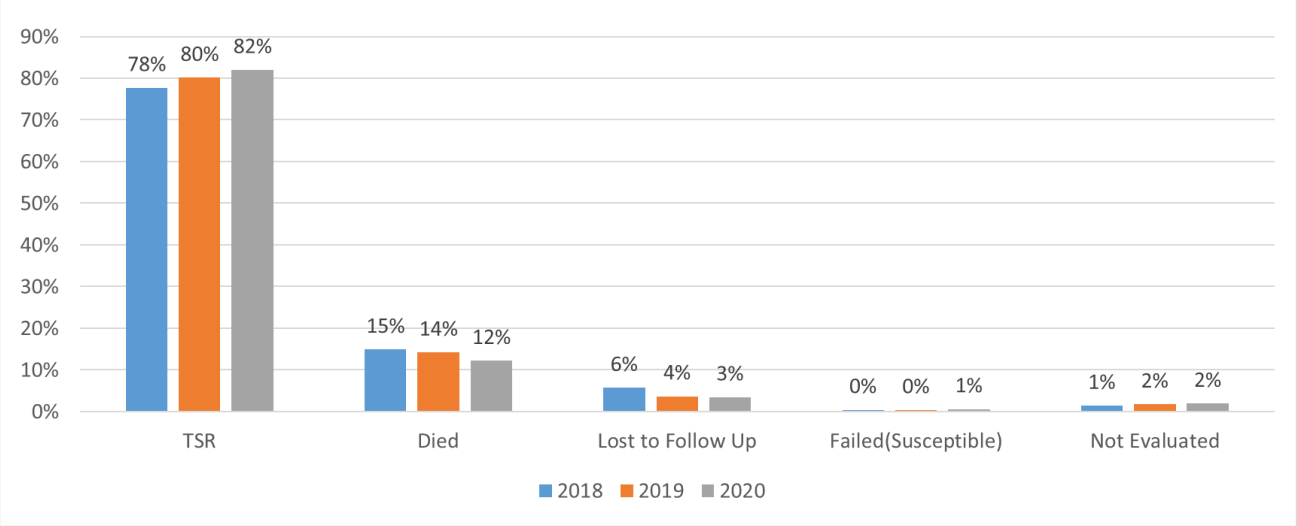
Access to Under 5 child health services have also been strengthened under the COE- Community TB care. 29603 under 5 children were weighted in the community by the VHWs, 2052 of these children were referred for vitamin A at the facility.

Figure 3.2.1: TB Case Notification in Leribe District



The bar chart above demonstrate there was increase of TB notification from 2018 to 2019 from Leribe district from 866 to 944 TB cases. There was also an increase of 13% among bacteriologically confirmed pulmonary cases and this was demonstrated that community TB interventions under the COEs had an effect in increasing TB case notification in Leribe district. Equally there was in improvement in TB treatment success rate from 80% in 2019 to 82% in 2020 as shown on the bar chart below. Also there was a notable decrease in TB case fatality rate, it declined from 15% to 12% from 2018 to 2020.

Figure 3.2.2: TB Treatment Outcomes in Leribe



Malawi

Centers of Excellence in TB and Occupational lung disease control

Malawi is playing host to the Continuum of care centre of excellence focusing on Community TB and integrated disease surveillance. The idea behind the centre is:

1. To enhance innovations in community TB care including TB screening, strengthening TB diagnostic and sample transportation
2. To strengthen screening referral and surveillance for TB, occupational lung diseases and other IHR notifiable diseases and conditions among mining and other high-risk groups
3. To establish an e-Health based system to support patient management and data reporting
4. To improve on human resource capacity for TB and occupational health and safety
5. To improve Disease surveillance for TB, occupational health and other notifiable disease

