Newsletter
3rd Quarter 2019

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Mid-Term Results Brief

The mid-term results brief outlines results and innovations from the implementation of the Southern Africa Tuberculosis and Health Systems Support Project (SATBHSS), as well as the lessons learned over the last two and a half years, highlighting priorities and opportunities to scale up TB control innovations in Southern Africa.

Regional Tuberculosis (TB) remains a major public health and economic concern in Southern Africa despite global progress in TB control, the region has the highest per capita burden of TB. Notably, Lesotho and Mozambique have some of the world’s highest TB incidence at 665/100,000 and 551/100,000 population respectively. From a human capital perspective, TB is a primary cause of premature death and disrupts economic potential. TB and TB/HIV are among the top three causes of premature adult mortality across the region.

The World Health Organization (WHO) indicated that in 2017 alone, 49,000 and 78,000 deaths occurred due to TB in Mozambique and South Africa respectively. TB in Southern Africa is compounded by HIV/AIDS, the intra-regional movement of people for labor, and other economic activities facilitating cross-border disease transmission. Within the mining sector, TB prevalence is especially high, given the convergence of many factors, including exposure to silica dust, weak regulation of occupational health practices, unhealthy behaviors such as smoking and alcohol use, and poor living conditions.

SATBHSS project funded by World Bank is tasked to respond to the TB challenge in Lesotho, Malawi, Mozambique, and Zambia focusing on occupational lung diseases among miners and ex-miners, health care workers, mining communities, high TB burden regions, high HIV/AIDS burden regions, transport corridors, cross-border areas, and
labor-sending areas. Besides supporting interventions directly addressing TB and its determinants, SATBHSS supports critical investments in broader health systems strengthening—an approach necessary to control and eventually eradicate TB. The SATBHSS project key results include; (i) a 200% increase in notification of TB among miners, these improvements are contributing significantly to finding and treating missing TB cases in the region; (ii) enhanced cross-border disease surveillance and response by zoning and enhancing capacities of multi-sectoral teams to effectively respond to outbreaks. The zones have been involved in surveillance and sub-regional joint outbreak investigations of diseases such as the cholera, foot and mouth disease, leptospirosis, and rabies; (iii) enhanced capacity for diagnostics and quality systems improvement of laboratories by collaborating to implement peer regional assessment and laboratory certification through the Stepwise Laboratory Quality Improvement Process Towards Accreditation (SLIPTA) audits. This has led to ISO 15189 accreditation of two laboratories in Zambia and significant improvement in SLIPTA performance of laboratories; (iv) countries have collaborated to define a regional benchmark for mine Occupational Health and Safety (OHS) inspection to strengthen primary prevention for occupational lung disease.

Lesotho

There are 655 cases per 100,000 population in Lesotho, SATBHSS has been supporting the Government of Lesotho to mount a comprehensive multi-sectoral response to the challenge, while leveraging on regional learning and innovation. Lesotho is spearheading performance based incentives to drive transformative change in traditional approaches to screening, testing, diagnosis, and treatment of TB. Launched this past April, the pilot is expected to advance new technologies to improve areas of persistent challenge, particularly in case detection and treatment success. Lesotho has also established wellness clinics in six hospitals to enhance TB screening among healthcare workers whose TB prevalence is double that of the general population.

Malawi

In 2017, 3,500 TB deaths occurred among HIV positive patients in Malawi, who make up 70% of TB patients in the country. Through the SATBHSS project, remarkable progress has been made in establishing an innovative Centre of Excellence (COE), which is rolling out a one-of-a-kind e-health platform for community TB care. The platform has helped to strengthen community TB disease surveillance through use of current technologies to collect and transport sputum and track the journey of sputum from collection point, to laboratory, and back to the patient with results. The e-platform is currently being linked to the national health management information system, which will help facilitate routine data collection on TB. More than 70 new sputum collection points have been established. Mobile (X-ray) diagnostic units are being utilized to reach key populations, these interventions have led to an improvement in treatment success to a current 88% from 82% in 2016.

Mozambique

In Mozambique, the last three years have shown progress on the number of new cases of TB notified. At 90%, the treatment success rate has surpassed project targets. The Government of Mozambique is prioritizing community case finding and community screening campaigns to further identify missing cases of TB. In addition, improved sputum sample transportation is being scaled up to harness the benefits of GeneXpert machines located in strategic facilities.
Mozambique has implemented tele-mentoring for case presentations and review by medical practitioners across provinces. In this regard, ECHO technology has been established in four provinces where 186 DR-TB clinical cases have been discussed and reviewed by medical practitioners. Interventions on TB and/or HIV diagnosis and treatment for Mozambican miners on either side of the Ressano Garcia border with South Africa have been initiated, leading to TB screening of 11,042 miners between September 2018 and March 2019.

