CALLING APPLICATIONS FOR NATIONAL CONSULTANT TO PROVIDE TECHNICAL ASSISTANCE FOR TB EPIDEMIOLOGICAL REVIEW, JULY-2020

Sri Lanka has committed to achieve the WHO's End TB Strategy target by the year 2025 advancing the global target year which is set as 2035. To achieve this, an accelerated pathway should be followed by the country using more innovative and proactive strategies. To formulate recommendations for the policies and strategies in order to streamline the pathway of achieving the set target, It is paramount important to conduct an epidemiological review.

Further, NPTCCD is planning to revise the existing National Strategic Plan 2015-2020 at the end of the year 2020. Hence, an evaluation of TB epidemiology focusing on national and subnational level morbidity and mortality surveillance data, risk factor surveys, and other indicators is highly needed at this juncture to generate evidences for respective revisions and recommendations.

As such, an epidemiological review has been planned in July 2020. We wish to obtain expert assistance from international and local consultants to successfully complete this mission.

Profile expected from the national consultant;

- An experienced epidemiologist, public health specialist or statistician (at least with an experience of 8 years) with extensive quantitative skills and a proven track record of producing results and communicating them well (including in scientific publications in peer reviewed journals);
- Excellent understanding of TB epidemiology, current policies, interventions, and health systems in relation to prevention and control of TB;
- Extensive experience in working with national TB programmes and offering technical assistance and experienced in conducting programme reviews

Experts who fulfil the above criteria are called for application with detailed curriculum vitae supported by copies of experience and other qualification with the contact details. Applications should be sent to reach the following postal address through registered post or email on or before 31st of May 2020.

Address; Director

National Programme for Tuberculosis Control and Chest Diseases

4th floor, 555/5, Elwitigala Mw, Colombo 05

Email address; **nptccddirector@gmail.com**

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TOR is attached here with for further information.

Terms of Reference for Epidemiological Review

National Programme for Tuberculosis Control and Chest Diseases

Sri Lanka

1. BACKGROUND

Sri Lanka has committed to achieve the End Tuberculosis (TB) Strategy by the WHO at the World Health Assembly, 2014 and wishes to End TB, ensuring the best possible care to each and every person. Although reaching the End TB goal is very ambitious, Sri Lanka is aspiring to end TB by 2025.

The National Programme for Tuberculosis Control and Chest Diseases (NPTCCD), the national focal point responsible for controlling TB burden in the country, has identified many strategies to achieve the End TB goal. Reviewing the progress of pilot district programme and the activities identified in the 2015-2020 National Strategic Plan is one such important strategy. A good understanding of the level of TB burden and the capacity of the existing health system to cater to surveillance needs is of great importance at this juncture. To fulfil this aim, the NPTCCD has planned to conduct an epidemiological review in 2020, and request the assistance of national and international experts to successfully complete the mission.

2. OBJECTIVES

1. To assess the current national TB surveillance and vital registration systems at national and subnational levels, with particular attention to their capacity to measure the level of and trends in TB burden in Sri Lanka using the WHO Standards and Benchmarks Checklist[1].
2. To assess the level of, and trends in, TB disease burden (incidence, prevalence, mortality) using available surveillance, survey, programmatic and other data.
3. To assess whether recent trends in TB disease burden indicators are plausibly related to changes in TB-specific interventions taking into account external factors, including economic or demographic trends.

Standards and benchmarks for tuberculosis surveillance and vital registration systems. WHO. 2014. http://www.who.int/tb/publications/standardsandbenchmarks/en/

4. To define the actions and investments needed to directly measure trends in TB disease burden in Sri Lanka in the future and other recommendations for improvement in TB surveillance, case finding and treatment success by developing an M & E investment plan, which will be consisting of required interventions to address gaps and an indication of whether and if so, what kind of technical assistance or additional funding is required and characterize the proportion represented by vertical TB, TB/HIV, or integrated health M&E activities.
5. To provide feedback to the WHO regional and country office and funding agencies such as Global Fund on recommendations and prioritisation, following approval by the NTP.
6. To build capacity for epidemiological reviews in country by involving members of the NTP, DCCs and other in-country partners to actively participate in objectives 1-4.

3. **METHODS**

The review is planned to be conducted jointly by an international consultant and a national consultant with the support of an identified team from NPTCCD consisting of Consultant Community Physician, Registrars in Community Medicine, senior DTCOs and Medical Officer (M&E).

