SATBHSS Project Update - October 2017

This newsletter provides updates on the implementation of the Southern Africa Tuberculosis and Health Systems Support (SATBHSS) Project which works towards improving coverage and quality of key TB control and occupational lung disease services in project participating countries (Lesotho, Malawi, Mozambique & Zambia). The project also strengthens regional capacity to manage the burden of TB and occupational lung diseases in Southern Africa.
**Digital mobile X-rays to strengthen TB service delivery in communities**

The Ministry of Health in Lesotho has identified key milestones and timelines that set the roadmap for establishing the country as the recognized and accredited Centre of Excellence (CoE) on Community-based management of TB in Africa. The CoE will help Lesotho to increase TB diagnosis and treatment at community level, targeting the most vulnerable. Furthermore, the CoE will enable Lesotho to become the epicentre of information and knowledge on community-based management of TB for other countries to learn best practices and innovative approaches aimed at eliminating the scourge of TB.

One of the milestones identified is the purchase of digital mobile X-rays that will be useful in improving the delivery of TB diagnosis services in the communities where the people reside. The digital mobile X-rays will also play a critical role in delivering on the planned TB Prevalence Survey to estimate the number of people living with active TB in Lesotho in 2018. The digital mobile X-rays will move around the communities at regular intervals to increase coverage. It is expected that the digital mobile X-rays shall also include OMNI equipment for testing and confirming TB diagnosis.

In addition, the digital mobile X-rays will initiative TB treatment and refer the patients to the local clinics and hospitals.

This approach has been made possible by the Southern Africa Tuberculosis and Health Systems Support (SATBHSS) project funded by the World Bank (WB) at a total cost of USD 122 million.

The project is implemented in four countries; Lesotho, Malawi, Mozambique and Zambia with technical support provided by NEPAD Agency and East Central and Southern Africa Health Community (ECSA-HC). The aim of the SATBHSS project is to improve coverage and quality of key TB control and occupational lung disease services in targeted geographical areas of the participating countries and strengthen regional capacity to manage the burden of TB and occupational diseases in the Southern African Development Community (SADC). In order to achieve this and implement innovative approaches, the Ministry of Health in Lesotho has drafted Terms of Reference and a concept note for engaging a local NGO that shall be closely supervised to implement the community TB approaches. In addition to managing the digital mobile X-rays at community level on a day-to-day basis, the local NGO will also be strategically engaged to accelerate education and community outreach activities.

These activities shall hugely involve the participation of local community structures and leaders i.e. chiefs, headmen, etc.

A combined team from World Bank, NEPAD Agency and ECSA-HC undertook a country project support mission to Lesotho to review the TORs and concept note, as well as provide technical backstopping on the key milestones and timelines.

The feedback will now be incorporated by the Ministry of Health as they finalize the documents. The procurement process for the digital mobile X-rays has already commenced and operations are expected to start the first quarter of 2018 after the successful Civil Society Organization is engaged.
Improving MDR-TB case detection

Case detection of Multi-Drug Resistant Tuberculosis (MDR-TB) is very low in Southern Africa despite the region being home to 5 of the 30 MDR-TB High Burden countries in the world. Currently, MDR-TB case detection stands at 9% in Mozambique and Zambia and 30% in Lesotho, with treatment outcomes ranging from 33% in Zambia to 63% in Lesotho. MDR-TB has become a serious emergency, hence there is need to work together to strengthen efforts towards capacity building in MDR-TB control.

African mines have been recognized as a major driver of TB in southern Africa. Although causality has not been established in all countries is it is well documented in Lesotho that cross-border migration to the mining sector is highly related the high burden of drug resistant TB.

In response to the challenges posed by the cross-border migration on TB control, the SATBHSS project through the Community of Practice (CoP) on continuum of care has set priorities for carrying forward implementation of SADC harmonization of MDR-TB treatment regiments in line with the latest World Health Organization (WHO) developments. East Central and Southern Africa Health Community (ECSA-HC) facilitated a training in the Rwanda Centres of Excellence (CoE) for Programmatic Management of Drug-resistant TB (PMDT) from 25 – 29 September 2017. The training joined 8 clinical and TB managerial staff from Zambia and Malawi with the aim of targeting staff from the SATBHSS project countries and training them in MDR-TB clinical management. The training also focused on providing insights on the process of introducing short MDR-TB treatment regimen and improving training curriculum in line with WHO accredited MDR-TB

Malawi Identifies Training Needs for TB Management

Following approval by the National Health Scientific Research Committee of Malawi, the country has successfully completed data collection, cleaning and analysis, and validation processes for the Training Needs Assessment for TB Management. The validation meeting was held on 1st November 2017 in Lilongwe, Malawi.

