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ABSTRACT BOOK

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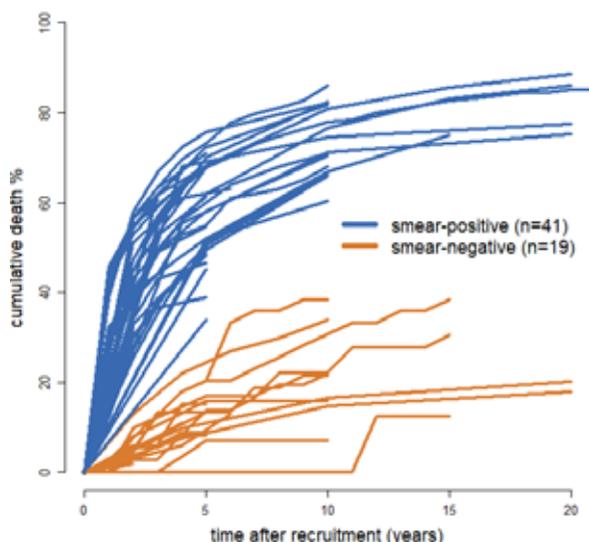
over time. We used a continuous-time Markov model in a Bayesian framework to estimate the rates of TB-induced mortality and self-cure. A hierarchical model was employed to allow estimates to vary by cohort. Inference was performed separately for smear-positive TB (SP-TB) and smear-negative TB (SN-TB).

Results: We included 41 cohorts of SP-TB patients and 19 cohorts of pulmonary SN-TB patients in the analysis. No data were available on extrapulmonary TB. The posterior median estimates of the TB-specific mortality rates were 0.390 year⁻¹ (0.329-0.452, 95% credible interval) and 0.025 year⁻¹ (0.016-0.036) for SP-TB and SN-TB patients, respectively.

The estimates for self-recovery rates were 0.233 year⁻¹ (0.179-0.293) and 0.147 year⁻¹ (0.087-0.248) for SP-TB and SN-TB patients, respectively. These rates correspond to average durations of untreated TB of 1.57 years (1.37-1.81) and 5.35 years (3.42-8.23) for SP-TB and SN-TB, respectively, when assuming a natural mortality rate of 0.014 year⁻¹ (i.e. a 70-year life expectancy).

Conclusions: TB-specific mortality rates are around 15 times higher for SP-TB than for SN-TB patients. This difference was underestimated dramatically in previous TB modelling studies that parameterised models based on the ratio of 3.3 between the 10-year case fatality of SP-TB and SN-TB.

Our findings raise important concerns about the accuracy of past and current estimates of TB mortality and predicted impact of control interventions on TB mortality.



[Cumulative percentage of death observed in the 64 cohorts of TB patients]

PS-04-E1 Community involvement in finding missing cases

PS-04-535-31 Social interventions for improving coverage of tuberculosis contact investigation (CI)

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Background: Contact investigation (CI) is an important procedure to identify close contacts of people with tuberculosis (PWTB) and facilitate them for TB prevention and care. However, CI coverage is generally low due to poverty, TB stigma and misperception about TB. This study aimed to improve CI coverage by using invitation card and supporting transportation fee for contacts of PWTB.

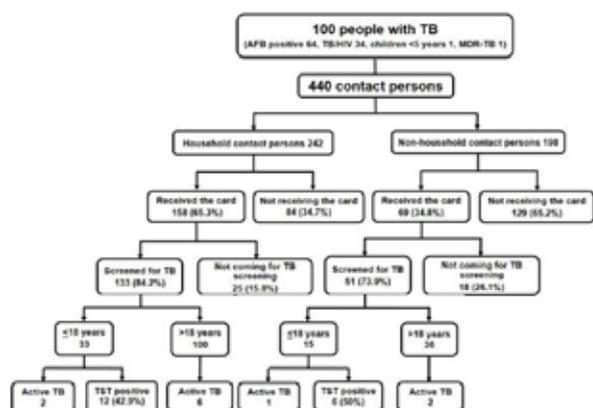
The card's contents included non-stigmatized information about the need of TB screening, curability and preventability of TB, free service with 250-baht (~ 8 USD) travel cost. The contacts presented the invitation card when they contacted the hospital.