Zambia

Zambia’s TB incidence rate of 361/100,000 population is above the WHO emergency rate of 250 cases per 100,000. The SATBHSS project has contributed to improved case finding that has been matched with an increase in treatment success rate, which is now at 90% for drug sensitive TB. Zambia has employed an innovative approach to DRTB management using geospatial mapping of DR-TB patients to map hotspots; this is assisting in contact tracing and screening. The deployment of DR-TB nurses at the community level has contributed to an increase in treatment success rates. As a COE for OHS, Zambia has taken lead in the review of OHS policy, legislation, and regulation.

ICT Innovation Improves Service Delivery in Malawi

The TB case management has over the years been facing a lot of challenges despite the Malawi government and donors’ effort. Existing systems are mainly manual and failing to adequately address patient management which includes follow up, tracking of patient for diagnosis and patient management. Community detection effort also experience a long turnaround time and difficulties of tracing samples and patients in the referral cascade. The National TB Programme, funded by the World Bank through the Southern Africa Tuberculosis and Health Systems Support Project (SATBHSS) has developed the e-Health intervention for community systems with an aim of improving TB patient tracking and management. The system has been implemented in two health centers and it is expected to be scaled up in 18 more health centers. The system is web-based and has a mobile application which is being used for patient registration by the community volunteers.

The system uses barcodes that are linked to the patient’s data to ensure that there is no mix-up in samples and a sample can be easily identified simply by scanning the barcode. Community volunteers are at the heart of the innovation as they are the ones who identify presumptive TB cases and transport samples to the nearest facility. Once a presumptive case has submitted his or her sputum the volunteers send the information to the facility before the sample is received at diagnostic facility. Once the samples are tested, the patient gets an SMS notification informing him that his results are ready. Patients also get reminders about when he is due for the next medication.

If a patient is lost to follow up for treatment, the system sends alerts to the patient as well as system user by placing
If a patient is lost to follow up for treatment, the system sends alerts to the patient as well as system user by placing the patient on the lost to follow up list. This has greatly improved patient follow up.

**TB e-Health web dashboard**

Since the implementation of the system, 11668 samples have been collected in the 20 health centers, 10072 samples have been tested out of which 461 are confirmed TB cases. The availability of this information is in real time, therefore enables both the National TB Control Program and district hospital management teams to make decisions quicker than previously when the system was paper based.

**SATBHSS Breaking Mine Inspection Barriers**

Despite having a regulatory framework in place that empowers government entities including the Ministry of Labour, department of Mines and Ministry of Health to conduct joint mines inspection in a bid to ensure adherence to good safety standards, not much was being done due to inter-ministerial coordination challenges. The challenges emanated from lack of a proper coordination platform for the three government entities. With the support of the Southern Africa Tuberculosis and Health Systems Support Project (SATBHSS) the three government entities have been meeting regularly to carry out their respective roles in ensuring adherence to good safety standards in the mining sector. The resulting effect of this is well coordinated planning and execution of activities, which
“Through the regular joint mines inspection, mine companies have been visited and reminded of the need to strictly adhere to safety standards and good hygiene practices in the mines” This is according to Mr. Sinya Mtawali, an industrial Hygienist in the Occupational Safety and Health Directorate within the Ministry of Labour. Mr Mphatso Kapokosa from the Department of Mines adds that “The inspections have greatly helped in ensuring that miners are provided with the necessary working equipment.” He went on to indicate that previously the miners would work without the right equipment as evidenced by the results of their initial inspection visits at the beginning of the Project. However, with successive visits, the companies have managed to procure and provide safety gear to the miners.

The regional inspectors’ training of trainers’ course which took place in Maputo Mozambique on 3 to 7 June 2019 aimed at equipping trainees with skills to adequately undertake safety inspections with an emphasis on occupational dust exposure management based on international standards and best practices. The training expectations were to build a cadre of experts who will support the development and implementation of a standardized approach to inspections and strengthen inspection capacities in the countries. The Inspectors’ training was organized with the aim of strengthening the capacity of public sector agencies responsible for occupational health and safety in mines to adequately undertake safety inspections with a focus on occupational dust exposure management.

Mining activities are an important economic contributor in the SADC region, including Mozambique, but they are historically associated with high TB incidence. This is due to working conditions in mining such as prolonged exposure to respirable dust, poor ventilation, and inadequate control of hazards. The situation is exacerbated by poor health-seeking behavior, poor living conditions, and poor safety culture and inadequate occupational health and safety policies, laws and regulations; and human resources capacity. The human resources capacity limitations hinders the inspectors to use the existing laws and international best practices to adequately inspect and provide solutions to protect health and safety of the current miners. The training directly contributes to addressing the challenge of inadequate human resources to undertake mine inspection and improve the quality of inspections and pave a way for regional harmonization of OHS standards and inspection approaches.
Mr. Obete Matine the General Inspector of Mines delivered the official opening remarks, stating that capacity building of OHS inspectors in the region is one of the most important innovative interventions that the country can use as a weapon to fight against TB and other occupational incidents, accidents and illnesses.