This Training Needs Assessment was undertaken through administering an electronic survey to staff (all cadres) working in TB at central and district level and with support from the East Central and Southern Africa Health Community (ECSA-HC). The findings of the assessment will provide a national picture of the training needs for TB management, help to identify the content and target audience for the training and also outline some of the major challenges faced in implementing training programs.

The validation meeting was attended by participants from the National TB Program (NTP), district level and partners who discussed the
training institutions curriculum. The training provided a platform for information exchange amongst the two participating SATBHSS project countries with Rwanda Centres of Excellence on PMDT, with regards to MDR-TB training curriculum implementation and clinical management, with emphasis to the implementation of the WHO recommended short MDR-TB regimen.

ECSA-HC also facilitated a knowledge exchange visit with Rwanda National Tuberculosis Control Programme, aiming at providing insights for strengthening or establishing psychosocial support services for MDR-TB patients and understanding the roadmap and challenges in this process. The knowledge exchange focused on examining/reviewing infrastructure requirements for a sputum Sample Referral network system and gather insights for establishing/improving integrated sample referrals, as well as gather insights for implementation/integration of PAL in NTP routine activities.

This exchange visits included 10 TB management staff from Malawi, Mozambique and Zambia, in an interactive learning experience in the health facilities and TB management units of Rwanda National Tuberculosis Programme, namely the MDR-TB treatment facilities, the National Tuberculosis Reference Laboratory, and district MDR-TB management units. By the end of the training, SATBHSS project country representatives identified national gaps in current training curricula, and provided insights on the needs and way forward (clinical and laboratory) and documented some gaps faced by the Rwanda PMDT program as a lesson learnt. They also identified gaps in target programmatic areas and how these can be further strengthened. A draft concept of the composition training curriculum was developed.

The findings at length and resolved to use the findings to inform the year 2 TB training activities. It was further agreed that there will be need to monitor the impact of the trainings on the quality of TB management in the target districts. Finally, the participants called for the tool to be administered beyond the Southern Africa Tuberculosis and Health Systems Support (SATBHSS) project sites so that the results could be generalized to the entire country.

The findings will be disseminated in a national and regional report which is currently under finalization. ECSA-HC is implementing a number of regional studies in year one as part of the operationisation of the SATBHSS project year one work plan. The Training Needs Assessment will ascertain the specific skills that are required to address some of the major emerging issues that are possibly retarding the progress towards the control of the TB burden and all the four SATBHSS project countries are undertaking this exercise at country level to address context specific issues.
Mining is a major activity in most African countries and the sector has been a major source of revenue for these countries for over a century. However, mining comes with their own health challenges. Some of the diseases that often affect miners include Tuberculosis (TB) and Occupational Lung Diseases.

NEPAD Agency has called for a multi-sectoral approach to the fight against TB in the mining sector. NEPAD Agency Principal Programme Officer - Policy Specialist, Chimwemwe Chamdimba says there is need for African countries to take a broader perspective on TB and fight it in the mining industry. She as speaking in Ndola, Zambia during the inaugural meeting of the Community of Practice (COP) on Mine Health Regulation and Occupational Health and Safety held from 28 – 31 August 2017. The CoP is one of the four established and operationalized under the Southern Africa Tuberculosis and Health System Support (SATBHSS) project and the other 3 CoPs include; Monitoring and Evaluation (M&E) and Research, Continuum of Care and Laboratory and Surveillance.

The CoP on Mine Health Regulation and Occupational Health and Safety will support the four SATBHSS project countries (Lesotho, Malawi, Mozambique and Zambia) in rolling out a standardized package of occupational health services and mining safety standards; and strengthen mine health regulatory capacity. It will accomplish its mandate through facilitating harmonization of legislation on mine health regulation and occupational health across countries; facilitating knowledge exchange; developing implementation guides; working with stakeholders to roll out the package and monitoring and evaluation.
exchange and sharing of best practices on mine health regulation and occupational health; and assisting countries in developing or updating existing legislation on mine health and safety, among other actions. Speaking during the meeting Ms Chamdimba said African countries must look at TB as a challenge to productivity and it should be fought hard to help develop their respective countries.