The review should be conducted in three stages. Stage one (one -week duration) would include document review from home and relevant documents will be shared to both consultant by the NPTCCD. The second stage (two week duration) would include in-country mission where the experts will conduct field visits to selected district chest clinics and health care institutions to gather required information. Stage three (two weeks duration) would be for report writing.

5. **DELIVERABLES**

- Debriefing of key findings to NPTCCD & Ministry officials at the end of the in-country mission
- Submission of the first draft of the report – within one week after the in-country mission (time line)
- Review of the draft by NPTCCD, WHO and other stakeholders on or before (time line)
- Submission of the final report and S & B check list – within three weeks after the in-country mission (time line)

The Final report should be a comprehensive report addressing all tasks under the objectives of the epidemiological and impact analysis outlined in this document with a conclusion section on:

a) The robustness of estimates of TB incidence, prevalence and mortality and their sources of uncertainty.

b) Whether it is plausible that TB control interventions have contributed to changing the course of the TB epidemic, accounting for other external factors.

c) Whether there are specific geographical areas or subpopulations (vulnerable/ those with poor access) or sectors (e.g. prisons/ detention, etc.) or parts of the health system (public, private, large hospitals, etc) in which the burden of disease is especially high or the current TB efforts are low and that warrant increased attention including greater investment of financial resources and/ or reallocation of resources to focus on more effective, higher impact interventions.

d) Whether population estimates are sufficient to accurately estimate incidence of TB.

e) Whether recommendations from previous epidemiological reviews have been implemented and clear documentation on achievements and barriers to implementing recommended activities.

f) Investments needed to improve evidence about trends in disease burden in future with related technical assistance and resources indicated as part of an M&E investment plan consisting of required interventions to address priority surveillance and M&E gaps.

g) Follow up of recommendations with the Global Fund or other appropriate funding agency following agreement with the NTP.

7. **TIME REQUIRED:**

Stage 1: Desk review

Duration - 1 week (5 working days)

Preferred timing Third week of June 2020

Stage 2: In Country Mission

Duration - 2 weeks (10 working days)

From 1st July 2020 to 15th July 2020

Stage 3: Report writing (The report should be jointly prepared by both consultants).

Duration –2weeks (10 working days)

From 22nd July 2020 to 05th August 2020

Consultancy fee will be as follows

Budget Descriptions		**Amount**	**Total in USD**
1.Consultancy fee			
National Consultant	Consultancy fee for 3 weeks	150x1x15 days	2,250.00

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[1] Standards and benchmarks for tuberculosis surveillance and vital registration systems. WHO. 2014. http://www.who.int/tb/publications/standardsandbenchmarks/en/

4. To define the actions and investments needed to directly measure trends in TB disease burden in Sri Lanka in the future and other recommendations for improvement in TB surveillance, case finding and treatment success by developing an M & E investment plan, which will be consisting of required interventions to address gaps and an indication of whether and if so, what kind of technical assistance or additional funding is required and characterize the proportion represented by vertical TB, TB/HIV, or integrated health M&E activities.
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3. METHODS

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The review should be conducted in three stages. Stage one (one -week duration) would include document review from home and relevant documents will be shared to both consultant by the NPTCCD. The second stage (two week duration) would include in-country mission where the experts will conduct field visits to selected district chest clinics and health care institutions to gather required information. Stage three (two weeks duration) would be for report writing.

4. TASKS BY OBJECTIVE

Objective 1: To assess the current national TB surveillance and vital registration systems at national and subnational levels, with particular attention to their

capacity to measure the level of and trends in TB burden in Sri Lanka using the WHO Standards and Benchmarks Checklist.

a) **Using the standard and benchmark checklist, provide a written description and explanation of the main features of the current national TB surveillance and vital registration systems.**