He further indicated that it is also a meaningful contribution towards the fight against lung diseases and will improve the general health and safety in the interest of workers in the workplace. He concluded by encouraging participants to engage and pay closer attention especially to the practical sessions on instrumentations. The training was attended by 30 participants from different provinces of the country majority came from Maputo Province. All of the participants were inspectors from both the ministries of mines, and labour.

The content of the training was packaged to address the issues of OHS inspection in the global economy, such as inspectors’ code of ethical behavior, OHS management systems, as well as management of vulnerable groups in the mining and non-mining sectors. A site visit was also undertaken whereby participants were taught on how to utilize the acquired environmental and occupational hygiene monitoring equipment.

A total of 30 inspectors were trained in all areas of inspections focusing on risk assessment. The training identified critical areas of inspections where inspectors need further training such as health risk assessment which will equip inspectors to easily recognize hazards and with skills to advise on how to mitigate the identified hazards.

The Government of Mozambique plans to develop an inspection training roadmap which will indicate the areas where they will need further technical assistant. They also indicated the need to collaborate with the National Institute of Occupational Health (NIOH) so as to acquire skills on occupational hygiene practices.
inauguration of occupational health center

The Mozambique Ministry of Health held an inauguration ceremony for a new Occupational Health Center on 22 July 2019 in Moamba District, Maputo Province, chaired by Dr. Nazira Abdula. This center was designed as part of the implementation of the World Bank-funded regional project the Southern Africa Tuberculosis and Health Systems Support Project (SATBHSS). Improving the coverage and quality of TB and occupational lung disease control services and strengthening regional capacity for TB and occupational diseases management is the overall objectives of SATBHSS. One of the key interventions is to reinforce the diagnostic capacity through the acquisition of modern equipment to assure the accuracy and timely diagnosis; periodic screening of TB and occupational diseases among miners and ex-miners; and development of policies to strengthen the provision of quality OH services for miners and former miners.

In this context, the Ressano Garcia Occupational Health Center was developed. It provides TB and OH services and will address the issues of compensation as well. With the support of SATBHSS, a package of services was developed. The center will offer TB and occupational disease screening services using GeneXpert, digital chest x-ray, spirometer, audiometer and visual acuity assessment. Miners diagnosed with TB and OH disease will be linked to health care in either sides of the border. TB contact tracing, for miners diagnosed with TB will also be conducted.

dr nazira abdula inspecting the computer aided tb systems
**Multi-Sectorial Cross-Border Disease Surveillance**

In collaboration with the Republics of Zambia and Tanzania, the East Central and Southern Africa Health Community (ECSA-HC) convened the first Multi-Sectorial Cross-Border Disease surveillance meeting from 25 to 27 June 2019 in Tunduma, Tanzania. The meeting attended by 55 participants from the 5 districts of Mbala, Mbulungu, Nakonde of Zambia and Moomba and Kalambo of Tanzania and delegates from the respective Ministries of Health headquarters and World Health Organization (WHO) was officially opened by Mr. Field Simwinga, the District Commissioner of Nakonde District. The Multi-sectorial sectors representing One Health included policy, human health, veterinary, environmental health, security, port health, immigration, customs and surveillance attended.

The three-day meeting objectives were to (i) operationalize the Cross Border zones in Tanzania and Zambia; (ii) discuss how existing cross-border activities can be enhanced; (iii) develop and adopt Cross-Border Committee Terms of Reference; (iv) develop and adopt a joint annual (2019/2020) work plan; (v) Conduct Table Top simulation.

A number of key recommendations were reached which included conducting quarterly cross-border meetings to address issues of common interest with emphasis on events of public health concern, based on the One Health model, the first meeting was proposed for October 2019. It was agreed that annual plans needed to be developed to guide Zone activities.

Other key recommendations included; (i) conducting situational analysis and mapping of resource availability and resource data bank to combat emergency response; (ii) ensuring adequate stockpiles of lab supplies and medicines for outbreak investigations; (iii) overseeing surveillance and response cross border activities; (iv) organizing trainings of district teams in the Zone. It was agreed that there was a need to strengthen capacity for disease surveillance and response to events of public health concern with particular reference to event based surveillance, which required developing and implementing EBS based on the Africa CDC Framework. Port Health and joint preparedness was also raised as a priority which entailed improving isolation facilities, providing adequate and appropriate PPE as well as adequately staffing post health in Tanzania & Training of Port Health staff. There was an need to developing a joint 2019/20 Tanzania-Zambia Zone 1 Cross Border work plan as well as presenting the proposed plan to respective principles for approval and alignment with existing plans. The mobilization of funds and support priority activities from the committee joint work plan was also a key takeaway of the meeting.
Upcoming Events

- **Center of Excellence on OHS Strategic Plan Development Workshop**: 14—18 October Zambia

- **50th World Conference on Lung Health**: 30 October - 2 November 2019 India

- **Joint Meeting of SADC Ministers Of Health and Ministers Responsible for HIV and AIDS**: 04 - 08 November 2019 Tanzania

- **OSH Inspectors Training**: 18 - 22 November 2019 Malawi

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