“This community of practice now moves us from looking at TB in our silos to looking at it in the broader sense to include the labour part of it, mining point of view, and also the employers and employees angle. It is from this unique multi-sectoral blend that we can tackle this challenge which has been with us for 100 years,” said Ms Chamdimba during the opening of the workshop.

Southern Africa Development Community (SADC) also took part in the meeting. Its representative Dr. Alphonse Mulumba, who is a Senior Programme Officer for HIV and AIDS, said he hoped more SADC members would join hands to fight TB in the mines. Currently, SADC has 15 member states but only Lesotho, Malawi, Mozambique and Zambia are covered under the World Bank (WB) funded Southern Africa Tuberculosis and Health System Support (SATBHSS) project. There is a need to expand this scope and include other SADC members to tackle the scourge of TB as a region.

“The mining sector is critical in our member states economies and we hope more members’ states will join this Community of Practise on mine regulation and occupational health and safety so that we can move together as a region,” said Dr Mulumba.

Dr. Walter Odoch, Health Systems and Public Health Manager from East Central and Southern Africa Health Community (ECSA-HC) was optimistic that once the community of practice is fully functional, it will offer tangible advice to the countries on how to improve occupational health services. As agreed during the 1st Regional Advisory Committee (RAC) meeting, this CoP on mine regulation and occupational health and safety is led by the Zambia and NEPAD Agency is co-chair.
For over 50 years, most foreign mine workers in South Africa return to their home countries after retrenchment or closure of the mines without accessing their social benefits. Currently, South Africa has unclaimed legal benefits totalling R4 Billion for occupational lung diseases, including TB and R55 Billion for injury compensation in the work place. Malawi is one of the hardest hit countries with a population of ex-miners estimated at over 50,000.

Southern Africa Miners Association (SAMA), a regional organization comprised of ex-miners workers is partnering with Southern Africa Trust (SAT), the government of South Africa and Malawi and the NEPAD Agency under the Southern Africa Tuberculosis and health Systems Support (SATBHSS) project to establish linkages that will facilitate access to unclaimed social benefits in South Africa for Malawian ex-miners.

Commissioner at the Compensation Commission at the Department of Health in South Africa, Dr Barry Kistnasamy explained that there are two kinds of compensation services that the Malawian ex-miners are entitled to if they qualify and meet the criteria. These compensation services include; occupational lung diseases and accidents that happened at the work place resulting in injury and/or loss of livelihood.

“Injury compensation is easy because the resulting disability is visible, but occupational lung diseases are more difficult as they can take up to 10-30 years for the symptoms to develop and can only be identified by a legal medical practitioner,” Dr Kistnasamy explained.

In order to qualify for compensation services from the unclaimed benefits, the Malawian ex-miners have to undergo a thorough medical assessment including; chest X-ray, lung function test, heart test, test for hearing loss, silicosis, etc. to ascertain the disease presence. SAMA President, Rantsi Mantsi explained that the compensation services cover the period from 1965 – 2015 and their objective is to coordinate ex-miners and link them up with the relevant government authorities, and organizations to ensure they access their legal entitlements.

“We are opening formal channels with responsible authorities to ensure that ex-miners and their families...
access the social benefits they are entitled to," SAMA President, Mantsi said.

SAMA General Secretary further said that their members are ex-miners and the pain of these ex-miners is the same regardless of geographical boundaries i.e. borders. He explained that South Africa currently has a database of the ex-miners who have unclaimed benefits, and they need to undergo a medical examination to qualify for the unclaimed benefits. If the ex-miner has died, his/her family member can claim these benefits on their behalf.

NEPAD Agency is working with SAMA, SAT and the governments of Malawi and South Africa to establish an in-country centre in Malawi where the ex-miners can easily access medical examinations. After the medical examination, processes are being established to send their documents to South Africa for a medical team to evaluate the results. The current situation requires that ex-miners travel physically to South Africa to undergo the medical examinations. The above approach will help to accelerate access to the social benefits.

In association with Ex-Miners Association of Malawian, a recent combined team of the above organizations visited two villages in Lilongwe and Ncheu Boma to meet with the ex-miners on 6th and 7th September 2017. The combined team took this opportunity to explain to the ex-miners the right legal processes that have to be followed to access these social benefits, and dispel rumours perpetuated by mis-information from some sectors of society.