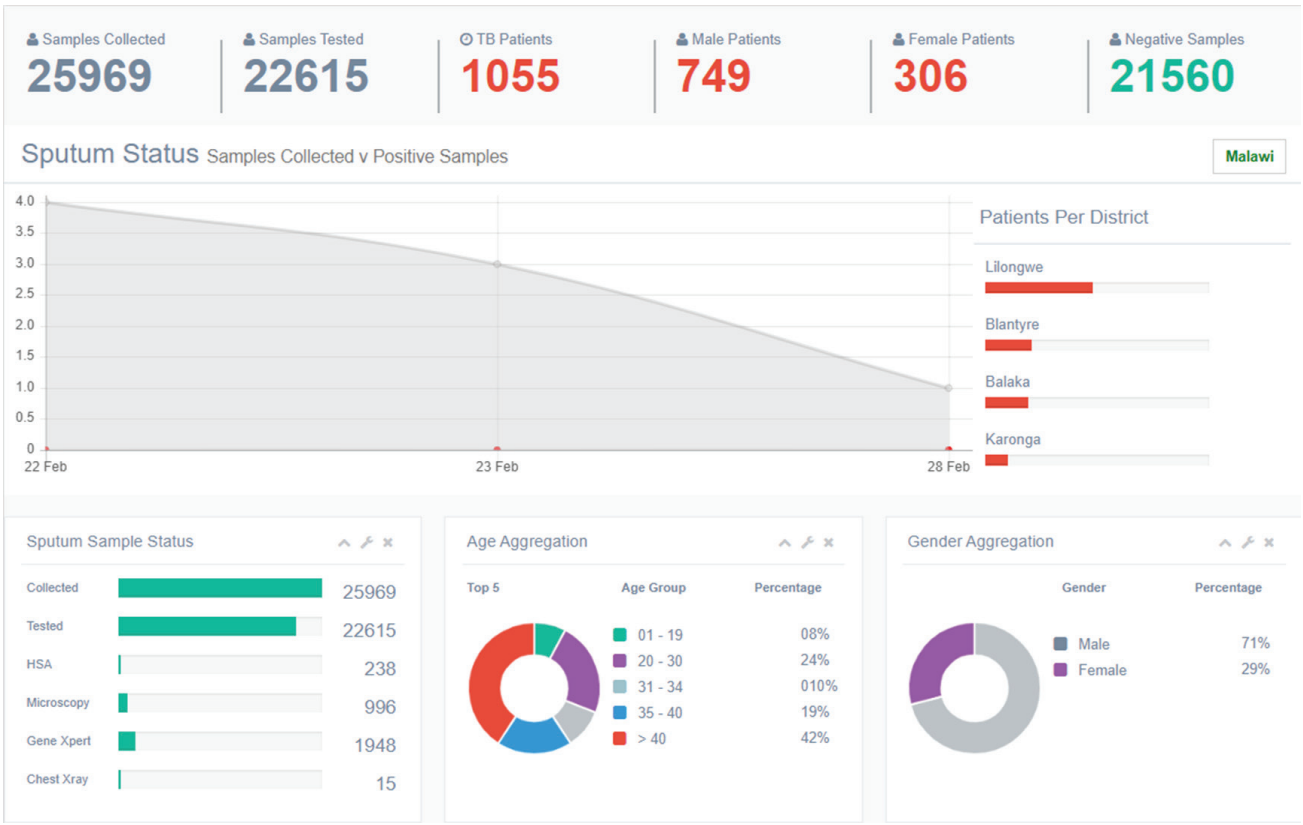
A number of activities have taken place during the period under review. The major focus has been on strengthening the e-health for community interventions.

To this effect, the Project continued on working on the E health system to support community interventions. The period under review saw the Project adding 9 new sites to the already existing 20 making a total of 29 sites.

The system is helping in providing improved community TB care interventions with minimal diagnostic and treatment delays as information flow has greatly improved from the community to the health facility through use of modern technologies such as smartphones that are at the centre of information sharing from a presumptive TB case in the community and the facility where testing of sputum samples and treatment is provided.

The system has handled **25969** samples as can be seen from the figure 3.2.3 below:

Figure 3.2.3. E-Health Dashboard



Mozambique

Centers of excellence in TB care and prevention and control of occupational lung diseases.

SATBHSSP countries set priority areas to develop capacity development and share knowledge to improve the coverage and quality of TB services. Mozambique is implementing the Center of Excellence (CoE) for the Management of child and Drug-Resistant Tuberculosis, an innovative strategy to improve the case detection rates and treatment outcomes.

During this period, significant progress was noted in relation to civil construction works. Currently, the execution rate is at 51% and burn rate at 33%.

Figure 3.2.4. Status of civil works for the CoE in Maputo, Mozambique

The completion of the works is scheduled for 01/31/2021.

