Planning & Budgeting Tool for Tuberculosis Control

User manual

Part II
### List of abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACSM</td>
<td>advocacy, communication and social mobilization</td>
</tr>
<tr>
<td>ARI</td>
<td>annual risk of infection</td>
</tr>
<tr>
<td>ART</td>
<td>antiretroviral therapy</td>
</tr>
<tr>
<td>CTBC</td>
<td>community (involvement in) tuberculosis care (and prevention)</td>
</tr>
<tr>
<td>CPT</td>
<td>co-trimoxazole preventive therapy</td>
</tr>
<tr>
<td>COPD</td>
<td>chronic obstructive pulmonary disease</td>
</tr>
<tr>
<td>DOTS</td>
<td>the basic package that underpins the Stop TB Strategy</td>
</tr>
<tr>
<td>DST</td>
<td>drug susceptibility testing</td>
</tr>
<tr>
<td>DTP</td>
<td>diphtheria, pertussis (whooping cough) and tetanus vaccination</td>
</tr>
<tr>
<td>GNI</td>
<td>gross national Income</td>
</tr>
<tr>
<td>GF</td>
<td>Global Fund</td>
</tr>
<tr>
<td>GCC</td>
<td>Generic Cost Category</td>
</tr>
<tr>
<td>GLC</td>
<td>Green Light Committee</td>
</tr>
<tr>
<td>HIV</td>
<td>human immune deficiency virus</td>
</tr>
<tr>
<td>HIV/AIDS</td>
<td>human immune deficiency virus/acquired immune deficiency syndrome</td>
</tr>
<tr>
<td>IC</td>
<td>infection control</td>
</tr>
<tr>
<td>IPT&amp;E</td>
<td>monitoring and evaluation</td>
</tr>
<tr>
<td>KAP</td>
<td>knowledge, attitude &amp; practice -surveys-</td>
</tr>
<tr>
<td>MDG</td>
<td>Millennium Development Goal</td>
</tr>
<tr>
<td>MDR</td>
<td>multidrug-resistant (TB)</td>
</tr>
<tr>
<td>MOH</td>
<td>Ministry of Health</td>
</tr>
<tr>
<td>NSA</td>
<td>national strategy application (to the Global Fund)</td>
</tr>
<tr>
<td>NGO</td>
<td>non-governmental organization</td>
</tr>
<tr>
<td>NTP</td>
<td>national TB programme</td>
</tr>
<tr>
<td>OR</td>
<td>operational research</td>
</tr>
<tr>
<td>PAL</td>
<td>practical approach to lung health</td>
</tr>
<tr>
<td>P&amp;B</td>
<td>TB planning and budgeting tool</td>
</tr>
<tr>
<td>PDR</td>
<td>People’s Democratic Republic</td>
</tr>
<tr>
<td>PPM</td>
<td>public-private public-public mix</td>
</tr>
<tr>
<td>PMTCT</td>
<td>prevention of mother-to-child transmission</td>
</tr>
<tr>
<td>R&amp;R</td>
<td>recording and reporting</td>
</tr>
<tr>
<td>STB</td>
<td>Stop TB</td>
</tr>
<tr>
<td>TB</td>
<td>tuberculosis</td>
</tr>
<tr>
<td>TBCAP</td>
<td>Tuberculosis Coalition for Technical Assistance</td>
</tr>
</tbody>
</table>
TRP  technical review panel
UN  United Nations
UNAIDS  The United Nations Joint Programme on HIV/AIDS
UNDP  United Nations Development Programme
UNFPA  United Nations Population Fund
UNPD  United Nations Population Division
US$  United States Dollar
UVGI  ultraviolet germicidal irradiation
UV  ultraviolet
VCT  voluntary counseling and HIV testing
WHO  World Health Organization
WHO/EIP  World Health Organization/Evidence and Information for Policy
XDR  extensively drug-resistant (TB)
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Acknowledgements

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What are the prerequisites for planning and budgeting for interventions?

Part 1 of the manual presented an overview of the tool and the prerequisites to use the tool. In this, Part 2 of the manual, you will be guided step-by-step through the interventions of the Global Plan to enter real data from your country and NTP into the tool.

This tool does not substitute for the strategic planning process. It does, however, help with resource planning and with revising the strategic plan, if necessary, in light of resource constraints. Strategic planning is the process of defining your national TB strategy, or objectives - bringing the Global Plan down to the country level. In this sense, the strategic plan should guide the resource plan.

But strategic planning is also about making decisions on allocating resources, including finances and workforce, across the objectives. For this reason, the strategic plan and resource plan are often arrived at through an iterative process whereby, once the resource requirements are estimated for each objective, they can be revised if necessary in light of resource constraints. Therefore, before proceeding with this tool, in a first-pass strategic planning process, you should have already:

1. Aligned your goals and objectives with the Stop TB Strategy and Global Plan
2. Prepared your road map with:
   A. Progress realized
   B. Targets for 20XX (year of planning)
   C1. Main challenges
   C2. Main strategic approaches
3. Set mid-term targets to be achieved within five years or less; and
3. Developed a logical framework of strategies and activities to be undertaken to achieve the mid-term targets.

In the presence of a strategic plan, a resource plan has many benefits. It can confirm whether or not the identified targets are achievable, and if they are not, the plan can provide the evidence for further debate. A plan can be used to express a clear and commonly understood approach to implementing the TB strategy.

Do not worry if you do not yet have detailed lists of inputs required to undertake the main activities. The tool will help you to make a comprehensive inventory of these!
Once you have consolidated a clear strategy with your colleagues in the NTP, it will be much easier to come up with the list of activities required to pursue your objectives. All objectives and activities will be linked to your strategy and the priority areas you have identified prior to starting planning and budgeting. Indeed, only once the objectives, strategies and activities are comprehensively and coherently defined will you be fully prepared to plan and budget with this tool.

If this is the case, then please go to the Welcome Page to get started!

**Where should you start with the tool?**

On the Welcome Page, as explained in Part 1, you will have selected your country from the drop-down list and will have saved a copy of the tool onto your drive.

While you may plan and budget for interventions in whatever order you prefer, there are two sections that should be completed before any other ones since they contain two key elements: the budget per patient and the estimated number of patients to be treated, both cost drivers for most of the Stop TB Strategy interventions. The two sections mentioned are:

1. Familiarize yourself with the baseline budget, that is, the budget in the previous reporting period.

   The worksheet available from the Welcome Page through the hyperlink presents NTP budgets from the latest available year. These are reported to WHO through annual collection of information on financing of the Stop TB Strategy. This worksheet also contains, as part of the built-in Guide, available at the bottom of each sheet or through the hyperlink, an explanation of each line item that appears in the baseline budget.

   Review each of the line items and rationalize each of the assigned costs. You may wish to go through the calculations presented (Figure 1)
Enter the start of your fiscal year (day, month, year) in the

Figure 1: DR Congo Baseline NTP Budgets in 2008

<table>
<thead>
<tr>
<th>Baseline NTP Budgets</th>
</tr>
</thead>
<tbody>
<tr>
<td>DR Congo</td>
</tr>
<tr>
<td>AF'high</td>
</tr>
</tbody>
</table>

**Fiscal Year 2008** (your fiscal year starting during the calendar year 2008)

- **Budget preparation**
- **Budget preparation by line item**

**2008**

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>First-line drugs</td>
<td>$3,436,909</td>
</tr>
<tr>
<td>Staff+ Wallmark for TB control (central and subnational)</td>
<td>$7,399,117</td>
</tr>
<tr>
<td>Routine programme management and supervision activities</td>
<td>$5,795,121</td>
</tr>
<tr>
<td>Laboratory supplies and equipment for smear, culture, and DST</td>
<td>$6,891,273</td>
</tr>
<tr>
<td>PAM/STC</td>
<td>$265,520</td>
</tr>
<tr>
<td>Collaborative TB/HIV activities</td>
<td>$6,746,797</td>
</tr>
<tr>
<td>Second-line drugs</td>
<td>$356,550</td>
</tr>
<tr>
<td>Management of MDR-TB (excluding second-line drugs)</td>
<td>$1,476,146</td>
</tr>
<tr>
<td>Community involvement in TB control</td>
<td>$403,300</td>
</tr>
<tr>
<td>ACDM</td>
<td>$2,702,351</td>
</tr>
<tr>
<td>Operational research</td>
<td>$114,900</td>
</tr>
<tr>
<td>Surveys to measure TB burden and impact of TB control</td>
<td>$13,399,352</td>
</tr>
<tr>
<td>Other</td>
<td>$48,261,765</td>
</tr>
</tbody>
</table>

**Total Budget Required 2008 by line item**

N° of patients (ss+ and ss-): 67,252 + 48,883 = 116,1335

First-line drug budget: 3,436,909

Calculated (WHO/TME) as

First-line drug budget

N° of patients (ss+ and ss-)

i.e.

\[
\frac{3436909}{1161335} \approx 30
\]
2. Estimate the number of patients to be treated by completing the epidemiology worksheet

The amount budgeted for a given TB intervention often depends on the number of patients to be detected and treated as the primary driver of variable costs. Therefore calculating the number of patients to treat should be one of the first steps before you start planning and budgeting.

Expected outcomes of this chapter

Learn how to use the epidemiology section to estimate the number of patients to be treated (cost driver for variable costs within Stop TB Strategy interventions)

From the Welcome Page, please go to Epidemiology: TB patients to be treated.

The epidemiology worksheet will allow you to estimate the total number of patients to treat by the NTP. The estimates you will calculate in this worksheet, will feed onto the rest of the intervention worksheets within the P&B tool, except for the treatment success rates that do not feed into other intervention pages.

The worksheet is divided into two main parts.

- At the top (Figure 2), appear population and notification default data for the past years up to year n-2 and treatment success rates for the past years up to year n-3. You are expected to complete year n-3 and year n-2 onwards with your own estimates (yellow cells). For year n-2 and year n-1 you might find some default data for the number of patients to treat based on data you will have reported to WHO on the latest annual data collection.

![Figure 2. Revising historic notification data and completing future number of patients to treat in the epidemiology worksheet.](image)

- Further down in the epidemiology worksheet, you have an exercise that can help you estimate future trends.

You have the option of using the exercise and copying and pasting the results into the yellow cells at the top of the page.
Within this exercise you have three options to estimate the future number of patients to treat. You either believe that the rate of change in the number of patients to treat in the past three years will continue the same (baseline scenario or scenario 1) or you believe the number of patients to treat will increase (scenario 2) or it will decrease (scenario 3). There are three cells where the annual rate of change in the number of patients to treat should appear. For the baseline scenario, you find default values and for scenario 2 and 3 you will be introducing a rate of change you believe more appropriately reflects the future trend in your country than the baseline scenario (Figure 3).

Figure 3. An exercise available to help you estimate the number of patients to treat in the future: assumptions.

Assumptions for the exercise
Number of cases treated in the NTP in the past three years
Log linear of the number of cases treated in the NTP in the past three years
Scenario 1: same rate of increase as in 2006-2008
Scenario 2: an increase
Scenario 3: a decrease

For the baseline scenario, default values, have been calculated using a log linear fit (Box XX) because log linear is a typical distribution assumption for notification data. The baseline scenario takes into account the pattern in the annual rate of change in the past three years and uses this as a predictor for the future number of patients to treat.
Box 1. What is a log linear fit (used to estimate the baseline scenario)?

A Log linear fit is a kind of regression aimed at finding the best fit between the data and a log linear model. It assumes that the number of patients to treat varies at the same rate one year to the next.

The model takes the form (simplest case):
\[
\ln(y) = a + bx \quad \text{or} \quad y = \exp(a)\exp(bx) \text{ also expressed as } y = C^M^x
\]

Where

If \(Y_i\) are independent observations with corresponding values \(x_i\) of the predictor variable, then \(a\) and \(b\) can be estimated by maximum likelihood if the number of distinct \(x\) values is at least 2.

For our purposes:
- \(y\) is the number of cases treated in the NTP in a given year
- \(x\) is the year for which you are estimating the number of patients to treat
- \(C\) is \(\exp(a)\)
- \(M\) is \(\exp(b)\)

The log-linear fit is calculated using notification data from the three most recent years.

How is the rate of annual change obtained from the log linear fit?

\[
Y_1 = CM^{x_1}
\]
\[
Y_2 = CM^{x_2}
\]
\[
\text{% Rate of change } \Delta = \frac{C(M^{x_2} - M^{x_1}) \times 100}{CM^{x_1}}
\]
\[
\Delta = \left(\frac{(M^{x_2}/M^{x_1}) - 1}{M^{x_1}}\right) \times 100
\]

For an annual rate of change \(x_2 - x_1 = 1\), therefore
- \(\Delta = (M -1)\times100\)
- \(\Delta = (\exp(b) - 1)\times100\) where \(\exp(b)\) is predicted by the log linear fit

Alternatively, you may decide to use scenario 2 or scenario 3. In this case, you can plot the rate of change you expect in the yellow cells (see example in Figure 4) and the results will automatically be fed into the graph and will produce the estimates for the number of patients to treat in the years \(n+2\) onwards (Figure 5).
Figure 4. Plotting the rate of change into the yellow cells

**Assumptions for the exercise**

- Number of cases treated in the NTP in the past three-years
- Log linear of the number of cases treated in the NTP in the past three-years
- **Scenario 1:** same rate of increase as in 2006-2009
- **Scenario 2:** an increase
- **Scenario 3:** a decrease

Figure 5. Results from plotting the rate of change (Figure 4)

<table>
<thead>
<tr>
<th>Results from the exercise</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenario 1: estimated number of patients to treat (baseline)</td>
<td>40,020</td>
<td>37,037</td>
<td></td>
</tr>
<tr>
<td>Check: implied rate of growth is scenario 1</td>
<td>45,498</td>
<td>46,377</td>
<td></td>
</tr>
<tr>
<td>Scenario 2: estimated number of patients to treat (increase)</td>
<td>41,010</td>
<td>37,725</td>
<td></td>
</tr>
<tr>
<td>Scenario 3: estimated number of patients to treat (decrease)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Depending on the scenario you choose and how comfortable you feel about the results obtained in the exercise, you are free to report results in the yellow cells in line 8 and 9 if you think that these reflect your country's trend (Figure 6).