In addition, the combined team also distributed educational materials in local languages for information purposes and to raise awareness in the villages. One of the biggest challenge for the ex-miners has been access to the right information on processes for accessing their entitlements and the distributed materials will help to address this by documenting step-by-step the processes that needs to be followed in local languages using simple infographics.

Combating TB through collaborative efforts in Sub-Saharan Africa

TB is among the top five causes of death in Sub-Saharan Africa. Responding to the burden of TB requires a regional multi-sectorial approach that focuses on addressing determinants of the spread of TB and tackling health system constraints that inhibit a rapid TB response. East Central and Southern Africa Health Community (ECSA-HC) organized a workshop on the margins of the 48th World Union Conference on Lung Health in Guadalajara, Mexico to leverage this global platform to discuss the mechanisms for strengthening health systems to support management and control of the burden of TB in East, Central and Southern Africa. The workshop took place on 11 October 2017.

The workshop attracted 41 participants who were engaged in discussions guided by five themes focusing on rebuilding current laboratory capacity to contribute to controlling TB and other infectious diseases, and embracing innovative regional approaches to cross-border management of TB and other infectious diseases, as well as highlighting the value of harmonized guidelines and strategies for TB
and occupational health in the region. The workshop was officially opened by Dr Benedita from the Ministry of Health of Mozambique. Speaking during the event, Dr Benedita expressed appreciation of the commitment to regional harmonized approaches to tackle the burden of TB as evidenced by the implementation of the World Bank (WB) funded Southern African Tuberculosis and Health Systems Support (SATBHSS) project in Lesotho, Malawi, Mozambique and Zambia.

“The four respective governments have shown commitment to combat the TB Burden in the region through this regional approach”, Dr Benedita said.

She appreciated the support through the World Bank and the regional coordination provided by ECSAA-HC and NEPAD Agency in the implementation of the SATBHSS project. She noted that countries were at different levels of implementation with challenges being addressed at different levels. Each of the 4 project countries presented updates on efforts towards establishment of Centers of Excellence (CoE) distributed as follows; (i) Community based TB Management by use of digital mobile X-rays (Lesotho); (ii) Community TB care & integrated disease surveillance (Malawi); (iii) MDR-TB & childhood TB management (Mozambique) and (iv) Occupational health and safety (Zambia).

Dr Bachir of Mozambique indicated that their CoE seeks to generate best practices in surveillance, diagnostic, treatment, prevention and research related to PMDT in Mozambique and provide technical support and facilitate collaboration and cross learning about DR-TB in the region while Dr Marealle of Lesotho indicated their CoE will improve case notification through community based approaches in TB management in the underserved and hard to reach areas. Dr Mpunga shared with the participants that Malawi is focusing on strengthening community TB, occupational health services and integrated disease surveillance while Mr Morton of Zambia indicated their CoE will improve coverage and quality of key TB control and occupational lung disease services in targeted geographic areas of the participating countries.

During the workshop, presentations were made by the Global Laboratory Initiative (GLI) on their laboratory system strengthening initiatives the “GLI Stepwise Process towards TB Laboratory Accreditation.” In addition, GLI informed the participants on the “GLI Guide to TB Specimen Referral Systems and Integrated Networks” launched at the conference. During the session, ECSA-HC representatives, Dr Talkmore Maruta, Senior Laboratory Specialist and Dr Ivandra Chirime, Senior TB Specialist provided an update on Laboratory system strengthening activities and implementation of Harmonized TB Management Guidelines and Cross-border Referrals in the Mining Sector in the Southern African Development Community (SADC) Region. Dr Martin Matu, Project Coordinator at ECSA-HC, Dr Willy Were, Epidemiologist and Dr Benedict Moshi, M&E Specialist jointly presented on the East Africa Public Health Laboratory Network efforts in strengthening Laboratories to support TB and other infectious diseases in East Africa.

The three hour long workshop also discussed current research efforts to inform management and control of the TB burden and utilize findings from training needs assessments for the control and management of the TB burden in the region.