These should include,

- whether and at what level the data are being captured on paper or electronically by the TB surveillance system (e.g. notified cases, treatment outcomes, HIV testing and ART provision, causes of death, contact tracing, community based tools, isoniazid preventative therapy) and the laboratory (e.g. GeneXpert, smear, culture, LPA),
- whether a unique identifier exists to link data from different sources,
- the data being captured (e.g. notified cases, treatment outcomes, causes of death)
- definition of the agencies/individuals responsible for data collection, analysis and reporting and how they interact with each other,
- mechanisms/processes used to capture and transmit data between different administrative levels and agencies (e.g. standardized forms; paper-based and/or electronic systems) and to assure data quality
- timing and timeliness of reporting including lag times that hamper capacity to detect, investigate and contain events such as local epidemics (including events related to the emergence of drug resistance)
- the type of data available at the national level (e.g. aggregated reports, case-based data at what administrative level e.g facility, district")
- the type of data available at the subnational level (at what administrative level e.g. facility, district)
- approach to analysis and reporting of data
- staffing levels assigned to TB M & E tasks at all levels including the existing staff plan (e.g. organogram) which indicates both filled and vacant positions,
- how TB data are related to/ linked with other health information systems (e.g. hospital reporting systems, district health information systems) - All systems that exist for

capturing TB data and how these systems are related to/linked with other health information systems (e.g. health insurance, hospital clinical management and reporting systems, district health information systems such as DHIS2, HIV data collection systems that include data on TB-HIV integrated activities) or indeed unlinked systems that provide little TB national data but place a duplicative burden on staff, e-governance policies, including minimum data elements and functional and operational standards, and plans for financial and technical sustainability of systems. A data flow diagram should also be included,

- whether there are investments and a long-term plan for implementation of other electronic systems that capture TB data in the country (e.g. CVRS, HIV, HMIS) and whether the TB programme are included in these plans.

To help characterize the TB surveillance system, Part A of the WHO TB surveillance checklist (18 questions) should be completed which is based on a desk review of all existing documents and interviews with relevant TB programme staff.[2].

b) Assess the current capacity of the national TB notification and vital registration systems to provide a direct measure of TB disease burden using the WHO TB surveillance checklist (Part B). The ultimate goal is to measure TB incidence and mortality directly from notification and vital registration data, respectively; Part B of the checklist consists of a set of 13 standards and associated benchmarks that allow assessment of the extent to which existing surveillance systems (notification and vital registration) meet these standards.

(NB the first standard in the checklist relates to case definitions. In this context, there should be an assessment of whether the 2013 WHO revised case definitions and reporting framework have been adopted and implemented, and at what scale, and any actions needed to introduce or fully implement them).

In order to complete this assessment field visits to relevant health facilities and other organisations or data custodians are required as well as a review/analysis of TB surveillance data to complete the analytical components of the checklist.

c) Description of the quality of population estimates (e.g. census) that are used to in incidence calculations, including the date that the last time populations estimates were directly measured and specific limitations/gaps (e.g. migrants, internally displaced populations, returnees and highly mobile populations).
d) Summarize the main strengths of the current surveillance system and the weaknesses/gaps that need to be addressed, based on the findings from a) and b).

Suggested data sources: Interviews with relevant staff (national and sub-national), case-based or aggregated TB notification data, national or sample vital registration data, data quality, results from facility audits (e.g. Service Availability and Readiness Assessment, SARA) or reviews of the quality of recorded data, results from drug resistance surveillance including drug resistance surveys, research literature). A comprehensive list of data sources is provided in the Standards *and Benchmarks user guide that accompanies the checklist).*

Objective 2: To assess levels of and trends in TB disease burden (incidence, prevalence, mortality) using available surveillance, survey, programmatic data and other data.

It is likely that some of the suggested data are not yet available. The identification of these data gaps is important and they should be identified in a specific section of the final report, along with clearly defined next steps for addressing these gaps. This assessment includes review and compilation of published estimates of TB morbidity and mortality that are already available to assess the level of, and trends in, TB disease burden (at least nationally and when feasible sub-nationally and among sub-populations); analysis of TB notification data; and interpretation of available data. Surveillance activities should be reviewed at subnational level by visiting the selected districts. Districts will be selected based on the case burden, performance in TB control activities (both satisfactory and poor performance) and representation of ethnic minorities

(Suggested Colombo, Nuwaraeliya, Jaffna, and Kalmunai) and in consultation with both consultants. At the field visit the consultants should assess the recording formats, registers maintained at district level (in District Chest Clinics, curative care institutions, microscopy centres, DOT centers and all other TB related Health Facilities, etc.), all activities pertaining to case finding including diagnostic services, case holding and treatment outcome.