Figure 6. Results from the exercise can be pasted into yellow cells

You may cut and paste the results from the exercise into the appropriate cells

<table>
<thead>
<tr>
<th>6</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>18,992,708</td>
<td>19,015,505</td>
</tr>
<tr>
<td>8</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>Number of cases to be treated in the NTP</td>
<td></td>
</tr>
</tbody>
</table>

The results appearing on the items Total new pulmonary smear-positive cases notified and Total new pulmonary smear-negative, extrapulmonary and unknown cases notified will be feeding onto the rest of the intervention sheets within the P&B tool.
How to continue with step-by-step planning and budgeting for each intervention?

Having revised your previous year’s budget and estimated the number of patients to be treated, you may proceed with planning and budgeting for the 21 interventions aimed at achieving the Global Plan targets and MDGs (Figure 7). The order in which you complete these is up to you. Remember the activities you will budget for should reflect the priorities set in your national strategy. There should be a logical link between your strategy, your plan and your budget.

Figure 7. Interventions within the Planning and Budgeting Tool

As explained in Part 1 of the manual and the built-in Guide, the structure of the intervention worksheets is standardised. The associated steps to completing each worksheet are as follows:

1. Review relevant strategy(ies) and objective(s) from the Stop TB Strategy
2. Plan for inputs/resources
3.a. Choose a method to budget for this intervention
3.b. Choose an activity to cost
3.c. Enter quantities and unit costs
3.d. Indicate sources of funding
3.e. Check the link with GCC (Global Fund)
3.f. Mark your work status

Regarding step 3.e, at the very bottom of each worksheet, you will review: Total budget by generic cost categories (as defined by the Global Fund)
which includes default formulas. For each intervention the present manual maps out which activities in the Planning and Budgeting Tool correspond to which generic cost category of the Global Fund. This will be represented in a table such as the one in Figure 8.

**Figure 8. Link between Generic Cost Categories and Planning and Budgeting Tool interventions**

As per 3.f Mark your work status, this is what you should be doing whatever the intervention is:

returning to the top of the sheet, ① note your work status (either "Partially Complete" or "Completed");

and ② click on Back to Menu and go to the next intervention to cost!
1.1 Political Commitment

Within the Stop TB Strategy, one of the first components is Political Commitment. However within the Strategy, political commitment is directly linked to ACSM; therefore if you need to budget for political commitment, you must do so under ACSM. If you click on on the Welcome Page / Menu, you will directly be sent to 5.1 ACSM.

1.2 Improving diagnosis

1. Review relevant strategy(ies) and objective(s) from the Stop TB Strategy

This intervention is aimed at Objective 1 of the Stop TB Strategy:

Pursue high quality DOTS expansion and enhancement.

Sub-component 1.2: to improve the case-detection rate through quality-assured bacteriology.

Expected outcomes of this chapter

1. Learn how to develop a detailed budget for routine laboratory activities and laboratory strengthening as well as make a “quick estimate” of this budget using the tool.
2. Become familiar with the standard format used within the tool for planning and budgeting for:
   - infrastructure and equipment needed for microscopy, culture, and DST laboratories
   - laboratory supplies for the different laboratory tests, including smears, cultures, DST for first-line drugs and DST for second-line drugs
   - different activities involved in a quality assurance programme
   - other diagnostic items necessary for the TB control programme

2. Plan for inputs/resources for inputs/resources

Recalling your strategy and activities related to this Objective, brainstorm about likely input requirements, making a preliminary list of input requirements as you go along - the following questions may help get things started:
What is the procurement process?

Do I need to establish or upgrade Culture, microscopy or DST lab?

Do I need to uptake new technology such as for molecular test- if so when?

How do I update liquid technology for culture and DST?

How are samples transported, to a sputum collection point or to a culture lab?

How do we compute maintenance costs?

What is the composition of my lab?

Do not worry too much about how short and incomplete or long and disorganized your list might look. The tool is there to help you to complete it and/or bring some order to it.

3.a. Choose a method to budget for this intervention

You have the choice between two methods to budget for this intervention.

The quick method provides an estimate for total cost of this intervention. This method may be most appropriate for those who had a hard time coming up with their list of input requirements and do not feel very confident that it is comprehensive enough. Its formula includes built-in assumptions (Figure 9).

Figure 9. Built-in assumptions in the quick method

The in-built formula for Total cost (Quick method) is calculated as follow:

Unit cost for one smear, incl. supplies, HR and equipment maintenance \( \times \) 36

\( \times \) Estimated number new smear positive

Unit cost of one X-ray \( \times \) 9 \( \times \) estimated number of new ss+
You should note that 36 slides and 9 x-rays in the above formula involve WHO assumptions and you may want to override these to reflect your own practice. If so, please correct the formula. The rest of the built-in assumptions are explained in detail in a text box or comment within the intervention worksheet.

The detailed method, which we recommend for those who may comprehensively list activities, allows you to plan and budget for your laboratories in greater detail. To guide you, we provided a framework and suggested standard items but you may need to add more items to reflect your reality. The cost of these items often appears as a default value but you are encouraged to adjust it to better reflect your costs.

This worksheet presents a list of activities from the set up of the most commonly used microscopy laboratories to a retooling process\(^1\) that involves setting up meetings to plan for the adoption, introduction and implementation of new diagnostics.

Here is the list:

1.2.1 Microscopy laboratories
1.2.2 Culture laboratories
1.2.3 DST laboratory, including molecular tests
1.2.4 Molecular tests
1.2.5 Other equipment, X-ray
1.2.6 Quality assurance programme
1.2.7 Retooling process

Use the space “Other” for all other items that couldn’t be covered above.

3.b Choose an activity to cost

We will here describe how you would plan and budget for 1.2.1 Microscopy laboratories and you may use this logic for the other types of laboratories.

3.c Enter quantities and unit costs

1. The logic When planning and budgeting for a laboratory, you will take into consideration: the needs of infrastructure, equipment, maintenance, procurement and distribution of lab supplies and reagents and for transport.

\(^1\) [http://www.stoptb.org/retooling/](http://www.stoptb.org/retooling/)
1. **Infrastructure.** You are establishing a new microscopy centre (infrastructure, excluding equipment). Please enter the number of peripheral labs to establish. The cost of establishing your new microscopy centre appears by default (source: WHO lab subgroup). Feel free to override this cost by replacing it with your own calculation in the cell. The same logic applies to an upgrade or repair of an existing microscopy centre.

2. **Equipment.** If you want to budget for equipment, you have two options. You can either plan for a minimum package of equipment or else plan for a single equipment item.

   2.1 If you plan for WHO-recommended **standard equipment**, the cost will appear by default (world wide average cost estimated by WHO laboratory sub-group of DOTS expansion working group). Use the row "Standard Equipment needed for one New microscopy lab serving around 100 000 pop" and complete the number of labs needing equipment.

If the standard equipment’s composition or total cost does not suit you, you may modify its items to reflect your lab package. To do so, double click on “List of items” and modify the number of units or cost, **Figure 10**.

**Figure 10.** List of items for the user to amend and reflect her laboratory composition.

Please click on “List of items” within the laboratory worksheet and you will be directed to the list of laboratory items as in the figure below (partial view).
2.2 If you plan for a single item for existing equipment. Please go to row "Equipment for existing laboratories". You will need to complete quantities and cost for the equipment item. You will also need to label the item (unprotect sheet prior to that) and if you need to insert new lines, don't forget to revise the formula for the total cost of equipment for microscopy. Should you not know the unit cost of a piece of equipment, you may use the above mentioned built-in list of lab items.

3. Maintenance. If your lab needs equipment maintenance, please complete the number of labs needing it and the cost of equipment maintenance or repair per microscopy lab. In general, for any type of lab, we suggest maintenance can be calculated as a percentage of the total cost of equipment -- see the latest version of the tool for the current estimate.

4. Procurement and distribution of lab supplies and reagents for microscopy lab per 1000 smears. Total cost of procurement and distribution results from multiplying the estimated number of smears per year by the procurement cost. To estimate the number of smears, please ask your National TB lab or else use the built-in rule of thumb\(^2\) (assumption). The procurement and distribution cost has been estimated by the WHO Laboratory sub-group -- see the latest version of the tool for the current estimate. Feel free to override this value with your own cost estimates.

\(^2\) Rule of thumb: you can assume 10 suspects per one ss+ TB patient, and at least 3 slides per suspect. In addition, to monitor treatment it is required 6 smears per ss+ TB patient (i.e. 36–40 smears per ss+). And, 8 slides per ss-, hence a total of -50 smears.
5. Transport. How much does it cost to transport smear samples to the next laboratory? And culture samples to culture laboratory? Please complete these costs.

**Tips to budget for the other activities (Figure 11)**

Figure 11. List of all the activities within Objective 1.2

<table>
<thead>
<tr>
<th>Objective 1: Pursue high quality DOTS expansion and enhancement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2 Improving diagnosis: case detection through quality-</td>
</tr>
<tr>
<td>assured bacteriology</td>
</tr>
<tr>
<td>1.2.1 Microscopy laboratories</td>
</tr>
<tr>
<td>1.2.2 Culture laboratories</td>
</tr>
<tr>
<td>1.2.3 DST laboratories, including molecular tests</td>
</tr>
<tr>
<td>1.2.4 Molecular tests</td>
</tr>
<tr>
<td>1.2.5 Other equipment, X-ray</td>
</tr>
<tr>
<td>1.2.6 Quality assurance programme</td>
</tr>
<tr>
<td>1.2.7 Piloting process</td>
</tr>
<tr>
<td>Other</td>
</tr>
<tr>
<td>Summary of costs</td>
</tr>
<tr>
<td>Source of funding</td>
</tr>
</tbody>
</table>

Please use the logic explained above to budget for the rest of the laboratory activities. Here are some specifics concerning the other labs.

- **1.2.2 Culture laboratories.** It is advised to separately cost liquid and solid media. The Global Plan to Stop TB, 2006-2015, estimated that there should be one culture laboratory per 5 million population globally, however this can differ from country to country. Please refer to the lab experts in your country.

- **Budgeting for culture labs** follows the logic explained above, separately budgeting for liquid and solid media. Maintenance costs appear by default and are annual estimates of validation and maintenance of BSL3 -- see the latest version of the tool for the current estimate. To budget for shipment costs, you will provide transportation costs of smear samples, bearing in mind that there is a minimum cost of shipment of samples -- see the latest version of the tool for the current estimate.

- **1.2.3 DST labs.** It is also advised to separately cost liquid and solid media. Equipment costs are provided by default through “the list of items”, they assume that the quantity required for each item is one. We encourage you to go into the list of items and revise the quantities according to the workload in your country. Budgeting for procurement and distribution for DST labs should be done, following the layout of the worksheet, separating solid media for first-line drug tests, solid media for second-line drug tests and the same for liquid media. Again, there is a minimum cost of shipment of samples -- see the latest version of the tool for the current estimate.
• 1.2.4 Molecular tests. When budgeting for maintenance cost, bear in mind that it largely depends on the quality of the electricity supply, quality of water and the remoteness of the setting, among other factors. In procurement for molecular tests, default values are provided for the cost of molecular tests per test (Hain) and the cost of consumables.

• 1.2.5 Other equipment and consumables. Please use this space to budget for other equipment and consumables, including X-rays.

• 1.2.6 Quality Assured Programmes (EQA). The availability and quality of bacteriological diagnosis of TB relies on the capacity of the NTP to support, train and monitor the testing performance of individual laboratories. The Quality System consists of internal quality control, assessment performance using an external quality assurance system, EQA, including on-site evaluation with on-site supervision based on blind rechecking for microscopy and panel testing for DST, and continuous quality improvement of laboratory services. You should plan and budget for this activity by providing the cost of workshops to develop schemes for EQA, the cost of visits to microscopy centres, the cost of visits to laboratories, the cost of re-checking samples (sending lab samples to a superior laboratory for re-checking), and the cost of panel testing (sending lab samples from the superior laboratories to the district or intermediary laboratories to train workers).

• 1.2.7 Retooling process. With the anticipated launch of the first of the new tools within the next two years, the time is right to start preparing for the introduction of new tools. If so, you will probably hold meetings to Plan development for introduction, financing, and monitoring and evaluation of new/improved diagnostic technologies/strategies or even consultative meeting for implementation in the preparation phase. We have included some items such as the number of attendants, per diem costs, etc that can help you cost this activity.