**OBJECTIVES OF THE SIDE EVENT**

- Discuss current efforts of building laboratory capacity to contribute to control of TB and other infectious diseases in east, central and southern Africa.
- Discuss innovative approaches to cross-border management of TB and other infectious diseases and occupational health including establishment of Centres of Excellence.
- Appreciate the value of harmonised guidelines and strategies for cross-border TB and occupational health programming.
- Document current research efforts to inform management and control of the TB burden.
Mchinji-Chipata Cross-Border Committee to enhance TB surveillance

Figure 1: Cross Border Zones (a) 1 & 2 and (b) 3 & 4

TB that does not respect administrative boundaries and tackling the disease requires a coordinated effort by neighbouring districts across borders to accelerate prevention, diagnosis, case management and treatment. Zambia and Malawi have come together to establish the Mchinji-Chipata Cross Border Committee using the Framework for Cross-Border Integrated Disease Surveillance and Response. The Framework as developed by the Community of Practise (CoP) on Laboratory and Surveillance in August 2017 in Maputo, Mozambique under the Southern Africa Tuberculosis and Health Systems Support (SATBHSS) project. The framework provides an opportunity for project countries and their neighbours to strengthen priority cross-border activities for disease control, including but not limited to disease surveillance, epidemic preparedness and outbreak control and building core capacities to ensure compliance to the International Health Regulations (IHR 2005). It also has guidelines on how to set up Cross-Border Zonal disease surveillance and response committees which shall be

Operational Research studies reach advanced stage in Mozambique

Mozambique has reached advanced stages in the planning for the implementation Operational Research (OR) studies by completing the proposal development and securing approval from the Union Ethics to undertake two OR studies; Timing of antiretroviral therapy in relation to anti-tubercular treatment and tuberculosis treatment outcomes in patients with HIV-TB co-infection in Chokwe district and Notification of diagnosed TB cases from Xai-Xai Provincial Hospital to referral health facilities for DOT: are there leaks?

Currently, Mozambique is only awaiting local Ethics clearance to undertake the two studies. Resources are available from in country to implement the studies once ethics clearance has been obtained. In addition to the two OR studies, Mozambique is also participating in the assessment of training needs for TB management under the Southern Africa Tuberculosis and Health Systems (SATBHSS) project. The protocol for the training needs assessment is undergoing in-country ethics review and the implementation timelines for data collection and validation will be made once the ethics clearance is granted. In the meantime, the National TB Program (NTP) is working on preparatory procedures and compiling the email lists which will be used to send the survey link to speed up the process. The training needs assessment for TB management are important to ascertain the specific skills that are required to address some of the major emerging issues that are possibly retarding the progress towards the control of the TB burden.

Mozambique is also planning for the pilot of the client satisfaction survey and the narrative on how the tool will be introduced has been developed. The pilot will initially be introduced in 27 districts where the project is being implemented and the main (secondary) health facility in each district will be purposively sampled. The client satisfaction survey tool will be
tasked with coordinating cross-border interventions in line with existing structures. Malawi and Zambia will co-Chair the Cross-Border Committee and have developed a work plan for joint activities in 2018 based on three themes;

(i) Coordination, advocacy and community mobilization  
(ii) Laboratory  
(iii) and Surveillance

Terms of Reference of the Mchinji-Chipata Cross Border Committee were agreed and membership was agreed with each country bringing 13 members to make a total of 26.

Dr Willy Were gave closing remarks on behalf of the Director General of East Central and Southern Africa Health Community (ECSA-HC) and he applauded the efforts by Malawi and Zambia to finding solutions to their problems jointly.

He also emphasized on continuation of engagements formally and informally on cross border surveillance and other issues of public health importance. Dr Were also appreciated the presence of both District Commissioners (DCs) in the meeting as it demonstrates their level of commitment to the process and ensuring its success.

Mr Mabvuto Chiwaula, representing the DC of Mchinji reiterated the need to continue dialogue between Mchinji and Chipata. He noted that the boundary between Malawi and Mozambique was the longest and most prone to disasters and should be considered in the next planned cross-border meetings.

He thanked the organizers of the meeting and acknowledged support provided to the countries.

The DC of Chipata, Moses Nyirenda gave the official closing remarks where he thanked ECSA-HC for organizing and facilitating the meeting. He indicated that the issues of cross-border were topical and noted that the Table Top simulation was very useful in evaluating their preparedness and the identified gaps will be rectified.

He assured the meeting that he will oversee implementation of the recommendations from the meeting to make sure the committee is a success.

