

# Household-based Contact Investigation Budgeting Tool: Background Document

## Household Contact Investigation Background

The goals of household contact investigation are the following:

1. Identify household members who have been exposed to TB but are healthy in order to provide TB preventive treatment (TPT) and avert disease. In all instances this should include children younger than 5 years of age and people living with HIV. According to national guidelines this may include other household members as well.
2. Identify persons in the home who are sick with TB in order to provide curative TB treatment.

## Budget Background

Estimating the cost of household contact investigation for TB is challenging because it depends on several country-specific factors. The country-specific factors that may affect costs are outlined below.

Despite this challenge, some costs for specific aspects of contact investigation can be estimated. By combining the estimated costs with additional country-specific factors, we can estimate overall contact investigation budgets to assist in program planning and/or funding requests.

The goal of this budgeting document—and its associated budget estimation tool—is to assist countries to make budgets needed to support contact investigation activities within their overall TB programs. The budgeting tool is focused on costs of household-based contact investigation. The tool does not include diagnostic costs or other general TB-related health system costs. This tool may be used in conjunction with the TB Preventive Treatment Budgeting Tool to help estimate comprehensive costs of TPT. Contact investigation is also incredibly important for pediatric TB case finding.

## Country-specific Factors That Affect the Cost of Contact Investigation Activities

Please consider these factors as you are estimating needs for contact investigation. Knowing these considerations will aid in planning, assist in completing the budget tool, and help to generate accurate budget estimates.

1. Country-specific national guidelines (related to contact investigation)
  - a. Which TB patients are recommended for household contact investigation (i.e., contact investigation done for all pulmonary TB patients vs. limited to bacteriologically confirmed pulmonary TB patients)
2. Average household size, including proportion of adults versus children
  - a. Available in country-specific demographic/health/household surveys
3. Country-specific TB epidemiology
  - a. TB incidence and proportion of various TB disease types
4. Program plans for contact investigation
  - a. Preferred/required cadre of health care workers (HCWs) to conduct home visits for contact investigation
  - b. Home visits for TB contact investigation alone or in combination with other disease programs (e.g., combined household TB and HIV contact investigation)

- c. Number of districts/geographic regions for which contact investigation will be undertaken in each year of the Global Fund funding cycle
5. Number of clinics treating index TB patients/receiving household referrals from contact investigation
  - a. Affects monitoring and evaluation (M&E) costs
  - b. Indirect staff time/costs—may include estimates of community health worker (CHW) time/costs
6. Urban versus rural setting of clinics
  - a. Affects transport time/costs and personnel time
  - b. Outreach program costs from clinics to household
7. Communication needs
  - a. Community HCW communication with TB focal people in health facilities
  - b. HCW (community or facility) communication with patients
  - c. Lab communication with HCW/patient
  - d. SMS or other phone-based communications for patient follow-up
8. Data system(s)
  - a. Paper-based tools versus electronic tools for use in the field
  - b. Needed updates to electronic reporting systems
  - c. Personnel to support M&E
9. Additional TB programming areas that may or may not be included in contact investigation activities
  - a. TPT (and completion rates)
  - b. TB treatment (and completion rates)
  - c. TB lab testing costs
  - d. Supply chain management costs

#### Individual Items for Cost Estimates Needed for Comprehensive Household-based Contact Investigation

1. Personnel
  - a. Personnel for contact investigation activities
  - b. Personnel for M&E
  - c. Personnel at NTP level
2. Transport
  - a. Personnel transport to/from household
  - b. Patient transport to facilities for further workup/needs (if covered/subsidized)
3. Personnel training and support
  - a. Training required for HCWs on contact investigation procedures
  - b. Job aids to be used by HCWs during screening, referrals, specimen collection, and so forth
4. Community sensitization
5. M&E
  - a. Printed registers
  - b. Updated electronic TB reporting system to include contact investigation data
6. *Laboratory testing (excluded from this budgeting tool as it presumably is already included elsewhere in programs' TB budgets)*
7. *Treatment of TB disease (excluded from this budgeting tool as it presumably is already included elsewhere in programs' TB budgets)*
8. *TPT (excluded from this budgeting tool, but the companion TPT budgeting tool included in the POSEE budgeting tool package can be used to estimate those costs)*

### Contact Investigation Considerations: Example Country X

In Country X, TB contact investigation is recommended for all persons with pulmonary TB, as is reverse contact investigation, to find possible index cases associated with children diagnosed with TB (i.e., screening each adult with symptoms who has been in contact with a child diagnosed with TB).

Country X's TB incidence rate is approximately 200 out of 100,000 population. In 2018, there were a total of 55,000 notified TB patients (new and relapsed). Of notified TB patients, 93% had pulmonary TB. Integrated TB and HIV activities are recommended for countries combating the TB/HIV syndemic; Country X is currently among the high-burden countries with TB-HIV coinfection, with an estimated 40% of TB patients' also living with HIV. Children (younger than 15) make up 50% of Country X's population. In Country X, TPT is recommended for all people living with HIV and all child TB contacts younger than 5 years of age. National guidelines and TB programming in Country X do not yet target older children and adult TB contacts (without HIV) for TPT despite WHO recommendations (due to need for prioritization and overall TB budget constraints).

Due to the high burden of TB and HIV in Country X, the country decided to combine TB and HIV contact investigation activities at the household level. Based on Country X's national guidelines and program requirements, CHWs were allowed and selected to do household contact investigation for TB; Country X's HIV program requires HIV counseling and testing to be completed by certified HIV counselors. For each household visit, the CHW and HIV counselor worked together to complete all indicated screening, testing, and specimen collection activities (when possible). Home-based HIV counseling and testing was provided per Country X national screening and testing guidelines. Transport costs for the CHWs and HIV counselors to get to targeted households was considered and included in the planned budget. Transport vouchers for patients needing TB workup and/or TPT initiation also were included in the budget but were limited to child TB contacts younger than 5 years (due to budget constraints).

Training materials on pediatric TB and on procedures for contact investigation for all household contacts were developed; they targeted the CHWs, lab staff, and TB focal people at each TB diagnostic and treatment facility. Training materials were developed for home-based HIV counseling and testing, and referral practices were developed for confirmatory testing for HIV counselors and other HIV clinic staff (as needed). Training was done at the beginning of contact investigation activities, with ongoing mentorship and repeat training provided regularly and/or as needed.

Country X is largely rural and has a total of 80 districts. Approximately 70 districts are rural, where long distances between clinics and households are the norm. Ten districts are urban or peri-urban, where distances and travel times from clinics to patient households are much shorter. As a result of this geography, addressing communication, human resource time, and transport needs was a vital part of contact investigation program planning and implementation.

Country X did not have preexisting M&E systems for household-based contact investigation. As such, paper contact investigation registers, patient referral forms, and linkage forms were developed and used in the clinics and/or by the CHWs and HIV counselors in the field when visiting households. In addition, an electronic, tablet-based application was developed and piloted for data capture when teams were in the field visiting households. The national DHIS2 reporting system in Country X was updated to incorporate the reporting framework for key contact investigation indicators of interest to the national TB program.

*With this background information, County X now can use the Household-based Contact Investigation Budgeting Tool to estimate the funds required to carry out comprehensive and high-quality contact investigation.*

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*The development of this budgeting tools was led by Angela Kairu (independent consultant). We acknowledge the World Health Organization and the University of Sheffield for their collaboration and active contribution to the development of the budgeting tool.*

