# PROJECT FEEDBACK

## WORLD HEALTH ORGANISATION

**Progress Report on Economic Evaluation of Patient costs associated with Tuberculosis diagnosed and care in Papua New Guinea**

### Background

Papua New Guinea is considered a high burden TB country by the World Health Organization (WHO) and is one of 30 high burden TB countries globally . The WHO also classifies Papua New Guinea as a high MDR-TB and TB-HIV country due to the burden of these two conditions. The latest available estimates from WHO indicate that the TB incidence rate in Papua New Guinea in 2017 was 432 cases per 100,000 population and the TB mortality rate was 53 cases per 100,000 population[1]. The prevalence of drug resistant TB (rifampicin resistance (RR) and multi-drug resistance (MDR) combined) is estimated at 3% of all new cases and 26% of previously treated cases. It is estimated that there are 960 cases of RR and MDR-TB among all notified pulmonary TB in 2017 in the country.[1]

The implementation of TB services by the National TB Programme in Papua New Guinea is aligned with strategies developed and promoted by WHO's Global TB Programme and the Western Pacific Region Office of WHO. The WHO recently released the End TB Strategy, the global TB strategy. The End TB Strategy (aligned to the Sustainable Development Goals) outlines the ambitious target of ending the TB epidemic worldwide by 2035[2]. There are three main indicators by which to measure progress towards this goal: 1) decreased incidence (by 90% compared to 2015), 2) decreased mortality (by 95% compared to 2015) and 3) a target of zero "catastrophic costs" for TB patients[3].

The "catastrophic costs" indicator is new and as such it requires urgent assessment to establish baseline data and estimate the contribution of costs to the TB patient and to TB control overall, thereby enabling Governments to address demand-side cost barriers, which may be mitigated through a range of interventions including improving financial access to care, extending patient-centred care delivery models that reduce time needed for care-seeking, and social protection interventions to mitigate loss of earnings due to care-seeking. The cost of accessing and then remaining in TB care can be substantial, for TB patients and their families[3]. These costs can include direct medical costs (such as paying to see a doctor), direct non-medical costs (such as transportation to get to the local hospital, accommodation if an overnight stay is needed, etc.) and indirect costs such as time spent away from work, or carer time.

The financial costs to patients of a TB diagnosis and subsequent care are thought to be a significant impediment to further improving TB control[4] . Previous studies have documented that TB patients often incur large costs related to their illness, as well as seeking and receiving health care, including a diagnosis of TB[4,5]. A systematic review, which assessed the results of 49 studies on TB patient costs, concluded that these costs ranged from $55 to $8198 USD (unweighted average of $847 USD)[4]. Income loss comprised the greatest proportion of all costs at 60% (range 16-94%), with another 20% (range 0-62%) due to direct medical costs and the remaining 20% (range 0-84%) due to direct non-medical costs[4]. Half of the costs were incurred prior to the commencement of TB treatment[4]. The total costs amounted to 58% (range 5-306%) of annual individual income and 39% (range 4-148%) of annual household income[4]. Costs were higher for patients with lower incomes and also for people with multi-drug resistant TB[4].

There have been no studies conducted on the economic impact of TB on patients in Papua New Guinea. Therefore, this study is intended to conduct a baseline assessment of the economic burden of TB on TB patients and their families in Papua New Guinea, using a nationally representative sample.

### Study goal and objectives

The study aims to undertake an economic evaluation of TB patient costs in Papua New Guinea. The specific objectives of the study include:

1.  Determine the direct and indirect costs due to TB diagnosis and care (including during the health seeking period in the lead up to a TB diagnosis);

2.  Estimate the proportion of households experiencing catastrophic costs due to TB;

3.  Assess if catastrophic costs are associated with poor TB treatment outcomes;

4.  Provide recommendations on policies and interventions to minimise barriers for accessing and adhering to TB treatment and care, and mitigate the economic impact of TB for patients and their families; and

5.  Plan future research to further examine the determinants of cost barriers among TB patients and/ or to assess the effectiveness of policies and interventions to mitigate these costs[4].

### Activities

The protocol of the study and tool were drafted, finalized and discussed with the stakeholders and  is approved by Medical Research Advisory Committee (MRAC), Papua New Guinea and by the WHO Western Pacific Regional Office-Ethics Review Committee (WPRO-ERC) and approved by the Australian Respiratory Council. Funding support is provided by the Australian Respiratory Council, the US Centre for Disease Control (CDC) and the WHO. Technical support is provided by WHO and CDC, US.

In total, 40 TB Basic Management Units (BMUs) around the country have been selected. All BMUs identified data collectors/interviewers and all of them have been trained on data collection tools. The provincial disease control and TB officers from selected BMUs from all 4 regions (Southern, Highlands, Momase and New Guinea Island) have been trained from April to July 2018. In total, 54 interviewers have been trained on the interview process.

In total, 1,000 TB patients will be enrolled in the study. The data collectors are required to interview 25 TB patients from their BMUs who are currently on TB treatment during the time of the interview. Most of the BMUs have completed the interview questionnaires and are awaiting quality check and retrieval into the NTP. Twenty-eight (28) or 70% of selected sites have so far completed the survey and have sent in their data to the NTP.

Data quality checks are done by NTP upon receiving filled questionnaires from BMUs. After completion of data quality check the data is entered into a software program that was developed for the survey on EPI INFO.

Supportive supervision visits from NTP in collaboration with WHO were conducted to Momase and New Guinea Island region and to BMUs located in the National Capital District, Port Moresby.

### Next steps

- Data collection and data entry is expected to be completed by end of March 2019
- Supervisory visits to remaining 7 provinces
- Routine data cleaning  and verification during data entry
- Data analysis workshop is planned at the end of April 2019
- Report writing and finalization in May-June 2019
- Multi-sectorial dissemination workshop at the end of June 2019 with high level participation from the Government of PNG and WHO.

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1. World Health Organization. Global tuberculosis report 2018. Geneva, Switzerland: World Health Organization, 2018

2. World Health Organization. The End TB Strategy. Geneva, Switzerland: World Health Organization 2015.

3. Tanimura T, Jaramillo E, Weil D, Raviglione M, Lönnroth K. Financial burden for tuberculosis patients in low-and middle-income countries: a systematic review. European Respiratory Journal 2014; 43(6): 1763-75.

4. Lönnroth K, Glaziou P, Weil D, Floyd K, Uplekar M, Raviglione M. Beyond UHC: monitoring health and social protection coverage in the context of tuberculosis care and prevention. PLoS Med 2014; 11(9): e1001693.

5. Barter D, Agboola S, Murray M, Barnighausen T. Tuberculosis and poverty: the contribution of patient costs in sub-Saharan Africa- a systematic review. BMC Public Health 2012; 12(980): 1-34.

1.  Training workshop for data collectors from Momase region



2.  On-site training of data collectors in Tokorara TB clinic (BMU) and Badili clinic



3.  TB patient selection