3.d Indicate sources of funding
At this stage you probably have gone through the main items to improve diagnosis. If these were all your planned costs and resources, you may now go to the bottom of the worksheet and complete sources of funding for improving diagnosis.
### 3.e Check the link to Global Fund cost categories

<table>
<thead>
<tr>
<th><strong>Generic Cost Category</strong></th>
<th><strong>Description</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Training</td>
<td>Total cost of workshops to develop schemes for EQA</td>
</tr>
<tr>
<td>Health Products and Health Equipment</td>
<td>Includes the cost of equipment, maintenance and reagents/consumables for microscopy, culture and DST laboratories; as well as the cost for other diagnostic equipment such as X-rays</td>
</tr>
<tr>
<td>Procurement and supply management costs</td>
<td>Total cost of re-checking, of panel-testing, of transportation samples</td>
</tr>
<tr>
<td>Infrastructure and other equipment</td>
<td>Costs of visits to microscopy centres and to laboratories</td>
</tr>
<tr>
<td>Monitoring and Evaluation</td>
<td>Costs of visits to microscopy centres and to laboratories (supervision visits of quality assurance)</td>
</tr>
<tr>
<td>Planning and administration</td>
<td>Total cost for retooling process</td>
</tr>
<tr>
<td>Other</td>
<td>Total cost of other items</td>
</tr>
</tbody>
</table>
1.3. **Patient support**

1. **Review relevant strategy(ies) and objective(s) from the Stop TB Strategy**

This intervention is aimed at **Objective 1 of the Stop TB Strategy**:

Pursue high quality DOTS expansion and enhancement, through patient support (**sub-component 1.3**).

Services for TB care should identify and address factors that may make patients interrupt or stop treatment. Supervised treatment, which may have to include direct observation of therapy (DOT), helps patients to take their drugs regularly and complete treatment, thus achieving cure and preventing the development of drug resistance. Supervision must be carried out in a context-specific and patient-sensitive manner, and is meant to ensure adherence on the part both of providers (in giving proper care and support) and of patients (in taking regular treatment). Depending on the local conditions, supervision may be undertaken at a health facility, in the workplace, in the community or at home. It should be provided by a treatment partner or treatment supporter who is acceptable to the patient and is trained and supervised by health services. Patient and peer support groups can help to promote adherence to treatment. Selected patient groups, for example prisoners, drug users, and some people with mental health disorders, may need intensive support including DOT. To ensure coherence, some countries can choose to provide direct patient support via incentives such as travel allowances or food packages. This section of the P & B Tool, allows you to plan and budget for patient support.

**Expected outcomes of this chapter**

Learn to develop a detailed budget to build patient support through situation analysis and an incentive plan

3. **Plan for inputs/resources.**

How do I plan and budget for patient support? Brainstorm about likely input requirements -- the following questions may help get things started:

- Is treatment interrupted?
  - Do I need to evaluate the reasons and carry out a situation analysis?
  - Do I need to hire consultants?
  - Do I need to meet with vulnerable groups?
  - Do I need to develop a strategic plan?
  - Or an incentive plan?
3.a. Choose a method to budget for this intervention

The \textit{quick method} provides an estimate for the total cost of patient support with:

\[
\text{Estimated budget per patient for "patient support" } \times \text{ Estimated number of new TB patients}
\]

\textit{Source: For budget use your own calculations; for the number of patients use the epidemiology worksheet}

We cannot provide the country-specific estimated budget per patient for "Patients' support"; however, if you have some approximation for your country, please include it here.

The \textit{detailed method} allows you to cost the process of establishing an appropriate patient support. This worksheet presents two main activities used to build patient support:

1.3.1 Situation analysis
1.3.2 Incentives

3.b Choose an activity to cost
We will describe here how you would go about costing for patient support.

3.c Enter quantities and unit costs
1.3.1 Situation Analysis. As mentioned above, depending on the local conditions, patient support could vary. To assess local conditions you might need to:

- Conduct a situational analysis
  You might be employing consultants and their cost will be accounted for in your budget. Please provide the number of consultants, the length of their contracts and their daily rate.
- Meet with vulnerable groups in order to assess their needs and jointly plan support.
  You will report the number of meetings per year, the number of local or international experts attending, the length of their stay, their expenses in terms of travel and accommodation etc. Please include here all meetings with different targeted groups
• Produce/develop a strategic plan
  If you are hiring consultants, proceed as in the above activities. If the plan is
developed by NTP staff there is no need to budget for their time since their salary is
already accounted for.

1.3.2 Incentives. Based on the situation analysis, you might decide to carry out an incentive
programme to encourage the continuity of treatment. The framework we suggest requires that
you fill in the number of patients expected to be in the incentive programme and the unit cost
for food packages, transport vouchers or any other type of incentive such as a mixed package of
food and transport vouchers. For the latter, just re-label the item name and fill in the unit cost
of the mixed package. The total cost of incentives is calculated as the estimated number of
patients multiplied by the sum of incentive costs for food, transport, mixed or other.

3.d Indicate sources of funding
If these were all your planned costs and resources for patient support, you may now go to the
bottom of the worksheet and complete sources of funding for this intervention.

3.e Check the link with GCC (Global Fund)

<table>
<thead>
<tr>
<th>MyGlobalFund</th>
<th>GCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human resources</td>
<td>Total cost of incentive/enablers to workers</td>
</tr>
<tr>
<td>Technical and management assistance</td>
<td>Total cost of conducting situational analysis and production of strategic plan</td>
</tr>
<tr>
<td>Training</td>
<td>Total cost of meetings</td>
</tr>
<tr>
<td>Living support to clients</td>
<td>Total cost of incentive/enablers to patients</td>
</tr>
</tbody>
</table>

3.f Mark your work status
1.4. First-line drugs procurement and supply management

1. Review relevant strategy(ies) and objective(s) from the Stop TB Strategy

This intervention is aimed at **Objective 1 of the Stop TB Strategy:**

Pursue high-quality DOTS expansion and enhancement
through first-line drugs procurement and supply
management. An uninterrupted and sustained
supply of quality-assured anti-TB
drugs is fundamental to TB control. For this purpose, an effective
drug supply and management system is essential.

**Expected outcomes of this chapter**

1. Learn how to set targets within the tool and how this produces projections of the number of patients to be treated
2. Learn to develop a detailed budget for first-line drugs as well as a “quick estimate” of this budget using the tool

2. Plan for inputs/resources for input requirements

Brainstorm about likely input requirements. The following questions may help get things started:

- How many new TB patients to be treated will there be?
- How many of these are RETREATMENT patients?
- How many of these are CHILDREN?
- Do I need a minimum STOCK?
- How do I PROCURE, STORE and DISTRIBUTE TB drugs?
3.a. Choose a method to budget for this intervention

The quick method calculates the total cost of first-line drugs as:

\[
\text{Budget of first-line drugs per patient (including children)} \times \text{Estimated number of new TB patients}
\]

Source: TB Control Report 2009, 2008, 2007 (for Budget) and Epidemiology data within the tool default or your own for the number of patients

How do you set targets for case detection and treatment success?
Would you use the global plan regional targets? Do you think you would face any problems with setting these targets? If so, what would those problems be and how would you address them?
Some countries may have current case detection rates above 100%, according to WHO, suggesting that an in-depth revision of the incidence estimates is urgent. WHO is currently working on the process of reviewing the incidence estimates for all countries.

Example. We are in Mozambique, planning for first-line drug budget for the coming years. The case detection rate in Mozambique in 2006 was estimated at about 46.9%. The target set for 2007 is 57.4%, for 2010 is 64.1%, and for 2015 it is 69%.
How many new patients will there need to be treated in 2008 and 2010?
Step 1. Enter these targets in the tool in the “Epidemiology” worksheet.
Step 2. Go back to the “first line drug” worksheet, read the automatically calculated projections in the line “Estimated number of new TB patients to be treated (all forms)”, column 2009 and 2010.
Answer: You expect 54,404 new TB patients to be treated in 2009 and 56,577 in 2010.

The detailed method requires planning the quantities needed of each drug regimen for each of the categories of TB patients. The methods are exclusive!

Here is the list of budget categories provided on this worksheet:

1.4.1 First-line drugs for Category I & III patients
1.4.2 First-line drugs for Category II patients
1.4.3 First-line drugs for children
1.4.4 Buffer stock for first-line drugs
1.4.5 Drug management: procurement, storage, distribution

Other

The category “Other” allows you to include any cost category to improve effective drug supply and management system that might not appear in items 1.4.1. to 1.4.5.

3.b Choose an activity to cost

You have chosen the detailed method to cost. We will here describe how to cost for 1.4.2 Category II (Retreatment patients) and you may use this logic for the other categories, i.e. Children and Category I and III. We will also provide some tips on the rest of costing activities within first-line drug procurement and drug management.

The logic

These are the questions (and answers!) you should ponder.

- How many patients are we retreating per year? Data for retreatment patients and children is not singled out in the epidemiological worksheet of this tool, hence in both cases, we ask you to provide an estimate. Please note that if you have any cases of NEW childhood TB you ought to deduct this figure from the total of NEW patients to be treated (source: epidemiology worksheet).
- In what regimen are Category II patients? RHE? RH?
- Do we purchase GDF Kits or single units?

3.c Enter quantities and unit costs

- Name of Regimen
- Number of patients with this regimen
- Unit cost per patient of this regimen. A built-in box (Figure 12) within this worksheet, shows you the cost per kit and box of different regimens. You may use this information or complement it with additional information on GDF prices for pre-packaged kits and boxes of blister packs for first-line drugs on the website: http://www.stoptb.org/gdf/drugsupply/drugs_available.asp

Figure 12. Cost per kit and box of different regimens, built-in box.

<table>
<thead>
<tr>
<th>Cost per kit</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>2(RHZE 150/75/400/275)</td>
<td>22.40</td>
<td>22.43</td>
<td>22.43</td>
</tr>
<tr>
<td>2(RHZE 150/75/400/275)</td>
<td>26.61</td>
<td>26.61</td>
<td>26.61</td>
</tr>
<tr>
<td>2(RHZE 150/75/400/275)</td>
<td>16.67</td>
<td>16.67</td>
<td>16.67</td>
</tr>
<tr>
<td>2(RHZE 150/75/400/275)</td>
<td>35.33</td>
<td>35.93</td>
<td>35.33</td>
</tr>
<tr>
<td>Cost of 1 box of (RHZE) in blister packaging</td>
<td>19.74</td>
<td>19.74</td>
<td>19.74</td>
</tr>
<tr>
<td>Cost of 1 box of (RH 150/75) in blister packaging</td>
<td>20.72</td>
<td>20.72</td>
<td>20.72</td>
</tr>
<tr>
<td>Cost of 1 box of (EH 400/150) in blister packaging</td>
<td>21.07</td>
<td>21.07</td>
<td>21.07</td>
</tr>
</tbody>
</table>
**Total cost of drugs** in this category will add all regimen costs. Each regimen cost is calculated as:

\[ \text{Regimen costs} = \text{number of patients in the regimen} \times \text{unit cost per patient in this regimen} \]

**Example.** Say in your country, over the last five years, the number of Category II patients has been equivalent to about 10% of the number of new patients (both adults and children). It is assumed that numbers will continue to be equivalent to 10% of new patients in future. Category II patients are treated with the regimen R150/H75/Z400/E275. Patients will continue with the same regimen until 2015. The regimen costs US$ 54.21 per patient. What is the budget for first-line drugs for Category II patients in each year 2008-2012? **Solution.** Please go to Annex 3.

**Tips for planning for the other activities**

1.4.4 **Buffer Stock.** In this section, you may plan and budget for a minimum level of stock required to meet contingencies. Buffer stock should be sufficient to cover problems such as a break in supply or damaged stock.

You may complete
- Estimated number of patients required for buffer stock
- Average cost per patient of anti-TB drugs

but you breakdown Category I and II separate from Category II.

1.4.5 **Drug management.** If you have your own drug management system, you might want to budget for procurement, storage and distribution. In this case, you will need to cost for most of the items on **Figure 13**. The worksheet provides lines to cost each of these items.

**Figure 13.** Drug management: activities to plan and budget for.
3.d Indicate sources of funding

If these were all your planned costs and resources, you may now go to the bottom of the worksheet and complete sources of funding for first-line drugs. If however the above only covered part of your costs, you may want to go through the rest of the suggested activities and/or include your own customized activities.

At this stage you probably have gone through the main items to procure and manage first-line drugs.

3.e Check the link with GCC (Global Fund)

<table>
<thead>
<tr>
<th>MyGlobalFund</th>
<th>GCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicines and Pharmaceutical products</td>
<td>Total cost of first-line drugs</td>
</tr>
<tr>
<td>Procurement and supply management costs</td>
<td>1.4.5 Total cost of drug management</td>
</tr>
<tr>
<td>Other</td>
<td>Total cost for other items</td>
</tr>
</tbody>
</table>

3.f Mark your work status
1.5.1 Monitoring and evaluation (M&E)

1. Review relevant strategy(ies) and objective(s) from the Stop TB Strategy

This intervention is aimed at **Objective 1 of the Stop TB Strategy**: Pursue high quality DOTS expansion and enhancement, through monitoring and evaluation (sub-component 1.5.1)

**What is Monitoring and Evaluation (M&E)?**

M&E is the collective use of social science and epidemiological research methods to assess, and eventually improve, the implementation of programs, or components of programs. The overall purpose of M&E is to measure program effectiveness, identify problem areas, gather lessons learned, and improve overall performance. M&E activities are used to assess progress towards specific objectives and address weaknesses in programme design. A number of different methods or approaches are available for tracking changes and measuring programme performance: monitoring, evaluation (i.e., process, outcome, and impact), and surveillance.