The 4 SATBHSS project countries are currently at different levels of implementation of the studies but steady progress is being made to ensure the country studies contribute to regional initiatives and vice-versa.
Lesotho to upgrade national laboratories to accelerate fight against TB

TB service delivery in the Kingdom of Lesotho is impacted by long delays between sample collection and receiving test results, especially in the rural areas and townships where TB laboratories are not operating optimally. In extreme cases, this process can take as long as 3 months and there is a backlog of over 900 TB samples. Consequently, this leads to delayed commencement of treatment for TB. The Ministry of Health (MOH) has earmarked the renovation of two (2) TB laboratories; National TB Reference Laboratory and Leribe TB Laboratory to address these problems and bottlenecks. In addition, upgrades are planned at three (3) Correctional Service Facilities with the goal of creating TB isolation wings to reduce exposure to TB infection and transmission among prison inmates.

The upgrades are aimed at improving the delivery of TB services and ensure they meet occupational health and safety, and infection control standards. The scope of the planned renovations of the laboratories is informed by the World Health Organization (WHO) comprehensive assessment, together with one conducted by the Africa Centre for Disease Control (CDC). During a joint project support mission to the country conducted by the World Bank (WB), NEPAD Agency and East Central and Southern Africa Health Community (ECSA-HC), the Deputy Principle Secretary in the Ministry of Health in Lesotho, Ms. Palesa Mokete confirmed that an Engineer has since been employed under the Southern Africa Tuberculosis and Health Systems Support (SATBHSS) project to oversee and supervise these works from a technical perspective with support from other government units. “We have a backlog of TB samples at the National TB Reference Laboratory and renovating this laboratory will help to reduce these numbers”, Ms. Mokete said. World Bank Senior Health Specialist, Ronald Mutasa outlined the objectives of the mission which is aimed at reviewing SATBHSS project progress and work with the country team to identify priority areas for scaling up activities.
“We acknowledge the work being done in Lesotho and will shall continue to provide technical support to ensure the country finishes the project start-up year strongly”, Mr Mutasa said.

The current state of the TB laboratories pose many hazards especially to the service providers, as well as in the management of specimens according to internationally accepted standards.

During a courtesy call, the Permanent Secretary at the Ministry of Labour and Employment (MOLE) Mrs Maseithati Mabeleng emphasized that her Ministry will take up responsibility for implementing the Occupational Safety and Health (OSH) component on the project to accelerate progress.

“The SATBHSS project comes at the right time and will answer most of the questions that have hindered TB screening, as well as access to social benefits for the ex-miners who once worked in South Africa and left without accessing their benefits”, Mrs Mabeleng said.

Through the SATBHSS project, the national Occupational Safety and Health (OSH) Profile in Lesotho will be updated and the TORs for this work have been drafted. The Permanent Secretary at the Ministry of Mining Mr. Soaile Mochaba acknowledge and appreciated the work being done under the SATBHSS project through a multi-sectoral approach involving the different Ministries. He reminded everyone that the biggest driver of TB and occupational lung diseases in Lesotho is mining so they are a stakeholder in addressing the scourge of TB.

“This project is creating synergies that will ensure our Ministries work collaboratively to implement multi-sectoral approaches to kick-out TB and occupational lung diseases in Lesotho”, the PS Ministry of Mining said.

The renovations shall involve removing and replacing the current roof covering with a proposed economical and maintenance free aluminium sisalation membrane to prevent rain water penetration and formation of water drops caused by water vapour. The current roof covering has been letting in water especially during the rainy season. In addition, the damaged doors to the secure areas will be replaced by new ones with a heated viewing window. The new doors to the Ante Rooms will be replaced by aluminium ones that interlock with electromagnetic latches to ensure that when one door is open the other cannot open.

Furthermore, the existing wooden pass boxes will be replaced with heavy duty metal pass boxes in GL powder coating. The cracked walls and broken water pipes will also be reinforced and replaced respectively to ensure they are sealed to safeguard specimens in the laboratory and prevent accidents. The Ministry of Health shall engage a contractor to undertake the above and many other renovation works. Additionally, since some of the works involve specialized knowledge there shall also be some nominated sub-contractors to undertake these works.

The upgraded laboratories will aim to attain certification level with internationally accepted standards for TB laboratories and meet standards for occupational health and safety. Revamping the laboratories will make them operate optimally and strengthen efforts to end TB by 2030 in Africa.
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