a) Analysis of the level of, and trends in, TB mortality. Analysis of the level of, and trends in, TB mortality. Deaths from TB among HIV-negative people are classified as TB deaths in the most recent version of the International classification of diseases (ICD-10). When an HIV-positive person dies from TB, the underlying cause is classified as HIV. Data on TB mortality should therefore be analysed making a clear distinction between TB deaths in HIV negative people and TB deaths in HIV positive people. In most countries TB deaths in HIV positive people are only available from the TB treatment outcome data.

i. Analysis of trends in TB mortality among HIV-negative individuals. This is best done using data from a national or sample civil registration system of vital statistics with cause of death data that meet the standards defined in the WHO TB surveillance checklist. Each year, WHO publishes estimates of TB mortality among HIV-negative people from 1990 onwards for all countries in the annual global TB report (the global TB report also identifies the countries for which mortality among HIV-negative individuals has been estimated from vital registration data and mortality surveys, and the countries for which estimates rely on other methods).

ii. Analysis of trends in the distribution of contributory causes of AIDS deaths (with particular emphasis on TB), if data are available. From 2012, estimates of TB mortality among HIV-positive people are being produced using the TB component of Spectrum, and published on an annual basis by WHO and UNAIDS

.iii. Percentage reduction in the absolute number of TB deaths (compared with 2015) (End TB Strategy global indicator).

iv. Case fatality ratio (CFR). Number of TB deaths (from a national VR system) divided by estimated number of incident cases in the same years, expressed as a percentage. (End TB

Strategy operational indicator). These data are often not available. TB incidence estimates can be obtained from the WHO database.

v. Review data from special study sites (e.g. demographic surveillance systems) to identify similarities/differences in estimates.

(Suggested data sources: WHO TB database, AIDSinfo database, records from national or sample civil registration of vital statistics with cause of death data from NPTCCD/NSACP databases, results from mortality surveys, research literature).

b) Analysis of the level of, and trends in, TB prevalence at national and sub-national levels.

The results from recent surveys can be used to assess the current level of TB disease burden and may also provide important evidence about the effectiveness of current TB programmatic efforts and actions needed to improve TB care and control.

(Suggested data sources: results from surveys of the prevalence of TB disease among high risk groups, WHO TB database, research literature).

c) Analysis and interpretation of the level of, and trends in, TB case notifications (e.g. for the last 5-10 years).

i. Plot time series of case notifications and analyse results, including to assess trends and to identify if there is any evidence of reporting problems (e.g. missing data or sudden changes in time-series of reported new episodes of TB at national and first subnational level, here district). Analysis of results should take into consideration any changes in reporting policies and practices, and case definitions. Population data is required for rates which can be obtained from the UN Population Division or a recent national census or countries population projection by the national statistical office.

ii. Analysis of the geographic distribution of case notification rates among subnational areas and how this has changed over time, and exploration of reasons for observed trends and geographical heterogeneity. These include, but are not limited to, the availability of TB diagnostic services, case finding activities, changes in the ratio of TB cases to the number of people investigated for "presumptive" TB (note that data

on the number of people investigated for TB are often not quality-assured and duplicate entries from multiple visits by the same person may exist), health systems characteristics, determinants of/risk factors for TB (e.g. overall levels of income and poverty, HIV prevalence).

iii. GIS mapping should be used where appropriate for data visualisation of disaggregated data by population density, urban and rural areas and social/behavioural risk factors, if available.

iv. Analysis in trends in the introduction of more sensitive diagnostic capabilities (e.g. Xpert) and the impact of rollout on case detection.

v. Review trends in presumptive to bacteriologically confirmed cases.

vi. Analysis of trends in the proportions of notified cases: (a) by type of TB disease - bacteriologically confirmed and extra-pulmonary TB; (b) by age group, including the proportion of cases among children (0-4, 5-14); (c) by category (retreatment out of the sum of new and retreatment cases).

vii. Trends in age- and sex-specific case notification rates, the average age of newly notified cases, and the extent to which these can be explained by demographic or other factors. Trends in the numbers of TB patients being referred and/or notified by different types of providers (public vs private; community health worker vs pharmacist vs GP vs public hospital vs private hospital; HIV clinics vs diabetes clinics vs MCH clinics vs OPDs, etc) and by active vs passive case finding (i.e., screening outside facilities vs patient-initiated care seeking). Data availability on these factors will vary by country."

viii. Analysis of the level of (and ideally trends in) under-reporting from national inventory studies if these are available before the assessment or from alternative sources of TB patient quantification or estimation such as health insurance claims data or IMS drug sales figures.