Zambia

During the year 2020, the COE focus was on the following areas/interventions;

- Conducting of medical surveillance among miners and ex-miners at the institute in Kitwe and through outreach to distant areas/districts from Kitwe by undertaking basic examinations of weight and blood pressure, chest radiographs, and sputum examination when the chest x-ray is suspicious to rule out Tuberculosis
- Installation of Electronic Information Management System (EIMS);
- Procurement of environmental and monitoring equipment;
- Enhance human resource in PACS and B-Reading through further training of doctors from target districts and general hospitals after 23 doctors were trained using trainers from NIOH/MBOD in South Africa;
- Expanding health cadres (pre-service and in-service training) through training staff at OHSI in critical areas such as Pathology, Radiology, Audiology, Chest Physician and Hygienists
- Purchase of ICT equipment and software for digitisation of Medical Records;
- Purchase of Laboratory Consumables;
- Conducting Silicosis Baseline study
- Undertaking renovations both in Kitwe and Solwezi OHSI offices
- Upgrade laboratory equipment;
- Procurement of modern equipment to diagnose silicosis and other occupational lung diseases such mobile van with digital x-ray and GeneXpert machines;
- Finalization of the CoE strategic and sustainability plans
- Participating in the Occupational Health and Safety conference

Table 3.2.1 Description of Equipment Procured by quantity

S/N	DESCRIPTION	QUANTITY
1.	LED Microscopes	2
2.	LED Microscope Casings	2
3.	Haematocrit 200	1
4.	Bench Top Centrifuges	2
5.	Autoclaving Machines	2
6.	Luxmeter	2
7.	Noise Dosimeters	6
8.	Nanozen Real Time Dust Sampler	2
9.	Hanah Instrument (Digital Hygrometer –Hand Held With Prode)	1
10.	Drager Pump	1
11.	Whether Meter	1
12.	Weighing Hygrometer1	
13.	Industrial Digital weighing scale4	
14.	Printers for Digital x-ray Machines	2
15.	Examination Couches	4
16.	Portable Lead Shields	4
17.	HP Prolaint DL 380 server	1
18.	Server racks	2
19.	30W Embedded Switch mode	2
20.	4 GB module – DDR3 1600mhz	4
21.	Hard Drives	2
22.	LED Pixuim 3543-EZ-C	1

The following have been the achievements from January to December, 2020;

- BOQ complete for redesign of records room into laboratories now awaiting advertisement for bids
- CoE 2020 - 2025 Strategic Plan being finalized with participation of key stakeholders
- Civil works in Solwezi 80% complete and due for completion and handover in September, 2020
- Kitwe External works just paid initial instalment and works started
- Awareness raising done through an advert running on ZNBC TV twice a week for 8 weeks; running 1 program on radio in five languages and calendars. Documentaries developed undergoing editing.

There was training of 24 Zambian doctors in A-reading by trainers from University of Cape Town in February 2020 and facilitated establishment of collaboration between the Copperbelt University and Wits University of South Africa in developing curriculum and offering trainings in Occupational Health and Safety.

During the project implementation three key occupational health services have been established under the SATBHSS project. These include i.) Awareness for Occupational Health and Safety which was not common before the Project, ii). Enhanced TB detection by use of GeneXpert machines as compared to the use of sputum microscopes, and iii). Detection of dust levels by use of real time dust monitors as compared to the Konometers before the project.

The main challenges during the period has been the COVID-19 pandemic with stringent control and preventive measures that resulted in delays in completing installation of the digital X-Ray machines, finalizing the CoE strategy, development of the sustainability plan for the CoE, and a suspension of outreach services and holding of site meetings for civil works.

A. Operationalization of Communities of Practice

Communities of Practice (CoP) are regional working groups comprised of technical experts in the respective areas from each of the countries, and are responsible for setting regional priorities for implementation. ECSA-HC through the SATBHSS project coordinated the establishment of CoP based on agreed upon thematic areas and countries' leadership in each of CoP considering the respective countries strengths and comparative advantage. ECSA was responsible for facilitating operationalization of three CoPs by co-facilitating with the respective country leading each CoP and contribute to setting the meeting agenda, coordinating and facilitating technical discussions with the countries. AUDA-NEPAD was responsible of supporting two CoPs with ECSA-HC contributing to the discussions in those CoPs. The quarterly virtual meetings for the COPs on Research and M&E, Laboratory and Surveillance, Continuum of care and annual face-to-face meetings were held as planned, this provided an opportunity for countries to share experiences and provide oversight for reporting implementation progress in line with the RF. ECSA-HC supported the convenings of the three CoPs in 2020 virtually as travelling was not possible. The table below provides a summary of the achievements and key outputs for the CoPs that are coordinated by the ECSA-HC.