Methods: A prospective cross-sectional study recruited 100 PWTB for the study. The PWTB who accepted the invitation cards but their contacts did not show up were followed up by telephone and home visit to know the reasons for not receiving TB screening. Data were analyzed using descriptive statistics. We measured CI coverage and detection rate of active TB and Latent TB infection (LTBI) by age group.

Results: Figure 1 summarizes the study outcomes. The 100 PWTB reported 242 household contacts (HC) and 198 non-household contacts (NHC). The acceptance for the invitation cards of HC and NHC were 65.3% and 34.8%. The CI coverage of the contacts under 5 years = 100%; 5-18 years = 79.1%; 19-60 years = 78.6% and aged over 60 years = 90.2%. Yield of active TB detection were 21.7%, 3%, 2.9% and 13.5% respectively.

Reasons for not receiving TB screening despite receiving invitation card were inability to travel due to aging and disability, no accompany persons, perceived no risk for TB. The coverage of tuberculin skin test (TST) in HC = 90.3% and NHC = 93.3%.

Conclusions: Contacts receiving invitation cards had high coverage of TB screening with high yield of active TB. Additional social interventions are needed for disabled and senior contacts.



[Figure 1: Outcomes of the social interventions on the coverage of contact investigation]

PS-04-536-31 Role of community linkage facilitators in sputum sample collection and transportation for TB diagnosis in contact tracing

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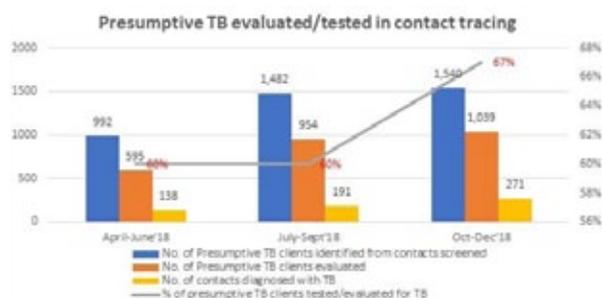
Background and challenges to implementation: Contact tracing is critical for diagnosing missing persons with TB, through targeting exposed persons in households and other dwelling places of persons with diagnosed TB. Contact tracing also defrays the transport cost for facility testing as sample collection can be done when the contact is located. However, the quality of sputum sample collection and the programmatic cost of transportation for investigation remains a significant challenge in completing the cascade for systematic contact tracing.

Intervention or response: The USAID Defeat TB project supported Civil Society Organizations (CSOs) to identify and train community linkage facilitators (CLFs) to conduct contact tracing in Kampala, Wakiso and Mukono; in July-December 2018. They were equipped with TB screening and sputum sample collection job aids; reporting tools, and sputum sample packaging equipment, to maintain quality of samples. They worked with health facility staff to line-list index clients; and proceeded to carry out screening of exposed household and close persons of the index patients. Contacts presumed to have TB were supported to collect sputum samples; which were then labelled, packed and transported by

the CLFs for GeneXpert testing and later followed up on results. Performance was measured by number and percentage of presumptive TB contacts whose sputum samples were tested.

Results and lessons learnt: Compared to April-June 2018, the proportion and absolute number of presumptive TB contacts whose sputum samples were tested increased from 595 to 1,039. There was also an increase in the number of new TB patients identified from contact tracing. These findings suggest that CLFs can be empowered to support the sputum sample collection and referral process.

Conclusions and key recommendations: CSOs play a critical role to reach the unreached populations through the use of well-trained and equipped CLFs to collect and transport sputum samples for evaluation. In resource constrained settings CSOs can bridge the gap between the facility and community services.



[Presumptive TB evaluated from contact tracing April-December 2018]

PS-04-537-31 Community contribution to prevention, treatment and care of people with tuberculosis in Malawi

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Background and challenges to implementation: The implementation and scaling up of community-based tuberculosis (TB) activities in Malawi remained weak despite clear need and documented cost-effectiveness of these activities in other countries. Generally, there was lack of collaboration and absence of joint strategic planning, monitoring and evaluation of community-based TB activities in the country between Malawi National TB Programme (NTP) and non-governmental organizations (NGOs).

Intervention or response: In 2016, Malawi NTP, with support from Global Fund and World Bank, started strengthening community-based TB activities. World Health Organisation's guidelines for community engagement in TB activities were adapted to suit the local