Monitoring is the routine tracking of programmes using input, process, and outcome data that are collected on a regular, ongoing basis. Monitoring is used to assess whether or not planned activities are carried out according to schedule. Monitoring activities reveal the extent to which the programme is progressing towards identified targets and services are being utilized. An abrupt or unexpected change in monitoring data may trigger the need for a more formal evaluation of the activities. Evaluation is used to measure the quality and integrity of programme implementation and to assess coverage. It may also measure the extent to which the intended target population uses services. The results of process evaluations are intended to inform midcourse corrections in the programme to improve programme effectiveness. Evaluation is more time-consuming and expensive than monitoring, hence each budget is clearly separated within the worksheet.

Please note that you will not cost for the staff related to routine surveillance since all salary for NTP staff will be budgeted in the “staff” worksheet (1.5.3.1).

**Expected outcomes of this chapter**

1. Understand the importance of careful consideration on the sample size and cost before planning and budgeting for surveys
2. Plan for inputs/resources and Budget in detail for periodic surveys or routine surveillance

---

3. Compendium of Indicators for Monitoring and Evaluating National Tuberculosis Programs, Stop TB Partnership, 2004
http://www.stoptb.org/wg/advocacy_communication/assets/documents/Compendium%20of%20Indicators%20for%20Monitoring%20and%20Evaluating%20NTP.pdf
4. This is true for the rest of interventions, you will exclude staff costs since these are included in the “Staff” intervention.
4. Plan for inputs/resources
   - Does your TB programme contemplate doing any surveys during the plan?
   - Are you satisfied with your Routine Surveillance? What problems is it facing?
   - Are you planning to invest and develop activities to strengthen the routine surveillance?

3.a. Choose a method to budget for this intervention

You can choose the calculating method.

The **quick method** provides an estimate for total cost of this intervention, calculated as:

\[
\text{Estimated Budget per patient for Monitoring and Evaluation} \times \text{Estimated number of new TB patients to be treated (all forms)}
\]

Source: Your estimates for Budget per patient for Monitoring and Evaluation. WHO has no estimates for M&E.

The preferred **detailed method** allows you to cost in detail Monitoring and Evaluation. This worksheet suggests two main activities to cost:

1.5.1.1 Periodic surveys
1.5.1.2 Routine surveillance

3.b Choose an activity to cost

Here below we explain how to budget using the detailed method for **1.5.1.1 Periodic Surveys** and **1.5.1.2 Routine Surveillance**.

1. Budgeting for Periodic Surveys

*This section is undergoing changes in the tool and will soon be completed*

Prevalence surveys can cost US$ 1-3 million. For advice on computing the cost of disease prevalence surveys, you should contact the Taskforce on TB Impact Measurement  
[6](http://www.who.int/tb/advisory_bodies/impact_measurement_taskforce/about/en/index.html)

---


2. Budgeting for Routine Surveillance Surveys

You will need to budget for:

- The review of data management system
- Training of health staff at sub-national level to use the system
- Developing recording and reporting forms

3.c Enter quantities and unit costs

Both items involve budgeting for meetings or sessions as well as writing and printing material following the logic explained in ACSM chapter (5.1 ACSM, present manual). You will obtain

- Total cost of meetings
- Total consultant/expert costs
- Total cost for development and printing of recording and reporting forms

3.d Indicate sources of funding

Once you have completed your planned costs and resources, you may now go to the bottom of the worksheet and complete sources of funding for improving diagnosis.

3.e Check the link with GCC (Global Fund)

<table>
<thead>
<tr>
<th>MyGlobalFund GCC</th>
<th>WHO - StopTB Planning &amp; Budgeting for TB Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical and management assistance</td>
<td>Total consultant/experts costs</td>
</tr>
<tr>
<td>Training</td>
<td>Cost of training</td>
</tr>
<tr>
<td>Monitoring and Evaluation</td>
<td>Total cost of periodic surveys, of meetings, of development/printing of R&amp;R forms, of other items</td>
</tr>
</tbody>
</table>

At this stage you probably have gone through the main items to improve Monitoring and Evaluation.

3.f Mark your work status
1.5.2 Programme management and supervision

1. Review relevant strategy(ies) and objective(s) from the Stop TB Strategy

This intervention is aiming at **Objective 1 of the Stop TB Strategy**: Pursue high quality DOTS expansion and enhancement, through routine programme management and supervision activities (sub-component 1.5.2).

2. Plan for inputs/resources

How do we plan and budget for
- Recruitment processes?
- Staff meetings?
- Production of guidelines?
- Supervision?
- Transportation?
- Office space, supplies and equipment?
- Infrastructure?

3.a. Choose a method to budget for this intervention

You can choose the calculating method.

The **quick method** provides an estimate for total cost of this intervention, calculated as:

\[
\text{Budget per patient for Routine Programme Management} \times \text{Estimated number of new TB patients to be treated (all forms)}
\]

Source: Budget per patient for Routine Programme Management sourced from NTP budgets reported to WHO through the annual data collection form. The number of patients is sourced from Epidemiology data within the tool.

The **detailed method** allows you to cost Programme Management in detail. This worksheet presents a list of activities from the recruitment process to the organization of different types of meetings or the upgrade and renovation of medical wards and the purchase of vehicles.

---

7 2006 data collection form captures the financial information in line with the Stop TB Strategy
Here is the list of activities (Figure 14) you might be budgeting for:

**Figure 14. Activities to plan and budget for Programme Management and Supervision**

1.5.2.1 Recruitment processes  
1.5.2.2 National staff meetings  
1.5.2.3 Staff meetings at intermediate and peripheral level  
1.5.2.4 Development, production and distribution of guidelines (including retooling for new case definition)  
1.5.2.5 Supervision from national level  
1.5.2.6 Supervision from intermediate level  
1.5.2.7 Supervision from peripheral level  
1.5.2.8 Strengthening supervision  
1.5.2.9 Transportation  
1.5.2.10 Office space, supplies and equipment at national level  
1.5.2.11 Office space, supplies and equipment at sub-national level  
1.5.2.12 Infrastructure, new and renovations  
Other

3.b Choose an activity to cost

This intervention offers the possibility to budget **up to 12 activities** and costing for these using the **detailed method** is very intuitive following the suggestions within the worksheet. We will however describe how you would cost for 1.2.10 office space and equipment and you may use this logic for the rest of the 11 items you may need to plan and budget for.

Here is the detail on 1.2.10:

- **Budgeting for office space.** You will need to know
  - How much is the annual budget for office supplies such as paper, pens, agendas, etc.
  - the annual rent of office space plus its maintenance and utilities. The latter can be calculated as a percentage of the annual cost.

- **Budgeting for office equipment.** Below is a table with the quantities (Q) and costs (C), and the maintenance cost (%) you will need to cost office equipment
3.c Enter quantities and unit costs

Step 1: Quantities (Q)

| Number of years (Q) | The number of years your computer, chair, telephone etc will be amortized, the so-called useful life. The tool provides default values. If you disagree, feel free to override these values. The number of new PCs, chairs, etc that you are purchasing annually |

Step 2: Unit Cost (Cu)

| Maintenance (%) | The maintenance cost of office equipment, which is a percentage of the cost of the equipment itself. There is a default value, but again you may override it. |
| Cost of (C) | Unit Cost of a PC, chair, shelf, etc. Default values are suggested. |

Final step: Q X Cu

| Cost of Office Equipment and Maintenance | Automatic calculation |
| Given the information you provided on Q, C and %, the tool automatically calculates the cost of office equipment (blue code) |

The above probably only covers part of your Programme Management Costs. You may want to go through the remaining 11 suggested activities within this intervention and/or include your own customized activities. Please note that the number of tables to budget for meetings and supervision visits are limited within the Programme Management and Supervision worksheet, feel free to add more tables if necessary (ref. Part I, User Manual)

3.d Indicate sources of funding

Once you have gone through your checklist of items to cost, you may now go to the bottom of the worksheet and complete sources of funding for routine programme management.
### 3.e Check the link with GCC (Global Fund)

<table>
<thead>
<tr>
<th><strong>MyGlobalFund</strong></th>
<th><strong>GCC</strong></th>
<th><strong>WHO - StopTB</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Human resources</td>
<td>1.5.2.1 Total cost of recruitment processes</td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>Total costs of meetings; 1.5.2.2 Total cost of national staff meetings; 1.5.2.3 Total cost of staff meetings at intermediate and peripheral level</td>
<td></td>
</tr>
<tr>
<td>Infrastructure and other equipment</td>
<td>Total cost of infrastructure, to purchase vehicles, maintaining vehicles, of office equipment (purchase plus maintenance)</td>
<td></td>
</tr>
<tr>
<td>Communication materials</td>
<td>Total cost of production of guidelines</td>
<td></td>
</tr>
<tr>
<td>Monitoring and evaluation</td>
<td>1.5.2.5 Total cost of supervision from national level, 1.5.2.6 from intermediate level, 1.5.2.7 from peripheral level, 1.5.2.8 for strengthening supervision</td>
<td></td>
</tr>
<tr>
<td>Overheads</td>
<td>Cost of fuel for vehicles; annual cost of office space</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>Total cost for other items</td>
<td></td>
</tr>
</tbody>
</table>

### 3.f Mark your work status
1.5.3.1 Human Resource Development

1. Review relevant strategy(ies) and objective(s) from the Stop TB Strategy

This intervention is capturing all Human Resource Development costs involved in Objective 1 of the Stop TB Strategy: the pursuit of high quality DOTS expansion and enhancement (sub-component:1.5.3).

Human Resource Development (HRD) involves staff working full time on TB control, international technical assistance and training. The tool provides three separate worksheets to cost each of these aspects of HRD. In this section we will go through the main activities to cost within each of them.

Expected outcomes of this chapter

Learn to develop a detailed budget for:
- staff working full time (Figure 15) in TB activities, either at national, intermediate level or peripheral level
- International Technical Assistance
- Training

2. Plan for inputs/resources

Some questions to help you plan:

- What is your current staff situation? Do you need more staff to be able to implement your strategy. Plan for staff according to your needs.
- In which area(s) do you need additional staff? Can you relocate and/or re-assign people or do you need to hire new staff? Can you task-shift?
- Do you plan to have visits from international technical agencies, for instance in ACSM?
- Are you carrying out training on TB control in general? Training on new skills i.e. training that is specific for laboratory staff, PPM, PAL, CTBC, MDR-TB or TB/HIV etc.?
3.a. Choose a method to budget for this intervention

You can choose the calculating method.

The quick method provides an estimate for total cost of this intervention, calculated as:

\[
\text{Budget per patient for HRD} \times \text{Estimated number of new TB patients to be treated (all forms)}
\]

Source: Budget per patient for HRD, i.e. staff, International Technical Assistance and Training.

Please note that you may use the budget per patient for staff, calculated on the basis of the data for "Staff budget" that you provided to the annual WHO data collection, divided by the estimated number of TB patients (from the epidemiological section). (See Welcome Page “Current situation: budget reported 200X”). WHO does not have estimates on per patient budget for International Technical Assistance or Training.
The **detailed method** allows you to cost in detail

1.5.3.1 HRD: **Staff** at National, Intermediate and Peripheral level

1.5.3.2 HRD: **International Technical Assistance**, on International assessment missions or country-based staff

1.5.3.3 HRD: **Training** and other aspects of human resource development for specific interventions related to the STB Strategy, i.e. training for patient care and programme management, diagnosis, TB/HIV, MDR-TB, PAL, PPM/ISTC, community involvement, ACSM and civil society, infection control, international training and other. You may also cost in this section coordination with other programmes and departments and other aspects of HRD.

### 3.b Choose an activity to cost

We will describe here how you would budget for staff, training and technical assistance.

The worksheet allows you to:

- Budget for all staff employed full time in all interventions\(^8\)
- Budget separately staff employed at national, intermediary (i.e. regional) or peripheral level (i.e. district). Budget here for the annual salaries or incentives for staff working in TB control.
- The structure of positions is consistent and lists the positions of staff by function.
  Within the worksheet, each line corresponds to a function to which a number of staff are assigned, i.e.” How many people do you need (or have) as lab technicians?
- Position titles may be changed as necessary to reflect your country’s reality.

### 3.c Enter quantities and unit costs

Each staff cost is calculated based on an ingredients approach. We will provide here the detailed calculations for costing laboratory staff and you may use the same logic to cost the rest of the staff at national, regional or district level employed in the activities listed above. Costs reflect average costs for the function, not the specific salary of Mr. X or Mr. Y.

\[
\text{Gross Annual contract amount} + \text{Annual incentives for laboratory staff (US$)} \times \text{The number of staff in laboratories}
\]

\(^8\) We have systematically excluded staff cost from any intervention, so that they would be budgeted for once, in the 1.5.3.1 Human Resource Development
Example. If one laboratory staff spends 70% of his/her time on TB control, you should enter +1*0.7=0.7 as the number of staff in laboratories (please insert formula\(^9\)). Same reasoning applies for any other staff!

3.d Indicate sources of funding
Once you have gone through costing all the staff exclusively involved in TB, you may now go to the bottom of the worksheet and complete sources of funding for staff and you may match the information you just provided with the Global Fund GCC.