ix. Any data available from special studies or surveys on TB in high risk groups such as people living with HIV, the elderly, people with diabetes, people with compromised immune systems, prisoners, miners, migrants, homeless etc.; numbers, denominators; and if available proportions and trends.

x. Data on TB treatment coverage: Number of new and relapse cases that were notified and treated, divided by the estimated number of incident TB cases in the same year, expressed as a percentage; Number of TB patients treated with regimens that include new (endorsed after 2010) TB drugs, divided by the number of notified patients eligible for treatment with new TB drugs, expressed as a percentage.

xi. Data on TB treatment success rate: Percentage of notified TB patients who were successfully treated for drug-susceptible and drug-resistant TB combined and also separately.

xii. Pathway to diagnosis: Quantification of (i) where TB symptomatics seek health care and (ii) where diagnosed TB clients first sought care (e.g., pharmacy, individual private provider, hospital, public sector health center, other). Any quantitative data on diagnostic delays (due to patient, private sector, or public sector delays).

xiii. MDR-TB treatment coverage (comparing numbers detected and treated with the estimated number of cases among notified TB patients and describing the size of waiting lists), and treatment outcomes among MDR-TB patients. This is especially relevant in countries in which MDR-TB cases account for a relatively large share of the total number of TB cases.

xiv. A measure of burden of RR-/MDR-TB from National laboratory data, GeneXpert data and/or a drug resistance survey if available.

xv. HIV testing (Number of new and relapse TB patients with documented HIV status divided by the number of new and relapse TB patients notified in the same year, expressed as a percentage), proportion of TB-HIV co-infected cases starting on ART and CPT and treatment outcomes among PLHIV. This is especially relevant in countries with a high TB/HIV burden.

xvi. Contact investigation coverage (Number of contacts of people with bacteriologically-confirmed TB who were evaluated for TB, divided by the number eligible, expressed as a percentage) and (LTBI coverage of children aged < 5 years who are household contacts of cases started on LTBI treatment, divided by the number eligible for treatment, expressed as a percentage).

xvii. Percentage of new and relapse TB patients tested using a WHO-recommended rapid test at the time of diagnosis (patients tested using a WHO recommended rapid test at the time of diagnosis, divided by the total number of new and relapse TB patients, expressed as a percentage).

xviii. Laboratory diagnostics including; the diagnostic algorithm implemented in country (eligibility for screening with different methods), the number of smear microscopy slides read and the smear-positivity rate by region by region and year, the number of Xpert MTB/RIF tests conducted, the MTB and RR positivity rate, and the error/invalid/no result rate by region and year, the percentage of notified patients detected with RR/MDR-TB by region and year (ideally stratified for new and previously treated), the number and percentage of notified patients tested for DR-TB by region and year (ideally stratified for new and previously treated), the Xpert MTB/RIF utilization rate by region and year (calculation: number of tests per year/capacity of machine*100 (one machine with 4 modules running an estimated 10 tests per day for 250 working days=2500 tests) and initial loss to follow-up (percentage of those being diagnosed with TB who did not start treatment)

xix. Other miscellaneous analyses that may be relevant in specific settings (to be determined by the epidemiologist(s) undertaking the assessment).

(Suggested data sources: National and sub-national case-based or aggregated TB notifications, laboratory data, results from inventory studies to measure TB under- reporting (and under certain circumstances estimate incidence), laboratory data, research literature, national databases with information about overall health system characteristics and determinants/risk factors related to TB).

d. Identify any gaps in presumptive TB surveillance system and to assess the TB diagnostic capacities as in each institution.

Suggested data sources: presumptive TB registers and key informant interviews collected during visits selected General Health care Institutions in each District

Objective 3: To assess whether recent trends in TB disease burden indicators are plausibly related to changes in TB-specific interventions taking into account external factors including economic or demographic trends.