Table 3.2.2. Communities of Practice Countries' leadership and key achievements

CoP		Key Outputs
Research and M&E	**Lesotho**	• Developed a research implementation framework covering the four countries • Conducted operational research studies at country and regional level • Shared the findings at the RAC and at the Union conference • Developed Policy Briefs based on the finished research work • Conducted evidence-based planning for the Additional Finances in Lesotho • Conducted research methodology training based on the proposed studies • Participated in writing workshop to develop manuscripts for the already finished research work • Undertook capacity building on the results framework for the SATBHSSP reporting, countries are now better reporting than before. Indicators have been updated following discussions at the MTR and targets reviewed. • Conducted M&E Capacity building and Data Quality Assessment

CoP		Key Outputs
Continuum of Care	**Malawi**	• Completed the assessment of the implementation of the harmonized TB management in SADC region; • Develop minimum standards for cross-border TB management in SADC countries, including cross-border tools and M&E frameworks, in readiness for review and approval by countries; • Discussed and agreed on roadmap for capacity building and implementation of harmonized cross-border TB management, including the ToRs for cross-border TB coordination in the cross-border committees for disease surveillance and response • Revised the ToRs for the CoP, in order to emphasise the regional mandate for continuum of care, and the role to promote and foster to advance best-practice sharing and implementation towards ending TB; • Discussed the effects of COVID-19, developed and commissioned capacity building for maintaining TB services during COVID-19 • Developed capacity for Introduction/strengthening TB screening for healthcare workers • Developed capacity for introduction of MDR-TB newly recommended regimens and patients support in the project countries;

CoP		Key Outputs
Laboratory and Surveillance	**Mozambique**	• Provided Expert advice on priority Laboratory and Surveillance needs for inclusion into respective country and ECSA-HC regional work plans • Discussed modalities of facilitating cross-border movement especially the truck drivers through COVID-19 certification • Conducted capacity building of the CoP members on COVID-19 surveillance, biosafety and clinical management

CoP		Key Outputs
Occupational Health and Safety	**Zambia**	• Finalized the Mine Inspection Compliance tool which is being piloted in Zambia and Lesotho • Reviewed the draft Regional Harmonized Code of Practice on the Management of Occupational Lung Diseases • Provided input and technical exchange on COVID-19 workplace response • Reviewed progress and made input on the development of occupational health information system • Provided a platform on technical exchange on compensation

2.3.3 Sub-component 3.3. Regional coordination, policy advocacy, and harmonization
Regional coordination

A. Internal Project Coordination

ECSA-HC

In order to offer effective regional coordination, a Project Coordination Unit (PCU) was set up and fully staffed by February 2017 at ECSA-HC. The unit comprises of the Project Manager/Accounting officer as the Director General, the Project Coordinator, Senior TB Control Specialist, Senior Laboratory Specialist, Finance Officer, M&E Specialist and Medical Epidemiologist. The Project Senior Laboratory Specialist separated with the project in August 2020 and the project has since recruited a replacement to fill the current gap. The position was critical in laboratory and surveillance activities and providing technical assistance to the countries as needed on laboratory and surveillance. Following the signing of the additional financing, ECSA-HC recruited an additional TB Control Advisor to support the countries to accelerate the achievement of the TB control targets under the project and overall, the end TB targets. Based on the project components and needs, the staff have been instrumental in supporting the countries as needed to implement various project activities. The unit is also supported on a need basis by other experts from the ECSA-HC secretariat drawing from the pool of experts in the organization. Critical additional support on research implementation and M&E roles.

AUDA-NEPAD

A project implementation unit was set-up at the AUDA-NEPAD in February 2017 to provide regional technical support to project countries on occupational health and safety; private sector engagement; advocacy for TB control, health financing, policy and regulatory reforms; and communication. The team in the PIU includes a Principal Policy Specialist, Senior Occupational Health and Safety Specialist, Communication Specialist and Project Administrator.