3.e Check the link with GCC (Global Fund)

<table>
<thead>
<tr>
<th>MyGlobalFund</th>
<th>GCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human resources</td>
<td>Total costs of Staff</td>
</tr>
</tbody>
</table>

Planning and budgeting for international technical assistance may involve costing international assessment missions and country-based staff from international agencies providing technical assistance to NTP.

3.c Enter quantities and unit costs
The cost of assessment missions is calculated by multiplying the number of missions for PPM, PAL, CTCB, MDR-TB, TB/HIV, ACSM by the cost of each of these missions. Conversely, the total cost country-based staff from international agencies results from multiplying the number of staff by the annual contract amount.

3.d Indicate sources of funding
If you have completed the above, you may now go to the bottom of the worksheet and complete sources of funding for technical assistance and you may match the information you just provided with the Global Fund GCC.

3.e Check the link with GCC (Global Fund)

<table>
<thead>
<tr>
<th>MyGlobalFund</th>
<th>GCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical and management assistance</td>
<td>Total cost of TA</td>
</tr>
</tbody>
</table>

\(^9\) Part 1 of the present manual
3.f Mark your work status (as described in section 3.f for improving diagnosis)

Planning and budgeting for training.

The detailed method to plan for training involves entering all on-going in-service training activities for those working in TB control. We recommend that you adapt the title as convenient and specify in the title of each table whether the training is at the national or peripheral level, initial or refresher and the target audience (technicians, clinicians etc)

- Within training you can budget for training in the different interventions (Figure 16)

**Figure 16. Activities to cost within Training**

1.5.3.3 HRD: Training

3.c Enter quantities and unit costs

Training within any intervention should be budgeted for in this section of the P&B Tool. Below in Figure 17 is an example of initial training for patient care and programme management: two trainings per year, convening 50 participants, some national and some international, not all requiring per diems. For details on amounts and costs we refer to the figure. The total cost of training for 2009 for that country is US$ 13 170.
Figure 17. Example of initial training for patient care and programme management

<table>
<thead>
<tr>
<th>1. Initial training for patient care</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of sessions (per year)</td>
<td>2</td>
</tr>
<tr>
<td>Length of session (average number of days per session)</td>
<td>5</td>
</tr>
<tr>
<td>Number of participants (per session)</td>
<td>50</td>
</tr>
<tr>
<td>Number of participants requiring per diem (per session)</td>
<td>1</td>
</tr>
<tr>
<td>Per diem (average per person &amp; per day)</td>
<td>$30</td>
</tr>
<tr>
<td>Cost of transportation (per participant)</td>
<td>$15</td>
</tr>
<tr>
<td>Number of national facilitators (average per course)</td>
<td>3</td>
</tr>
<tr>
<td>Per diem (per national facilitator &amp; per day)</td>
<td>$30</td>
</tr>
<tr>
<td>Cost of transportation (per national facilitator)</td>
<td>$15</td>
</tr>
<tr>
<td>Number of international facilitators (average per course)</td>
<td>2</td>
</tr>
<tr>
<td>Per diem (per international facilitator &amp; per day)</td>
<td>$60</td>
</tr>
<tr>
<td>Cost of transportation (per international facilitator)</td>
<td>$1,500</td>
</tr>
<tr>
<td>Number of participants requiring hotel (typical per session)</td>
<td>2</td>
</tr>
<tr>
<td>Cost of hotel (per person &amp; per day)</td>
<td>$100</td>
</tr>
<tr>
<td>Cost of refresher and lunch (per person &amp; per day)</td>
<td>$2</td>
</tr>
<tr>
<td>Cost of room rental (per day)</td>
<td>$2</td>
</tr>
<tr>
<td>Cost of stationary (per day)</td>
<td>$2</td>
</tr>
<tr>
<td>Number of copies of training material (per session)</td>
<td>15</td>
</tr>
<tr>
<td>Cost of guidelines/training material (per copy)</td>
<td>$2</td>
</tr>
<tr>
<td>Other costs &lt;specify&gt; (typical per session)</td>
<td></td>
</tr>
<tr>
<td>Cost of training</td>
<td>$13,170</td>
</tr>
</tbody>
</table>

Please note that the table to budget for training for different interventions is standard throughout the Training worksheet (Figure 17). Please adapt the wording to reflect the specifics of your workshops and training.

In any of the above training you can budget for initial training and retraining. No default data is provided here, so you will be completing both quantities (number of sessions, length, number of participants, number of per diem facilitator national or international, number of copies of training material, stationary etc) and costs (transportation, per diem, room rental, guidelines and training material). As a result you will obtain costs of training for each specific type of training.

3.d Indicate sources of funding

You can then go to the bottom of the worksheet and complete sources of funding for training and you may match the information you just provided with the Global Fund GCC.

<table>
<thead>
<tr>
<th>3.f Mark your work status</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>MyGlobalFund GCC</td>
<td>Total cost of Training</td>
</tr>
</tbody>
</table>

PLANNING AND BUDGETING TOOL, USER MANUAL 43
2.1 Collaborative TB/HIV activities

1. Review relevant strategy(ies) and objective(s) from the Stop TB Strategy

This intervention is aimed at Objective 2 of the Stop TB Strategy:

Address TB/HIV, MDR-TB and other challenges

2.1 Collaborative TB/HIV activities.

HIV is the main reason for failure to meet Tuberculosis (TB) control targets in high HIV settings. TB is a major cause of death among people living with HIV/AIDS. In order to control TB in high HIV settings, WHO recommends that the DOTS strategy be complemented with collaborative TB/HIV activities. This intervention follows the WHO interim policy on collaborative TB/HIV activities. The recommendations focus on three core areas: a. establish the mechanisms for collaboration between TB and HIV/AIDS programmes, b. reduce the burden of TB among People Living with HIV/AIDS, and c. reduce the burden of HIV among TB patients.

Expected outcomes of this chapter

Use the “quick method”, which provides more information than in other interventions and is based on the Global Plan data

Understand the method of planning in detail for activities to:
- decrease the burden of HIV in TB patients
- decrease the burden of TB in HIV patients
- establish collaborative mechanisms

5. Plan for inputs/resources

- Where is the programme currently with respect to each of the policy recommendations?
- Are we providing HIV testing and counseling for TB patients?
- How can we scale-up key interventions?
- Which regions or focal groups deserve the first attention?

If the country has over 1% HIV prevalence, the activities recommended focus on:

1. Activities to decrease the burden of TB in HIV patients, according to the three I’s:
   - Establish Intensified TB case-finding through screening for symptoms and signs of TB in places where HIV-infected people are concentrated, followed by diagnosis and
prompt treatment to increase chances of survival, improve quality of life, and reduce transmission.

- Introduce **isoniazid** prevention therapy (IPT) to people with latent TB infection to prevent progression to active disease. IPT can be used with antiretroviral therapy (ART) drugs.
- Ensure TB **infection** control in health care and congregate settings such as in hospital wards, prisons or military barracks.

2. Activities to decrease the burden of HIV/AIDS in TB patients
   - Provide HIV testing and counseling
   - Introduce HIV prevention methods
   - Introduce co-trimoxazole preventive therapy (CPT)
   - Ensure HIV care and support
   - Introduce antiretroviral therapy (ART)

3. Activities to establish mechanisms for collaboration

3.a. Choose a method to budget for this intervention

You can choose the calculating method. Both methods are exclusive.

The **quick method** for this intervention differs according to whether your country has HIV prevalence under 1% or over 1%. For either case, you will be calculating the estimated number of patients in each particular situation (i.e. with TB, VCT and PMTCT clients testing positive, TB HIV patients and TB HIV patients on ART), based on the estimated number of patients that you have calculated in

The default values presented in this section all come from the projections of the Global Plan.

- **Is the HIV prevalence for your country under 1%?** If so then we recommend that you conduct surveillance of HIV prevalence among TB patients.

**Total cost of HIV surveillance** will be calculated as:

```
Unit cost of HIV surveillance among TB patients, per TB patient tested
X
Estimated number of new TB patients to test for HIV
```
Please note that the cost of HIV surveillance is calculated as the proportion of DOTS TB cases tested for HIV surveillance out of the estimated number of new TB patients all forms (provided in the epidemiological section). We have provided default values for both Cost and Proportion of DOTS TB cases tested for HIV surveillance. These come from the Global Plan projections and were estimated by the TB/HIV Working Group. In any case please change them if you have more accurate data for your country.

- **Is the HIV prevalence for your country over 1%?** The quick method allows you to cost the activities following WHO interim policy on TB/HIV collaboration. The example below will provide you with the mechanics of planning for such activities and you may use this logic for the other activities recommended.

**Example.** Using the quick method to cost activities to decrease the burden of TB in people living with HIV/AIDS (Figure 18). Total cost of activities to decrease TB burden in the example country, range from 34 to over 50 thousand US dollars from 2008 to 2010. Following the colour code, figures in blue are default data and the purple shaded areas are automatic calculations based on the latter.

**Figure 18.** Use of the quick method to plan for activities to decrease the burden of TB in people living with HIV/AIDS, an example.

<table>
<thead>
<tr>
<th>Activities to decrease the burden of TB in people living with HIV/AIDS</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated number of adult PLWHA screened for TB</td>
<td>3,013</td>
<td>4,215</td>
<td>5,798</td>
</tr>
<tr>
<td>Cost for TB screening among PLWHA, per person screened</td>
<td>$0.47</td>
<td>0.47</td>
<td>0.47</td>
</tr>
<tr>
<td>Estimated number of adult PLWHA, no TB, completing IPT</td>
<td>392</td>
<td>1,201</td>
<td>1,447</td>
</tr>
<tr>
<td>Cost of IPT, per 6 person months of treatment</td>
<td>$33</td>
<td>33</td>
<td>33</td>
</tr>
<tr>
<td>Total cost for activities to decrease TB burden in PLWHA</td>
<td>$34,161</td>
<td>$41,599</td>
<td>$50,428</td>
</tr>
</tbody>
</table>

- **Screening for TB.** Its cost is calculated as

**Unit cost of screening per person PLWA X Number of PLWA screened for TB (estimate)**

The estimated number of adult PLWHA screened for TB is based on the estimated proportion of screens done to VCT and PMTCT clients testing positive. The number of VCT and PMTCT clients testing positive comes from the UNAIDS estimates. The proportion of people screened is a default value estimated by the TB/HIV Working Group from the Global Plan. Please modify the data as appropriate.

The unit costs presented are based on detailed costing studies done in Africa (ProTEST studies) and have been adapted to your region according to GNI p.c. These unit costs reflect all
necessary inputs for the activities, e.g. training, drugs, and/or clinical revisions. If you have more accurate values for your country please change them by writing over them.

- Completing Isoniazid Preventive Therapy. Its cost is calculated as

| Unit cost of IPT, per 6 person months of treatment | Number of adult PLWHA, without TB, completing IPT (estimate) |

The estimated number of adult living with HIV without TB who are completing IPT is based on the estimated proportion of VCT and PMTCT clients testing positive who are newly diagnosed with HIV/AIDS, have no TB and are completing IPT.

Unit cost of IPT (estimated by ProTEST) is provided as a default value, but you may replace it with your own estimates.

Hence, the total cost of activities to decrease the burden of TB in people living with HIV/AIDS will be the sum of screening and IPT costs calculated above. Using this logic you may cost the other activities using the quick method. Please note that you may cost for activities to establish mechanisms for collaboration by providing as a percentage of other costs. The result will automatically appear.

It has been our experience that NTP staff will use data in the quick method mostly for information about the targets of estimated number of people living with HIV or TB patients benefiting from any given activity. Nevertheless, the NTP tends to then cost the activities using the detailed method.

The detailed method offers a series of tables suggesting a list of inputs that the programme might need following the interim policy. You should leave blank any of the following if they already exist.

Here is the detailed list of activities that this intervention worksheet suggests (Figure 19). They relate to the TB-HIV interim policy.\(^\text{10}\)

\(^{10}\) WHO/HTM/TB/2004.330
Figure 19. Activities to plan and budget for Collaborative TB/HIV activities (detailed method)

2.1.1 Establish mechanisms for collaboration
2.1.2 Conduct surveillance of HIV prevalence among TB patients
2.1.3 Decrease the burden of TB in people living with HIV/AIDS
2.1.4 Decrease the burden of HIV/AIDS in TB patients
Other

3.b Choose an activity to cost
The logic
We will look into detail at using the detailed method to cost activities 2.1.4 Activities to decrease the burden of HIV/AIDS in TB patients and you may use this logic for the activities in the other activities listed above.

These are the sub-activities within 2.1.4 and their costing

• HIV testing and counseling for TB patients
WHO recommends that all TB patients should be offered an HIV test and be counselled. However, not all will accept HIV testing and counseling and you need to estimate these numbers.

3.c Enter quantities and unit costs
Total cost of HIV testing and counseling results from adding:
- Number of Counselors X Payment
- Number of HIV tests/kits needed X Cost per HIV test/kit
You will be estimating and providing both.

• HIV prevention: WHO recommends that all TB patients should receive the HIV prevention messages/campaigns.
To cost these campaigns following the usual approach, you will need to provide and add costs (hiring charges or other costs) related to producing materials such as brochures, pamphlets or posters. Bear in mind that if these materials are written by NTP staff then the cost is covered in the salary which is already accounted for in the “NTP Staff” page, so there is no need to enter it in this intervention worksheet.
• Cotrimoxazole Preventive Therapy (CPT) total cost is calculated as:

\[
\text{Number of patients to be treated with Cotrimoxazole} \times \text{Unit cost per patient for CPT}
\]

We remind you that in-service initial training for health workers involved in CPT should be included in the “HRD: Training” page.