Funding for and implementation of high-quality TB-specific interventions should result in detection of people with TB and curative treatment; in turn, this should have a direct impact on TB mortality (cutting case fatality rates compared with no treatment or substandard treatment). Shortening the duration of disease through detection and treatment of cases will also reduce the prevalence of TB disease, and therefore, transmission. There will be an impact on TB incidence if transmission can be reduced sufficiently and/or if preventive treatment of people with latent TB infection is effectively implemented on a large scale. At the same time, a range of factors besides TB-specific interventions influence levels of TB disease burden, by affecting population susceptibility to both TB infection and the risk of developing TB disease once infected. These include overall levels of wealth and the distribution of wealth (measured e.g. as GNI per capita, the proportion of people living in poverty), the overall coverage and quality of health services and the prevalence of HIV and other risk factors for TB. Having considered trends in disease burden in Objective 2, it is important to assess whether these trends can partly be related to changes in TB-specific interventions (and associated funding).

a) Define and compile data that are relevant to assessment of the extent to which changes in TB disease burden in recent years (e.g. for the last 5–10 years) can be explained by TB- specific interventions/programmatic efforts.

This should include, at a minimum,

i. Government and international donor funding for TB care and control
ii. Number of health facilities providing TB diagnostic services per 100,000 population
iii. Number of health facilities providing TB treatment services per 100,000 population
iv. Number of people investigated for presumptive TB (if available data are reliable) and the ratio of presumptive TB to notified TB cases

v. Performance of community/active case finding (number of cases screened and detected by each mechanism) or numbers supported by community based adherence and/or impact on loss to follow up and reduction in death);

vi. Performance and coverage of public-private mix activities in the country. Coverage should be expressed where possible both as % of the country (geographic) and type, the % of providers covered (e.g., 30% of estimated pharmacies and 50% of estimated private pulmonologists)

vii. Any quantitative data on diagnostic delays (due to patient, private sector, or public sector delays)

viii. Number of people successfully treated for TB out of all notified

ix. MDR-TB treatment coverage (comparing numbers detected and treated with the estimated number of cases among notified TB patients and describing the size of waiting lists), and treatment outcomes among MDR-TB patients. This is especially relevant in countries in which MDR-TB cases account for a relatively large share of the total number of TB cases

x. HIV testing, ART and CPT coverage of TB patients, treatment outcomes among PLHIV. This is especially relevant in countries with a high TB/HIV burden.

(Suggested data sources: WHO TB database, NPTCCD database and reports, Service Availability and Readiness Assessments (SARAs), results from inventory studies that show the level of TB under-reporting, Patient Pathway Analyses, IMS data on the volume of TB drugs sold research literature, grey literature, NSACP data, WHO HIV/AIDS data and statistics, AIDSinfo database, MOH and NGO databases, http://www.foreignassistance.gov *for USAID funding data).*

b) Define and compile data that are relevant to assessment of the extent to which changes in TB disease burden in recent years can be explained by factors that are not specifically related to TB-specific funding and associated interventions.

This should include, at a minimum:

i. Prevalence of HIV among the general population, and ART coverage. *(Suggested data sources: WHO HIV/AIDS data and statistics, AIDSinfo database*

ii. Prevalence of diabetes, tobacco use and under-nutrition. *(Suggested data sources: WHO HIV/AIDS data and statistics, AIDSinfo database, WHO Global Health Observatory)*

iii. LTBI treatment coverage in the number of people living with HIV (Suggested data sources: WHO HIV/AIDS data and statistics, national HIV programme)

iv. GNI per capita and the % of the population under the poverty line, the Gini coefficient and the impact of economic crises. *(Suggested data sources: World Bank Indicators)*

v. Coverage of financial protection for health care costs (by government health budget or health insurance etc.) and social protection programmes (overall, and for DS-TB and MDR-TB specifically where available) and the percentage of health-care expenditures accounted for by out-of-pocket payments and the percentage of TB-affected households that experience catastrophic costs due to TB (Number of people treated for TB (and their households) who incur catastrophic costs (direct and indirect combined), divided by the total number of people treated for TB) *(Suggested data sources: Patient cost survey, Research literature, national health accounts, social protection/welfare programme information on coverage of target groups, as relevant and available from WHO at* http://www.who.int/nha; *research literature)*

vi. Demographic changes; percentage of population who are less than 15, and those more than 65, years cross-referenced to the age demographics of the country's TB epidemic *(Suggested data sources: UNPD database)*

vii. Under-5 mortality rate (as an indicator of the overall performance of the health- care system). (*Suggested data sources*: WHO Global Health Observatory)

c. Assess the gaps and opportunities in the current strategies, service delivery mechanisms (as per data availability) to strengthen the service delivery (prevention, testing, care & treatment & follow up, contact tracing, high risk group screening & Management of latent TB infection) in terms of missing key interventions.