Regional Advisory Committee (RAC)

This is a key organ that also provides an opportunity for inter-country learning on both technical and matters of policy concerns. In accordance with the Subsidiary Agreements signed between the countries and ECSA-HC and the Project's Financing Agreement signed with the World Bank, ECSA-HC was expected to establish and maintain a multi-sectoral and multi-disciplinary Regional Advisory Committee to serve as a vehicle for multi-country and multi-stakeholder expert engagement and dialogue. The RAC builds on the partnerships developed during project preparation and provides a forum for countries (including those not participating in the regional project), and their implementing partners to report on overall program progress and to share experiences and lessons. The RAC provides oversight to inter-country learning and draws from lessons learned to enhance the design of the project and draw policy implications. The committee plays a steering, advisory and consultative role. ECSA-HC facilitated the establishment of the RAC and in collaboration with the project countries, ECSA-HC successfully convened seven RAC meetings in December 2016, June 2017, January 2018, November 2018, May 2019, February 2020 and December 2020. The key outputs of the RAC meetings were inputs to strengthen country and regional annual implementation plans, provided direction on various aspects including: -

- Approving regional studies and providing advice on countries' priorities as well as on planned research;
- Formation of communities of practice and other knowledge management platforms;
- Healthcare workers screening and infection control interventions;
- Technical guidance on global standards for TB and Occupational lung disease management and control interventions;
- Engagement of partnership to foster better collaboration in control of TB and lung diseases; and
- Review progress reports and provide suggestions to accelerate implementation.

During the last RAC meeting, held on December 15-17, 2020, key decisions related to the following areas were made: -

1. Bank to follow closely with the legal teams to declare the project effective by 18th December 2020 and as soon as the AF financing for Malawi is declared effective. The restructuring will take effect and countries and regional organizations adopt the revised results framework.
2. All work plans were approved (or endorsed) by RAC subject to inclusion of inputs from the assigned reviewers and members of RAC and final No Objection from the Bank
3. Approved the finalization of policy briefs presented on the 6th meeting of RAC and publish following the necessary reviews by the countries and the Bank and proceed to use the findings for action going forward
4. Approved the establishment of a peer review mechanism for OSH Regulatory Reforms composed of countries high level officials to provide peer support, facilitate learning and spearhead regional advocacy on policy reforms

B. Partnerships

The project established/strengthened partnerships and collaborations with other regional organizations and projects to leverage human, material and technical resources and where possible facilitate synergies and cost efficiencies in implementing the regional projects. These includes: The Bank funded ***East Africa Public Health Laboratory Networking Project (that ended in September 2020)*** supporting laboratory and disease surveillance and preparedness capacities in East Africa; ***the Global Fund Regional Laboratory Strengthening Project*** that is targeting the National TB laboratories in all the four SATBHSS project countries that are among the 18 NTRLs in the networking collaborating with the Uganda Supra National Reference Laboratory (SRL). The AUDA-NEPAD is the secretariat to the Regional Coordinating Mechanism for the TIMS project and ECSA-HC is now going to be the PR for the ***TIMS project.*** This will ensure that activities in both projects are synchronized and that there is synergy in the implementation to maximize benefits in the supported countries. ECSA-HC has established collaboration with other partners such as ACDC; ASLM; AUDA-NEPAD; WHO Afro and country offices to support the project countries in various technical areas. The AUDA-NEPAD has also established partnership with (i) National Institute for Occupational Health of South Africa; (ii) International Labour Organization (ILO); (iii) Department of Mineral Resources and the Department of Employment and Labour of South Africa; (iv) SAIOH; (v) Workplace Without Borders; (vi) WHO; (vii) OSHAfrica; (viii) MBOD; (ix) ECSA-HC; and (x) National Institute for Occupational Safety and Health (NIOSH). These partners are supporting strengthening of occupational health and safety systems in the project countries.

C. Monitoring and evaluation

During the MTR, it was agreed that the project be restructured. The proposed restructuring included the revision of the Project Development Objective (PDO), PDO indicators, as well as the Intermediate Outcome Indicators (IOI) in the results framework. The PDO was proposed to be revised to reflect the investments on supporting the countries to strengthen disease preparedness and response capacities and also investments on occupational health and safety, which were not captured in the current PDO. Some indicators were noted to be challenging in terms of reporting, therefore were proposed for deletion, revisions or re-wording. ECSA-HC had taken leadership in this process working closely with the countries, convened several consultative meetings with technical experts in various communities of practice in proposing revisions to the project indicators and targets post the MTR. ECSA-HC consolidated all the inputs and suggestions for revisions from the countries and submitted to the World Bank for further internal processes. Restructuring was completed and officially communicated to the countries, so from 2020 countries started reporting using revised results framework with seven PDO indicators and thirteen intermediate outcome indicators.