• Care and support for HIV/TB patients

We have provided default values for:

- Estimated number of HIV+TB patients receiving care and support, as a proportion of the estimated number of HIV+ TB patients
- Unit cost per patient for treating/preventing Opportunistic Infection (OI) and providing palliative care during six months. These values of costs were calculated by UNAIDS, it includes the necessary drugs to treat OI plus the cost of providing palliative care. If you agree with these values please write them in the corresponding cell.

By combining the above ingredients (cost and number of patients) you will obtain the total cost of care and support for HIV+ TB patients.

• ART treatment

ART treatment involves providing ART drugs and monitoring tests, including Vira-load tests to perform yearly. We exclude in-service initial training of health workers to provide ART, these trainings are to be included in the “HRD: Training” page. The usual ingredients approach is used. In the case of budgeting for ART drugs, we provide default values, (which you may override) for:

- Estimated number of HIV+ TB patients enrolled on ART, which are estimates from the Global Plan.
- The unit cost of ART was estimated for six months in the Global Plan for HIV+ TB patients, because this is the maximum period of overlap between TB and HIV treatment. This estimated unit cost includes all necessary activities to provide ART, e.g. drugs, training and monitoring tests. In some countries the cost of ART for TB patients is budgeted in the National AIDS Programme. Even if this is the case for your country, please take into account that it is important to know how many HIV+ TB patients should start ART and make sure that the reference system between TB and HIV programmes cares for these patients. Equally
important, the TB programme should monitor and evaluate the treatment results of those HIV+ TB patients on ART. Would you be able to provide better estimates for costs of ART drugs per patient during six months? If so, please change the default values with your data.

**Example.** Using the detailed method to budget for HIV testing and counseling for TB patients in 2009 in "Country X”. Imagine the estimated number of TB patients tested and counseled for HIV is expected to be 49 660. You expect to need 3900 HIV test/kits, each of them costs US$ 2. You are holding 2 advocacy meetings a year at US$ 200 each. What is the total cost of HIV testing and counseling for TB patients in 2009? **Answer:** US$ 8200 (Figure 20).

**Figure 20.** Using the detailed method to budget for HIV testing and counseling for TB patients in 2009 in "Country X”.

<table>
<thead>
<tr>
<th>HIV testing and counseling for TB patients</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated number of TB patients HIV tested and counseled</td>
<td>49,660</td>
</tr>
<tr>
<td>Number of counselors</td>
<td>0</td>
</tr>
<tr>
<td>Payment to per counselor</td>
<td>$ .</td>
</tr>
<tr>
<td>Number of HIV testkits needed</td>
<td>3900</td>
</tr>
<tr>
<td>Cost per HIV testkit</td>
<td>2.0</td>
</tr>
<tr>
<td>Advocacy meetings for TB/HIV</td>
<td>$ 400</td>
</tr>
<tr>
<td>Other costs &lt;specify&gt;</td>
<td></td>
</tr>
<tr>
<td>Total costs of HIV testing and counseling for TB patients</td>
<td>$ 8,200</td>
</tr>
</tbody>
</table>

**Planning for the other activities**

You have now budgeted for one of the four TB/HIV activities. Using the methodology described for 2.1.4, you may proceed similarly with the other activities.

**3.d Indicate sources of funding**

If these were all your planned costs and resources, you may now go to the bottom of the worksheet and complete sources of funding for TB/HIV activities.
3.e Check the link with GCC (Global Fund)

<table>
<thead>
<tr>
<th>MyGlobalFund</th>
<th>GCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human resources</td>
<td>Cost of payment for HIV counsellors</td>
</tr>
<tr>
<td>Training</td>
<td>Cost of meetings to establish mechanisms of collaboration</td>
</tr>
<tr>
<td>Health product and health equipment</td>
<td>Cost of x-rays to screen for TB among PLWHA, as well as TB/HIV test kits and monitoring test for/during ART treatment</td>
</tr>
<tr>
<td>Medicines and pharmaceutical products</td>
<td>Cost of drugs for IPT (Isoniazid), OI, ART and CPT (Co-trimoxazole)</td>
</tr>
<tr>
<td>Communication material</td>
<td>Includes printed questionnaire for HIV counselors, as well as posters for HIV prevention</td>
</tr>
<tr>
<td>Monitoring and evaluation</td>
<td>Sub-totals of supervision visits</td>
</tr>
<tr>
<td>Other</td>
<td>Sub-item other costs for providing IPT treatment, HIV testing and counselling, CPT treatment, ART treatment, establishing mechanism of collaboration, conducting HIV surveillance among TB patients and the Other</td>
</tr>
</tbody>
</table>

3.f Mark your work status
2.2 Multidrug-resistant tuberculosis (MDR-TB)

1. Review relevant strategy(ies) and objective(s) from the Stop TB Strategy

This intervention is aimed at Objective 2 of the Stop TB Strategy: Address TB/HIV, MDR/XDR-TB and other Challenges, sub-component 2.2 MDR-TB treatment.

Anti-tuberculosis drug resistance is a major public health problem that threatens the success of DOTS, the WHO-recommended treatment approach for detection and cure of TB, as well as global tuberculosis control. The latest recommendations on the management of drug-resistant TB are published in the Emergency Update of the WHO Guidelines for the programmatic management of drug-resistant TB.\(^{11}\)

2. Plan for inputs/resources

- What is the MDR-TB situation in my country?
- How many MDR-TB patients do I expect to treat in the coming years?
- How can I scale-up treatment? What do I need to do that?
- What measures am I planning to implement contact tracing?
- Am I upgrading or replacing infrastructure?

---

2. Plan for inputs/resources for inputs/resources

Revise the epidemiological data

At the top of the worksheet, the estimated number of MDR-TB cases to treat is calculated for non-high burden MDR-TB and for high burden MDR-TB countries; default values are provided. Calculations are based on the following.

- The estimated number of detected MDR-TB cases in the region includes new cases and retreatment cases.
- Percentage of detected MDR-TB cases on treatment
- Estimated proportion of regional MDR-TB cases accounted for by the country. In this row, should you wish to include your own estimates, please change the percentage that appears for 2008, 2009 and so on up to 100%.

Please revise the above data and overwrite with your own estimates.

The estimated number of MDR-TB cases to treat in row 20 is calculated as:

\[
\text{Estimated number of detected MDR-TB cases in the region} \times \text{Percentage of detected MDR-TB cases on treatment (\%)} \times \text{Estimated proportion of regional MDR-TB cases accounted for by the country}
\]

For the 27 high MDR-TB burden countries: is exclusively reserved for the estimated number of MDR-TB cases to treat in the 27 high MDR-TB countries.

3.a. Choose a method to budget for this intervention

The quick method provides an estimate of the total cost of this intervention based on available data from cost-effectiveness studies. At the time of publication of this manual, there were four detailed studies of costs and cost-effectiveness of pilot projects of MDR-TB in Peru, the Philippines, Estonia and Russia-Tomsk. Graph 1 shows the cost per of an MDR-TB programme in your country. But more importantly it gives you an idea of the unit cost per patient for each of the activities involved in the programmatic care of MDR-TB patients.
Graph 1. Cost per patient treated for MDR-TB by major line item (US$ 2003)

Source: Tupasi et al, 2003\textsuperscript{12}; Suárez PG et al, 2003\textsuperscript{13}; and two WHO unpublished studies

As new cost effectiveness studies become available, these too will be included in the tool.

In order to know the unit costs that would best describe your country, please:
1. Choose the country whose profile in terms of MDR-TB burden most resembles your country.
2. Gross National Income per capita for your country appears by default; please update it if necessary. The unit costs from one of the four studies (the one you choose) will be adjusted for your country, proportionally to GNI pc.


Unit costs per patient will appear for drugs, sputum smears, food parcels, DOT visits etc. based on the available studies. To then calculate the approximate total costs, the tool automatically multiplies these unit costs by the expected number of patients to be treated. The detailed method allows you to cost in detail MDR activities. This worksheet presents a list of activities you might be planning for:

2.2.1 Assessment of situation  
2.2.2 Second-line drugs  
2.2.3 Drugs for adverse events  
2.2.4 Default and contact tracing  
2.2.5 Support to GLC initiative  
2.2.6 Infrastructure

3.b Choose an activity to cost  
This intervention offers the possibility to cost those 6 activities using the detailed costing method, and costing for these is very intuitive, following the suggestions within the worksheet. We will however describe how you would cost for default and contact tracing, and you may use the same logic to cost the remaining 5 activities. As usual, epidemiology data (MDR-TB cases to treat) is provided at the beginning.

3.c Enter quantities and unit costs  
To cost for default and contact tracing, you will need to compute three main sub-activities:

- **Transport.** Please complete the number of motorbikes to purchase and the cost per motorbike. Don't forget to re-label or insert lines if you use alternative transport!
- **Local level meeting/workshop to enhance community involvement.** Please complete the number and cost of all elements related to the meeting/workshop (meetings per year, their length, number of participants and their per diems if required, refresher, hotel, transportation, room rental, fuel and lubricants, stationary and other)
- **Incentives.** If you decide to carry out an incentive programme to encourage the adherence to treatment, please complete the number and cost of all elements involved (i.e. monetary allowances for fuel and lubricants and for public transportation)

\[
\text{Total cost of contact tracing} = \text{total transport cost} + \text{total cost of meetings} + \text{sum of all incentives}
\]
3.d Indicate sources of funding

Once you have completed 2.2.4 and the other 5 activities using the same methodology, please go to the bottom of the worksheet and complete sources of funding for this intervention.

3.e Check the link with GCC (Global Fund)

<table>
<thead>
<tr>
<th></th>
<th>GCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human resources</td>
<td>Costs of enablers such as travel allowances for default tracing</td>
</tr>
<tr>
<td>Technical and management assistance</td>
<td>Costs of hiring consultant for situation analysis</td>
</tr>
<tr>
<td>Training</td>
<td>Cost of local level meeting to enhance community involvement, meeting for situation analysis and policy</td>
</tr>
<tr>
<td>Medicines and pharmaceutical products</td>
<td>Cost of second and third line drugs as well as drugs for adverse events</td>
</tr>
<tr>
<td>Procurement and supply management costs</td>
<td>Costs sharing of GLC and procurement/storage costs</td>
</tr>
<tr>
<td>Infrastructure and other equipment</td>
<td>Includes the cost of motorbikes for default tracing infrastructure</td>
</tr>
<tr>
<td>Other</td>
<td>Total cost for other item</td>
</tr>
</tbody>
</table>

3.f Mark your work status
2.3.1 High risk groups

1. Review relevant strategy(ies) and objective(s) from the Stop TB Strategy

This intervention is aimed at Objective 2 of the Stop TB Strategy: Address TB/HIV, MDR-TB and other challenges through sub-component 2.3.1 High risk groups that need special attention.

Sub-component 2.1 is aimed at addressing TB contacts, the poor and other highly vulnerable groups, prisoners, refugees, etc. TB is not an unavoidable consequence of incarceration and can be controlled through effective TB control in prison to protect prisoners, staff, visitors and the community at large.

Expected outcomes of this chapter
1. Be able to budget for a situational analysis to determine the barriers which prevent access to TB control services in prisoners, refugees, and other high-risk groups
2. Be able to budget for coordination with NGOs, transporting, developing a strategy and producing training material

2. Plan for inputs/resources

Which are the high-risk groups in the country?
Am I organizing meetings with NGOs?
What is the plan to increase mobility for hard-to-reach areas?
Am I contracting consultants to help me develop the national strategy or to develop the HRD plan and training?

3. Budget

3.a. Choose a method to budget for this intervention

You can choose the calculating method.

The quick method provides an estimate for the total cost of this intervention with the formula:

\[
\text{Estimated budget per patient high risk groups} \times \text{Estimated number of new TB patients}
\]

Source: Your estimates for budget per patient high risk groups and Epidemiology data within the tool default or your own for the number of patients
The detailed method allows you to cost the activities to support high risk groups that need special attention.

This worksheet presents five main activities used to build patient support:

2.3.1.1 Situation analysis
2.3.1.2 Coordination with partners and NGOs
2.3.1.3 Transportation
2.3.1.4 Develop strategy
2.3.1.5 Develop training material
2.3.1.6 Other

3.b Choose an activity to cost
The logic Planning for this intervention is very intuitive, following the ingredients approach and the suggested items within each activity.

3.c Enter quantities and unit costs
- To cost the situation analysis, the reader probably recalls the logic prevailing from the other interventions (i.e. patient support).

\[
\text{Total cost of a situation analysis} = \text{number of consultants hired} \times \text{length of their contract} \times \text{per diem}
\]

The worksheet allows you to budget for such an analysis for each high risk group (refugees, prisoners and other high risk groups)
- To cost for coordination with partners and NGOs, you cost all meetings with different partners and targeted groups.