Objective 4: To define the actions and investments needed to directly measure trends in TB disease burden in Sri Lanka in the future and other recommendations for improvement in TB surveillance, case finding and treatment success by developing an M & E investment plan, which will be consisting of required interventions to address gaps and an indication of whether and if so, what kind of technical assistance or additional funding is required and characterize the proportion represented by vertical TB, TB/HIV, or integrated health M&E activities..

a) **From the implementation of the WHO TB surveillance checklist: for standards defined in the checklist that are not yet met due to data gaps or data quality problems, identification of the investments required to improve surveillance (including estimated budget).** This should consist of a list of activities and an indication of whether these activities require technical assistance, whether they are already funded under existing grants or whether additional funding sources.

(Suggested data sources: NPTCCD reports and returns)

b) **Assessment of whether a baseline or repeat survey (e.g. prevalence survey, inventory study, cause of death survey) is needed and if so, what timing would be appropriate.**

An appropriate amount of time should be ensured between repeat surveys (for example, a repeat TB prevalence survey should normally be done about 10 years after the previous one). Guidance on countries where prevalence surveys are recommended is available from the Global Task Force on TB Impact Measurement.

c) Determine any TB data system investments that could allow better measurements of how and when interventions are leading to impact. For example, including additional data fields on the

referral or notification source could provide a better measure of how patients flow into the health system and how that process can be optimized.

5. DELIVERABLES

- Debriefing of key findings to NPTCCD & Ministry officials at the end of the in-country mission
- Submission of the first draft of the report – within one week after the in-country mission (time line)
- Review of the draft by NPTCCD, WHO and other stakeholders on or before (time line)
- Submission of the final report and S & B check list – within three weeks after the in-country mission (time line)

The Final report should be a comprehensive report addressing all tasks under the objectives of the epidemiological and impact analysis outlined in this document with a conclusion section on:

a) The robustness of estimates of TB incidence, prevalence and mortality and their sources of uncertainty.
b) Whether it is plausible that TB control interventions have contributed to changing the course of the TB epidemic, accounting for other external factors.
c) Whether there are specific geographical areas or subpopulations (vulnerable/ those with poor access) or sectors (e.g. prisons/ detention, etc.) or parts of the health system (public, private, large hospitals, etc) in which the burden of disease is especially high or the current TB efforts are low and that warrant increased attention including greater investment of financial resources and/ or reallocation of resources to focus on more effective, higher impact interventions.
d) Whether population estimates are sufficient to accurately estimate incidence of TB.
e) Whether recommendations from previous epidemiological reviews have been implemented and clear documentation on achievements and barriers to implementing recommended activities.
f) Investments needed to improve evidence about trends in disease burden in future with related technical assistance and resources indicated as part of an M&E investment plan consisting of required interventions to address priority surveillance and M&E gaps.

g) Follow up of recommendations with the Global Fund or other appropriate funding agency following agreement with the NTP.

6. PROFILE REQUIRED

Both international and national consultant should

- Be an experienced epidemiologist or statistician (at least with an experience of 8 years) with extensive quantitative skills and a proven track record of producing results and communicating them well (including in scientific publications in peer reviewed journals);
- Have excellent understanding of TB epidemiology, TB policies and interventions, and health systems;
- Have extensive experience in working with national TB programmes and offering technical assistance and experienced in conducting programme reviews

7. TIME REQUIRED[2]:

Stage 1: Desk review

Duration - 1 week (5 working days)

Preferred timing Third week of June 2020

Stage 2: In Country Mission

Duration - 2 weeks (10 working days)

From 1st July 2020 to 15th July 2020

Stage 3: Report writing (The report should be jointly prepared by both consultants).

Duration –2weeks (10 working days)

From 22nd - July 2020 to 05th August 2020

[2] A full epi review takes 5 weeks in total: 1 week of desk-based preparation; 2 weeks of in-country work with 2 consultants and members from the NTP and partners involved; plus two weeks afterwards to finalize the report and agree on the recommendations.
For the 2-week core of the work, one week is recommended for objective 1, which includes field visits and one week for analysis of TB surveillance data and interpretation of results with input from NTP staff.
Detailed guidance on how to conduct an epi review is available in the "Implementation of Epidemiological Reviews" document:
(https://www.dropbox.com/sh/1va83g20s68krt6/AAD-nYCgubKR7dHnDLlPXCxEa?dl=0).