Background document 3.A

National TB prevalence surveys:

An overview of progress

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1. Current status of national TB prevalence surveys

Between January 2007 and April 2018, 25 surveys were implemented in 24 countries based on the recommendations in the WHO handbook (*Lime Book*). Two of these surveys were in the Philippines (2007, 2016). Since the last Task Force meeting in April 2016, surveys were completed in Bangladesh, Democratic People’s Republic of Korea, Kenya and the Philippines. As of April 2018, Namibia and Viet Nam have completed field operations; and Mozambique, Myanmar and South Africa have ongoing field operations (Figure 1). Botswana, India, Lesotho, Nepal and Swaziland are planning to start their first survey (using the latest WHO recommended methods) in 2018.

Following the Philippines’ fourth national prevalence survey, repeat prevalence surveys are currently being implemented in Myanmar and Viet Nam. Initial discussions have been undertaken in Ethiopia about conducting a repeat survey in 2020–2021. Other countries that may decide to undertake a survey in the near future include Angola and Senegal.

![Figure 1: Status of national TB prevalence surveys since 2007](image)

2. Countries currently implementing a national TB prevalence survey: further details

*Mozambique*

Field operations began in December 2017, and by the end of March 2018, 4 (out of 72) clusters had been completed. It is anticipated that field operations will be completed by the end of 2018. The sample size is approximately 43,000. Human resource management issues (recently resolved) have slowed survey progress. With the support of the Global Fund, a large investment in the data management system has created a near paperless digital survey. Xpert MTB/RIF and culture are the diagnostic tests being used for all screened positive participants. Technical assistance (TA) is predominantly provided by KNCV.

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Myanmar

Field operations began in September 2017 and are scheduled to end in September 2018. By the end of March 2018, 56 out of 138 clusters had been completed. The sample size is approximately 69,000. Other competing national health activities, such as national immunization campaigns, have delayed field activities. A major challenge is the low recovery rate by culture among low, very low and trace grades of Xpert Ultra, however most results were consistent with chest X-ray findings. Alongside South Africa, Myanmar is one of the first countries to use Xpert Ultra (and culture) as a diagnostic test for all screen positive participants. TA is predominantly provided by WHO Myanmar and RIT (Japan). A mid-term review will be conducted in May 2018.

Namibia

Field operations began in July 2017, and by mid-March 2018 all 68 clusters had been completed. The sample size was approximately 38,000. Data cleaning is the next priority activity before prevalence can be estimated. A major challenge during the survey was the backlog of specimens for culture processing. To rectify this, some specimens were sent to the supranational reference laboratory in Johannesburg and some other samples were tested with Xpert MTB/RIF. It is the first prevalence survey to use computer-assisted diagnosis (CAD) in the field as an aid to the chest X-ray reader. Xpert MTB/RIF and culture were the diagnostic tests used for all screen-positive participants. TA is predominantly provided by KNCV with some input from US CDC (in-country) and WHO.

South Africa

Field operations began in July 2017, and by the end of March 2018 32 (out of 110) clusters had been completed. The sample size is approximately 55,000. The main challenges in the initial stages of the survey were related to inefficient communications between the five agencies involved in the survey, and securing the financial commitments needed to ensure a high-quality survey. Other challenges included limited community mobilization and engagement, a low participation rate, a low sputum collection rate, inefficient utilization of the data management system, and securing funds to increase the number of active field teams to increase the speed of the survey (it is planned for the survey to finish before the end of 2018). Participation has improved steadily following recommendations to place greater emphasis on community engagement activities, and data management has become more efficient with the hiring of more staff.

Alongside Myanmar, South Africa is one of the first countries to use Xpert Ultra (and culture) as a diagnostic test for all screen positive participants. TA is predominantly provided by WHO. A mid-term review will be conducted in Q3 2018.

South Africa hosted a study tour for survey teams from Botswana, Lesotho and Swaziland in April 2018.

Viet Nam

Field operations for the repeat survey (after a first survey in 2007) started in September 2017 and all 82 clusters were completed by the end of February 2018. The sample size was approximately 82,000. The main current priority is data cleaning and case verification. It is also one of the countries to use Xpert MTB/RIF directly in the field for all screened positive participants, alongside culture which was performed in one of several central level laboratories. Although successfully undertaken, one major challenge was participation in urban settings where access to health care is higher and there is now greater use of private health facilities than in 2007. Final results from the survey are expected in Q3 2018. TA is predominantly provided by KNCV and US CDC (in-country).
3. Countries currently planning to undertake a national TB prevalence survey in 2018: further details

Botswana

Given the high rate of TB/HIV co-infection, Botswana plans to conduct the first combined TB/HIV prevalence surveys. The sample size for the TB component will be 38,000 and 16,000 for the HIV component, with an 11,000 sample overlap. It is thought that the complexity of combining both surveys may potentially outweigh any benefits in cost and efficiency. The protocol is still being finalised given that sampling methodology has been a challenge. Xpert MTB/RIF and culture are planned to be the diagnostic tests used for all screened positive participants, alongside whole blood HIV testing in the field. Key members of the survey team visited South Africa in April 2018 as part of a study tour. TA is predominantly provided by KNCV and US CDC. The survey is scheduled to start in July 2018.

India

A state-wise national prevalence survey with clusters in at least 20 states has an estimated samples size of 500,000 people. The survey was planned to start in April, but due to administrative changes within the Department of Health the survey may start in Q3/4 2018.

Lesotho

The sample size is approximately 27,000 and use of both Xpert MTB/RIF and culture is planned. Given financial limitations, a paper-based data management system will be used. Challenges related to securing funding and laboratory refurbishment may delay the start of the survey, which is provisionally planned for Q3/4 2018. Key members of the survey team visited South Africa in April 2018 as part of a study tour. URC (South Africa) is the implementing agency.

Nepal

The sample size is approximately 58,000, and both Xpert MTB/RIF and culture (for half of screened positive participants) will be the diagnostic methods used. Finalising funding for TA and survey logistics (given the varied terrain) remain the main challenges. TA has been provided by RIT (Japan). The survey is scheduled to start in May 2018.

Swaziland

The sample size is approximately 27,000 and both Xpert MTB/RIF (using a mobile truck) and culture will be the diagnostic methods used. HIV testing in the field will be offered to participants. A modified version of the digital data management system developed for the Mozambique prevalence survey will be used. A current challenge is securing the funding needed, beyond that already provided by the Global Fund. Field operations are scheduled to start in May 2018. Key members of the survey team visited South Africa in April 2018 as part of a study tour. TA is predominantly provided by KNCV.