**Example:** From 2008 to 2010, you are planning to hold 4 consultative meetings a year, lasting 2 days each on average and calling for 3 local experts and 1 international expert. Their per diem is $100 respectively. Their travel costs are $50 for the local experts and $2000 for the international expert. Renting the room for the meeting is US$ 100 per day. Only the international expert needs a hotel since the others live in the same province. Drinking water, lunch etc is $15 per day. Pens, paper and folders used for each meeting costs $5. What is the total cost of meetings for each year? **Answer (automatically calculated):** US$ 13740. **Figure 21** reproduces the section within the worksheet.

- To cost for transportation, just include the number of vehicles or ambulances that you need to purchase and their cost and the total will automatically be calculated for you.
You may apply the same logic for the rest of activities to cost within this intervention (i.e., 2.3.1.4 Develop strategy, 2.3.1.5 Develop training material)

**Figure 21.** Example of planning and budgeting for coordination with partners and NGOs amounts to costing here all meetings with different partners and targeted groups.

*Please include here all meetings with different partners and targeted groups*

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of consultative meetings (per year)</td>
<td>4</td>
</tr>
<tr>
<td>Length of consultative meetings (average number of days)</td>
<td>2</td>
</tr>
<tr>
<td>Number of local experts in attendance (per meeting)</td>
<td>3</td>
</tr>
<tr>
<td>Per diems for local experts (per person and per day)</td>
<td>$100</td>
</tr>
<tr>
<td>Travel costs for local experts (per person)</td>
<td>$50</td>
</tr>
<tr>
<td>Number of international experts in attendance (per meeting)</td>
<td>1</td>
</tr>
<tr>
<td>Per diems for international experts (per person and per day)</td>
<td>$100</td>
</tr>
<tr>
<td>Travel costs for international experts (per person)</td>
<td>$2,000</td>
</tr>
<tr>
<td>Number of participants requiring hotel (per meeting)</td>
<td>1</td>
</tr>
<tr>
<td>Cost of hotel (per person and per day)</td>
<td>$100</td>
</tr>
<tr>
<td>Cost of room rental for this meeting (per day)</td>
<td>$80</td>
</tr>
<tr>
<td>Cost of consumables (refreshments/lunch) (per person &amp; per day)</td>
<td>$15</td>
</tr>
<tr>
<td>Cost of stationary (typical cost per meeting)</td>
<td>$5</td>
</tr>
<tr>
<td>Other costs (typical cost per meeting)</td>
<td></td>
</tr>
<tr>
<td><strong>Total cost of meetings</strong></td>
<td><strong>$13,740</strong></td>
</tr>
</tbody>
</table>

3.d Indicate sources of funding

If these were all your planned costs and resources for high risk groups, you may now go to the bottom of the worksheet and complete sources of funding for this intervention.

3.e Check the link with GCC (Global Fund)

<table>
<thead>
<tr>
<th>MyGlobalFund</th>
<th>GCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical and management assistance</td>
<td>Total cost of conducting situational analysis for refugees, prisoners or other and total cost of development of strategy</td>
</tr>
<tr>
<td>Training</td>
<td>Total cost of meetings and training material</td>
</tr>
<tr>
<td>Infrastructure and other equipment</td>
<td>Total cost of purchasing vehicles and transport</td>
</tr>
</tbody>
</table>

3.f Mark your work status

At this stage you probably have gone through the main items

Note your work status and go to the next intervention to cost!
2.3.2 Infection control

1. Review relevant strategy(ies) and objective(s) from the Stop TB Strategy

This intervention is aimed at **Objective 2 of the Stop TB Strategy**: Address TB/HIV, MDR-TB and other challenges, sub-component 2.3.1 Infection Control (IC)

It is aimed at helping management and staff minimize the risk of TB transmission at facilities in resource-limited settings in which:

- HIV-infected persons receive diagnosis, care, treatment, and/or support, such as voluntary counseling and testing centers, clinics for HIV care including primary health care clinics, antiretroviral therapy (ART) clinics, and support clubs for people living with HIV/AIDS; and
- There is a high prevalence of HIV infection, both diagnosed and undiagnosed, in settings such as prisons, jails, other detention centers, and drug rehabilitation centers.

**Expected outcomes of this chapter**

Budgeting for specific measures to reduce the likelihood of transmitting *M. tuberculosis*

2. Plan for inputs/resources

Do you have a strategy in place for IC?
Do you need to assess the IC situation?
Do you need to produce training material?
What do you need to achieve a safe sputum collection?
Do you need to implement environmental measures? If so what equipment, infrastructure and maintenance will it require?
3.a. Choose a method to budget for this intervention

The quick method is calculated as:

**Estimated budget per patient for IC x Estimated number of new TB patients (all forms)**

Source: Budget per patient for IC is based on your own estimates, WHO does not have data on IC. The number of TB patients (default) comes from the epidemiology worksheet.

The detailed method allows you to cost in detail all activities related to IC

2.3.2.1 Programmatic measure
2.3.2.2 Administrative measure
2.3.2.3 Environmental measures
2.3.2.4 Personal protection

3.b Choose an activity to cost
Let's look into the detailed budgeting method

3.c Enter quantities and unit costs

Budgeting for **programmatic measures** involves:

- assessing the status of IC through a situation assessment. Costing this follows the same logic as a situation assessment within other activities ex. High Risk Groups (ref. High Risk Groups). Experience shows that this assessment will take approx. 10 days with an IC expert, i.e. senior consultant.
- Policy or Plan development through consultations and/or workshops. Planning for this activity comes down to costing a meeting (ref. High Risk Groups).
- Advocacy and sensitization meetings. Planning for this activity comes down to costing a meeting (ref. ACSM).
- Production of training material and patient education materials (posters, pamphlets, PSAs). Planning for these activities comes down to costing for printed materials, the content or editing of which might be outsourced (ref. PAL). Poster and patient education are included here.

Please note all dedicated staff for this approach under the “Staff” worksheet, similarly, all training regarding infection control under the “Training” page.
You might need to plan for administrative measures, in particular to:

- triaging TB suspects, cohorting (patient separation) and ensuring safe sputum collection.
- upgrading/renovating existing infrastructure to create separated waiting areas or ensuring safe sputum collection.

**Example:** Next year, you are renovating 1 room at US$ 600, and an open space at US$ 400. Total cost of renovating is US$ 1800 (Figure 22).

**Figure 22.** Planning and budgeting for administrative measures, example.

<table>
<thead>
<tr>
<th>2.3.2.2 Administrative measures</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triage of TB suspects, cohorting (patient separation) and ensuring safe sputum collection</td>
<td></td>
</tr>
<tr>
<td>Upgrade/renovate existing infrastructure to create separated waiting area</td>
<td></td>
</tr>
<tr>
<td>Cost of design of the infrastructure project</td>
<td>1</td>
</tr>
<tr>
<td>Number of rooms to renovate</td>
<td></td>
</tr>
<tr>
<td>Cost of renovation of one room</td>
<td>$600</td>
</tr>
<tr>
<td>Number of open spaces to adapt</td>
<td>3</td>
</tr>
<tr>
<td>Cost of adaptation of one open space</td>
<td>$400</td>
</tr>
<tr>
<td>Number of &lt;specify&gt; to upgrade/renovate</td>
<td></td>
</tr>
<tr>
<td>Cost of upgrade/renovate a &lt;specify&gt;</td>
<td></td>
</tr>
<tr>
<td>Number of &lt;specify&gt; to upgrade/renovate</td>
<td></td>
</tr>
<tr>
<td>Cost of upgrade/renovate a &lt;specify&gt;</td>
<td></td>
</tr>
<tr>
<td>Total cost of upgrade/renovations</td>
<td>$1,800</td>
</tr>
</tbody>
</table>

- Optional equipment for ensuring safe sputum collection. Safe sputum collection can be achieved also with adequate ventilated rooms. This worksheet proposes indicative equipment and default prices are provided. Please replace the indicative prices and equipment with your own. Prices will vary according to distributor or region.
- Cough etiquette. You might be costing for surgical masks. Default values provided are merely indicative.

Environmental measures must be added to reduce the concentration of droplet nuclei in the air. Although many environmental control measures require resources not available in resource-limited settings, some can be implemented, and the staff can be trained in their purpose, capabilities, proper operation and maintenance.

To implement environmental measures,

- you might be planning to conduct a situational analysis at the facility level to implement environmental measures (if needed). By now you should have experience in costing this situation analysis! (Ref. High Risk Groups).
• If you are carrying out infrastructure changes to implement natural ventilation, mixed-mode ventilation or mechanical ventilation according to the expert opinion, you should budget for these changes as seen earlier on for renovating rooms.

• Equipment for mixed-mode ventilation, mechanical ventilation or UVGI. **Example.** You are planning to purchase the following equipment for ventilation: 2 fans, each of them costing US$ 30, 4 smoke tube kits at a default price of US$107 (which you may override!), 3 vaneometers and 3 velocity meters. Default prices are provided within the tool. What is the total cost of planned purchasing of equipment for ventilation? **Answer:** US$ 1898 (Figure 23).

**Figure 23. Planning and budgeting for equipment ventilation**

<table>
<thead>
<tr>
<th>Equipment for ventilation</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of exhaust fans to purchase</td>
<td>2</td>
</tr>
<tr>
<td>Cost of one exhaust fan</td>
<td>$30</td>
</tr>
<tr>
<td>Number of smoke tube kits to purchase</td>
<td>4</td>
</tr>
<tr>
<td>Cost of one smoke tube kit</td>
<td>$107</td>
</tr>
<tr>
<td>Number of vaneometers to purchase</td>
<td>3</td>
</tr>
<tr>
<td>Cost of one vaneometer</td>
<td>$20</td>
</tr>
<tr>
<td>Number of velocity meters to purchase</td>
<td>3</td>
</tr>
<tr>
<td>Cost of one velocity meter</td>
<td>$450</td>
</tr>
<tr>
<td>Total cost of equipment</td>
<td>$1,898</td>
</tr>
</tbody>
</table>

You will have the possibility to budget for installation costs for UVGI lamps, annual recalibration for the UV meters, maintenance facilities/wards and maintenance equipment.

**Personal protection.** If you are planning to purchase supplies for personal respiratory protection for health care workers such as N95 respirators, N99 respirators, gowns, slippers or hair cover, you may use this section of the worksheet and default prices included or else insert lines or re-label items within the list to reflect your planned purchases. Costing follows the usual ingredients approach (ex. Quantity of respirator X cost of respirator).
3.d Indicate sources of funding

Once you have completed all your planned costs and resources for operational research, you may now go to the bottom of the worksheet and complete sources of funding for this intervention.

3.e Check the link with GCC (Global Fund)

<table>
<thead>
<tr>
<th>MyGlobalFund</th>
<th>GCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical and management assistance</td>
<td>Total costs of situation analysis for programmatic and environmental measures</td>
</tr>
<tr>
<td>Training</td>
<td>Total costs of meetings for programmatic measures - development and sensibilization and training materials-</td>
</tr>
<tr>
<td>Health products and health equipment</td>
<td>Total costs of equipment for ventilation, filtration, irradiation, maintenance and other</td>
</tr>
<tr>
<td>Procurement and supply management costs</td>
<td>Total costs for personal respiratory protection</td>
</tr>
<tr>
<td>Infrastructure and other equipment</td>
<td>Total cost of new infrastructure, upgrade and maintenance</td>
</tr>
<tr>
<td>Communication material</td>
<td>Total costs of production of patient education materials</td>
</tr>
<tr>
<td>Other</td>
<td>Total cost of other</td>
</tr>
</tbody>
</table>

3.f Mark your work status

At this stage you probably have gone through the main items. Note your work status and go to the next intervention to cost!
2.3.3 Childhood TB

1. Review relevant strategy(ies) and objective(s) from the Stop TB Strategy

This intervention is aimed at **Objective 2 of the Stop TB Strategy**: Address TB/HIV, MDR-TB and other challenges through **sub-component 2.3.3 Childhood TB**

**Expected outcomes of this chapter**

Be able to budget in detail for activities related to Childhood TB

2. Plan for inputs/resources

- Do I need to assess the situation of childhood TB?
- Am I hiring consultants, organizing meetings?
- Or publishing information leaflets?

3.a. Choose a method to budget for this intervention

You can choose the calculating method.

The **quick method** provides an estimate for the total cost of this intervention with the formula:

\[
\text{Estimated budget per child patient} \times \text{Estimated number of children as a percentage of Total TB cases}
\]

Source: Your estimates for budget per child patient and Epidemiology data within the tool default or your own for the number of patients

Please note that the section of the tool did not require you to estimate the number of children estimated to be treated. Children are a sub-group of the total number of patients to treat and you will have to indicate that proportion.

The **detailed method** allows you to cost the activities to support children with TB.

This worksheet presents two main activities linked to childhood TB:

2.3.3.1 Preparation phase

Other
3.b Choose an activity to cost

The logic To cost for , you might need to

- Conduct a situational analysis
- Hold national sensitization meetings (with health authorities to mainstream childhood TB interventions as part of routine NTP activities).
- Develop training materials
- Produce IEC materials for target groups: health workers, mothers, EPI, community (posters, pamphlets)

To budget for these activities you may follow the same logic as in High Risk Groups intervention (see example and formulas in High Risk Groups chapter).

Please note that the worksheet for this intervention will not include the budget for first-line drugs for children nor activities related to M&E of childhood TB. These costs will respectively be included in the worksheets of first-line drugs and routine programme management.