Routine reporting

ECSA-HC is mandated to collect and aggregate project-monitoring data from the four participating countries. To facilitate this, ECSA-HC has jointly established common project reporting requirements for the countries, established a community of practice of M&E officers (who on quarterly basis have been submitting reports), and provided support to the countries on reporting tools, formats and frequency of reporting. ECSA-HC has also been periodically organizing M&E capacity building and data quality checks to ensure that data collected and submitted to the World Bank is of good quality.

The 2020 full report (January to December), indicated that four out of seven (57 percent) project outcome indicators and ten out of thirteen intermediate outcome indicators (77 percent) have been achieved. The overall performance stands at 70%. Countries performed less on POI# 1. TB case notification in target geographic areas, POI# 5. Proportion of Pulmonary TB cases that are bacteriologically confirmed and POI# 6. Number of Countries with multi-hazard preparedness plans developed. A number of interventions have been put in place both at regional level and also in the countries to ensure improved performance on these indicators in the upcoming reporting.

Financial Management

Cashflow/disbursement summary

The total budget for the year was US$43,189,121 for the four project countries and the two regional coordinating organizations. Expenditure for the year ending December 2020, was at US$20,511,687 representing 47% expenditure rate. The project received US$23,435,322 in total from World Bank during the year. COVID 19 Pandemic impacted the implementation of the budget during the year.

Figure 3.3.1. Project Budget Execution

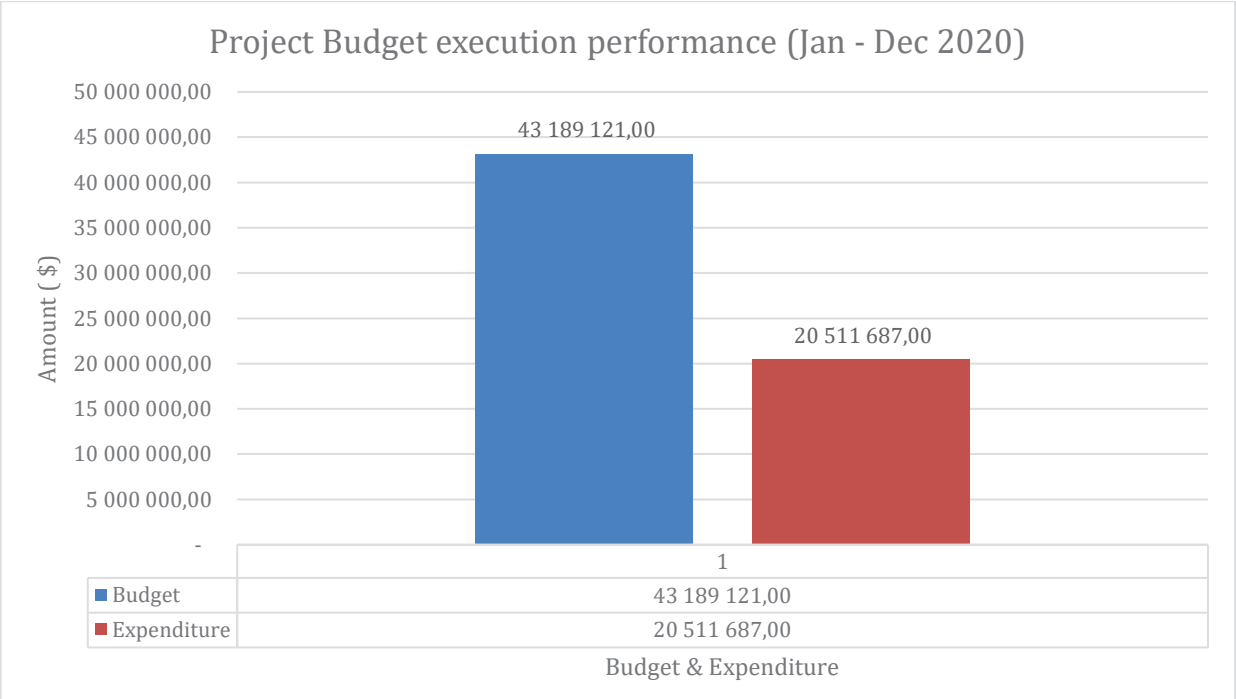
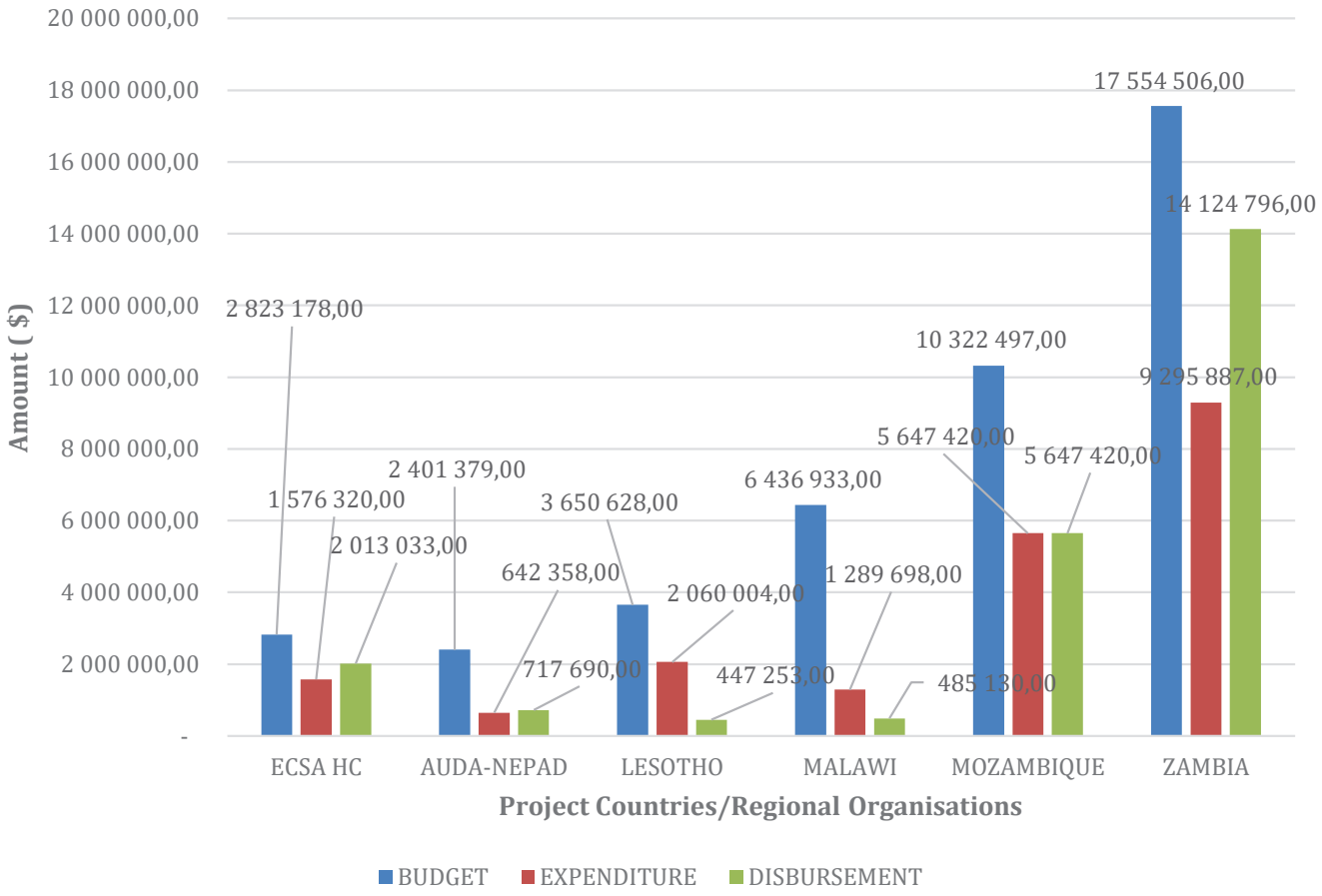


Figure 3.3.2. Project Budget and Disbursement Performance



ECSA – HC, The total of US$2,013,033 was disbursed against the approved budget of US$2,823,178 for the financial year 2020 which represents a disbursement rate of 71% as at end of year. The project had opening cash balance in the designated account of US$721,100 on 1st January, 2020. The Expenditure from January to December, 2020 was at US$1,576,320 (51%)

AUDA-NEPAD, Through the project received funding of $ 717,690 in total from the four countries to support the implementation of regional activities planned for 2020. This disbursed amount represents 30% of the total budget for year. The expenditure by December 2020 was at $ 642,358 which is 90% of the disbursed amount and 27% of 2020 annual work plan budget ($2,401,379).

For Lesotho, A total budget of $3,650,628 was approved under the annual work plan FY 2020. By December 2020, disbursement of $447,253 was made. The expenditure was $2,060,004 by December 2020 with a spending rate of 460% against disbursement because they had cash balance at the start of the year and 56% against the annual approved budget.

For Malawi, Total budget of $6,436,933 was approved under the annual work plan for 2020. Out of which a disbursement of $485,130 was made during the year. The Expenditure was $1,289,698 by December 2020 with a spending rate of 20% against the approved annual budget.

For Mozambique, A total budget of $10,322,497 was approved under the annual work plan for FY 2020. By December 2020, a disbursement of $5,647,420 was made. The expenditure to December 2020 was at $5,647,420 which is 100% of the disbursed amount and 55% of 2020 annual work plan budget.

For Zambia, A total budget of $17,554,506 was approved for the annual work plan for FY 2020. A disbursement of $14,124,796 was made as at December 2020. The expenditure to December 2020 was at $9,295,887 which is 66% of the disbursed amount and 53% of 2020 annual work plan budget.

3.0 Annexes

- **Annex I (a) and 1(b): Annual work plan matrix**
- **Annex II: Updated Results Framework**
- **Procurement plan (to be updated following approval and NO of the workplan)**

Annex II: Progress in Performance Indicators
Progress in Performance Indicators

The 2020 full report (January to December), indicated that four out of seven (57 percent) project outcome indicators and Eight out of thirteen intermediate outcome indicators (62 percent) have been achieved. The overall performance stands at 60%.

Project Outcome Indicators (POI)	Regional Targets for 2020	Regional Achievements 2020 Jan-December)	% Achievements
POI# 1. TB case notification in target geographic areas	109359	97671	89.0%
POI# 2. TB Treatment success rate in target geographic areas: All (i) New and (ii) Relapse TB cases (Percentage)	89%	90%	101%
POI# 3. TB cases identified through active TB case finding (screening) among TB vulnerable population in target geographic areas (Number)	13168	18290	138.8%
POI# 4. Project supported laboratories compliant with regionally harmonized SOPs for surveillance of MDR-TB	92	132	143%
POI# 5. Proportion of Pulmonary TB cases that are bacteriologically confirmed	63%	56%	88.8%
POI# 6. Number of Countries with multi-hazard preparedness plans developed	4	2	50%
POI# 7. Number of miners and ex-miners successfully screened for occupational lung diseases	69900	78180	110.7%
INTERMEDIATE OUTCOME INDICATORS (POI)			
IOI# 1a. Proportion of MDR-TB patients in target geographic areas benefitting from nutritional support during the treatment period	91.75%	86.50%	94%
IOI# 1b. Number of women and children who have received basic nutrition services	4720	3397	72%
IOI# 2. Proportion of TB patients satisfied with TB services as per patient exit surveys or "drop box" feedback in target geographic areas	89%	94%	106%
IOI# 3. Percentage of HIV patients routinely screened for TB in targeted geographic areas in the four participating countries	95%	96%	104%
IOI# 4. Proportion of new and relapse TB patients tested using WHO-recommended diagnostics at the time of diagnosis	73%	72%	86%
IOI# 5a. Outbreaks for infectious diseases for which cross-border investigation undertaken (number)	8	2	25%

IOI# 5b. Proportion of suspected outbreaks of communicable diseases that are laboratory investigated	89%	89%	100%
IOI# 6a. Health facilities renovated (number)	55	12	40%
IOI# 6b. Health facilities equipped (number)	120	303	14%
IOI#7. Number of countries scaling up Electronic Health Systems for TB case management or laboratory management (number)	4	4	100%
IOI# 8. Number of targeted labs rated 4 stars and above in SLIPTA assessment	11	13	118%
IOI# 9a. Proportion of mines inspected at least twice a year	63.75%	68%	22%
IOI# 9b. Proportion of mines inspected at least twice a year complying with national mine health regulations	50%	44%	34%
IOI# 10: Number of personnel receiving training (number)	2100	2208	105%
IOI# 11. Number of countries in which new legislation or amendment to existing mine health and safety legislation are drafted	4	4	100%
IOI#12. Number of miners and ex-miners successfully referred and screened for TB and occupational health services between participating countries and within participating countries	3705	982	27%
IOI# 13. Operational research studies commissioned and findings, lessons learnt disseminated through national and regional platforms	20	20	100%

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SOUTHERN AFRICA
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(SATBHSS)
PROJECT