3.d Indicate sources of funding

Don’t forget to indicate the sources of funding for Childhood TB

3.e Check the link with GCC (Global Fund)

<table>
<thead>
<tr>
<th>MyGlobalFund</th>
<th>GCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical and management assistance</td>
<td>Total cost of conducting situational analysis for childhood TB</td>
</tr>
<tr>
<td>Training</td>
<td>Total cost of meetings in the preparation phase</td>
</tr>
<tr>
<td>Communication material</td>
<td>Total cost of patient educational material</td>
</tr>
<tr>
<td>Other</td>
<td>Total cost of other</td>
</tr>
</tbody>
</table>

At this stage you probably have gone through the main items

3.f Mark your work status
3.2 Practical Approach to Lung Health (PAL)

1. Review relevant strategy(ies) and objective(s) from the Stop TB Strategy

This intervention is aimed at

Objective 3 of the Stop TB Strategy: through sub-component

Practical Approach to Lung Health is aimed at improving the quality of respiratory case management for the individual patient and the efficiency and cost-effectiveness of respiratory care within health systems. PAL has two main components, the standardization of health service delivery through the development and implementation of clinical practice guidelines, and coordination among different levels of health care as well as between TB control programmes and the organization and management of general health services. PAL focuses on: tuberculosis (TB), acute respiratory infections (ARI), with a focus on pneumonia, asthma, and chronic obstructive pulmonary disease (COPD)

Expected outcomes of this chapter
Be able to budget in detail for activities related to PAL or use the quick method that provides default total cost data for PAL from the Global Plan

2. Plan for inputs/resources

Am I planning for activities at the national and sub-national levels?
Do I need to assess the situation for PAL?
Am I hiring consultants?
Am I organizing meetings to adapt and develop the PAL national guidelines?
Am I producing guidelines and training materials?

3.a. Choose a method to budget for this intervention

You can choose the calculating method.

The quick method provides an estimate for the total cost of this intervention directly from the Global Plan. You may override this data with your own estimates.

Estimated total cost (for one country/jurisdiction?) of PAL in Global Plan

Source: The Global Plan

Example. You are responsible for PAL activities in Morocco and you have opted to use the quick method of costing for PAL activities. What will the total cost of PAL be in 2011 (as in Global Plan)? Answer: Read automatic result Total costs (Quick method) for 2011, i.e. US$ 180,042. Do you agree with this value or do you have better estimates?

The detailed method allows you to cost the activities to support PAL
This worksheet presents two main activities linked to PAL:
3.2.1 Activities and costs at national level
3.2.2 Activities and costs at sub-national level
3.2.3 Other

3.b Choose an activity to cost
The logic of planning for activities and costs at national level 3.2.1, you might need to

- Conduct a situational analysis
- Hold consultative meeting with PAL experts and regional focal points: establishing a national working group to assess PAL needs in the country
- Meet at the national level to adapt and develop the PAL national guidelines
- Produce/develop guidelines and training material

To budget for these activities you may follow the same logic as in High Risk Groups intervention for example (see example and formulas in High Risk Groups chapter).

Please note that the worksheet for this intervention will not include the budget for Staff. Please enter all dedicated staff for this approach under the “Staff” page.

3.c Enter quantities and unit costs

Example of planning for activities and costs at national level 3.2.1. In order to assess the need in terms of PAL, you are carrying out a situation analysis for which you are hiring one local consultant, paid US$ 200 per day and he will be working 15 days. You will also hold five consultative meetings every year, lasting two days with around 20 local experts attending each meeting. Local experts receive US$ 40 for per diem and will be reimbursed for their travel expenses at US$ 50 per day. No international expert is required. To adapt existing PAL guidelines to your country needs, you will hold one meeting a year, followed up later on by work, correspondence etc. The meeting lasts two days and will gather 15 local experts. As an outcome of the above mentioned meetings and consultation periods, PAL guidelines will be drafted and published. The content will be drafted by a specialized agency at US$ 150 and...
US$ 50 for other fees related to the editing procedure. The printing is for 500 copies at US$ 10 printing charges. What is the total cost of activities related to PAL at the national level for 2009? Answer. US$ 5200. You will find the detail in Figure 24 extracted from the PAL worksheet.

Similarly, 3.2.2 Activities and costs at sub-national level, it involves examining health services that are organized for planning, surveillance and implementation, such as districts. Please remember to include all training related to PAL in the "HRD: Training" worksheet.

3.d Indicate sources of funding
Don't forget to indicate the sources of funding for PAL

3.e Check the link with GCC (Global Fund)

<table>
<thead>
<tr>
<th>MyGlobalFund</th>
<th>GCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical and management assistance</td>
<td>Total cost of conducting situational analysis for PAL</td>
</tr>
<tr>
<td>Training</td>
<td>Total National and subnational meetings as well as training materials</td>
</tr>
<tr>
<td>Health products and health equipment</td>
<td>Total cost of health equipment at sub-national level</td>
</tr>
<tr>
<td>Other</td>
<td>Total cost of other</td>
</tr>
</tbody>
</table>

3.f Mark your work status

At this stage you probably have gone through the main items. Note your work status and go to the next intervention to cost!
**Figure 24.** Example of planning for activities and costs at national level 3.2.1

<table>
<thead>
<tr>
<th>Number of consultants hired to work on situational analysis (if applicable)</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per diem for consultant (per person and per day)</td>
<td>$200</td>
</tr>
<tr>
<td>Contract duration for conducting situational analysis (number of days)</td>
<td>15</td>
</tr>
<tr>
<td>Other costs not specified</td>
<td>15</td>
</tr>
</tbody>
</table>

**Total cost of conducting situational analysis:** $3,000

**Consultative meeting with PAL experts and regional focal points: establishing a plan**

| Number of consultative meetings (per year) | 5 |
| Length of consultative meetings (average number of days) | 2 |
| Number of local experts in attendance (per meeting) | 20 |
| Per diems for local experts (per person and per day) | $40 |
| Travel costs for local experts (per person) | $50 |
| Number of international experts in attendance (per meeting) | 0 |
| Per diems for international experts (per person and per day) | $60 |
| Travel costs for international experts (per person) | $70 |
| Number of participants requiring hotel (per meeting) | 0 |
| Cost of hotel (per person and per day) | $80 |
| Cost of room rental for this meeting (per day) | $90 |
| Cost of consumables (refreshments/lunch) (per person & per day) | $10 |
| Cost of stationary (typical cost per meeting) | $10 |
| Other costs (typical cost per meeting) | 10 |

**Total cost of PAL meetings:** $14,025

**National level meetings to adapt and develop the PAL national guidelines**

| Number of meetings (per year) | 1 |
| Length of meeting (average number of days) | 2 |
| Number of local experts in attendance (per meeting) | 15 |
| Per diems for local experts (per person and per day) | $15 |
| Travel costs for local experts (per person) | $20 |
| Number of international experts in attendance (per meeting) | 0 |
| Per diems for international experts (per person and per day) | $25 |
| Travel costs for international experts (per person) | $30 |
| Number of participants requiring hotel (per meeting) | 0 |
| Cost of hotel (per person and per day) | $40 |
| Cost of room rental for this meeting (per day) | $50 |
| Cost of consumables (refreshments/lunch) (per person & per day) | $5 |
| Cost of stationary (typical cost per meeting) | $5 |
| Other costs (typical cost per meeting) | 5 |

**Total cost of PAL meetings:** $1,425

**Production, development of guidelines and training material**

| Hiring charges for writing training material | $150 |
| Other costs of developing training material (total) | $50 |

**Number of training material to print**

| Cost of printing training materials, per copy | $50 |

**Total costs of developing training materials:** $200
4.1/4.2 Public-Public and Public-Private Mix (PPM), including ISTC

1. Review relevant strategy(ies) and objective(s) from the Stop TB Strategy

This intervention is aimed at Objective 4 of the Stop TB Strategy:

Strategy: Engage all care providers through Public-Private Mix, including ISTC, sub-component 2.3.3. Every day, in many parts of the world, thousands of TB patients risk their lives by accepting substandard TB services. Poor quality TB treatment not only causes unnecessary suffering and death with a high financial cost to patients and their families, but also damages the reputation of health facilities and health staff. PPM, which stands for Public-Private and Public-Public Mix, is an effective solution to this problem. PPM promotes new approaches and partnerships for delivery of TB care by engaging all health care providers. PPM helps ensure that TB care is in line with International Standards for TB Care. This benefits all - the health provider, the sick patient, the TB programme, and ultimately, the public health of the entire population. The aim of public private mix-DOTS (PPM-DOTS) is to effectively link the national TB programme and all public and private health care providers presently outside the realm of national TB programme efforts so as to provide standardized treatment to all TB patients in the country.

Expected outcomes of this chapter

Be able to budget in detail for activities related to PPM or use the quick method that provides default total cost data for PPM from the Global Plan

2. Plan for inputs/resources

Am I planning for activities at the national and sub-national levels?

Do I need to assess the situation for PPM needs? Am I contracting personnel or holding national level meetings for this purpose?

What actions am I carrying out for advocacy related to PPM? Holding meetings? Printing advocacy brochures? Developing training material?

Am I engaging enablers for contract tracing?

Am I contracting for provision of service delivery?
3.a. Choose a method to budget for this intervention

You can choose the calculating method.

The quick method provides an estimate for the total cost of this intervention directly from the Global Plan. You may override this data with your own estimates.

<table>
<thead>
<tr>
<th>Estimated total cost of PPM (for one country/jurisdiction) as in Global Plan</th>
</tr>
</thead>
</table>

Source: The Global Plan

**Example.** You are responsible for PPM activities in China and you have opted to use the quick method of costing for PPM activities. What will the total cost of PPM be in 2013 (as in Global Plan)? **Answer:** Read automatic result Total costs (Quick method) for 2013, i.e. US$ 4649215. Do you agree with this value or do you have better estimates?

The detailed method allows you to cost the activities to support PPM at the national or district or country level.

3.b Choose an activity to cost

The logic

To cost for 4.1.1 Activities and costs at national level, you should follow the same logic as in High Risk Groups or PAL intervention (see example and formulas in High Risk Groups chapter). Please note that the worksheet for this intervention will not include the budget for PAL staff. These costs will be included in the worksheets of staff.

To cost for 4.1.2 Activities and costs at sub-national level, you will be looking at the level where health services are organized for planning, implementation and monitoring and evaluation purposes such as district or county level. Some of the activities we suggest you cost, are:

- Enablers for contact tracing
- Contracting for provision of service delivery: the following schemes are examples in India, please overwrite it with what is appropriate for your country
- Local consultative and advocacy meetings
- Supervision and monitoring activities of PPM at sub-national level. Please note that PPM supervision can and ideally should be done as part of general programme supervision activities (see Routine Programme Management worksheet), for example by adding one more day to the supervision visits. If this is the way that PPM supervision is done in your country, you do not need to fill in this section of the PPM worksheet.
- Equipment
3. Enter quantities and unit costs

Example of budgeting for PPM activities at the sub-national level, and in particular contracting for provision of service delivery (Figure 25).

You are responsible for PPM in India and you are budgeting for outsourcing the provision of service delivery. For referral, you will be reimbursing a lump sum of US$ 1208 per annum per sputum collection centre. For the provision of Directly Observed Treatment you expect these providers to cure 510,000 patients. For every patient cured they will receive US$ 8. For designated paid microscopy center, you expect around 10,000,000 slides prepared per year with a payment per slide of US$ 0.50. To promote education and community outreach through these private partners, you are budgeting for US$ 8 for every 1000 people covered, and you are expected to cover 600,000,000. You are engaging 600 NGOs to be a TB Unit and you are paying the NGO US$ 21,340. What is the total cost of contracts for provision of services? **Answer:** ref. Annex 3.

**Figure 25.** Example of budgeting for contracting for provision of service delivery.

<table>
<thead>
<tr>
<th>Scheme 1: Referral</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lump sum for sputum collection centre</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Scheme 2: Provision of Directly Observed Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expected number of patients cured by these providers (per year)</td>
</tr>
<tr>
<td>Payment per patient cured</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Scheme 3: Designated paid microscopy centre - microscopy only</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expected number of slides prepared by these centres (per year)</td>
</tr>
<tr>
<td>Payment per slide</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Scheme 4: Education and community outreach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expected number of people to cover (per year)</td>
</tr>
<tr>
<td>Payment per person covered</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Scheme 5: In-hospital care for TB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expected number of hospitals to be involved (per year)</td>
</tr>
<tr>
<td>Payment per hospital</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Scheme 6: NGO serves as a TB unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expected number of NGOs to be a TB Unit (per year)</td>
</tr>
<tr>
<td>Payment per NGO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other costs</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Other costs</td>
<td></td>
</tr>
</tbody>
</table>

Total cost of contracts for provision of services | $26,744,000

3. Indicate sources of funding

Don't forget to indicate the sources of funding for PPM.
3.e Check the link with GCC (Global Fund)

<table>
<thead>
<tr>
<th>MyGlobalFund</th>
<th>GCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Resources</td>
<td>Total costs for enablers for contact tracing</td>
</tr>
<tr>
<td>Technical and management assistance</td>
<td>Total cost of conducting situational analysis for PPM</td>
</tr>
<tr>
<td>Training</td>
<td>Total National and subnational meetings as well as training materials</td>
</tr>
<tr>
<td>Infrastructure and other equipment</td>
<td>Total cost of office equipment and vehicles</td>
</tr>
<tr>
<td>Communication material</td>
<td>Total cost of production/development and printing of guidelines and IEC materials</td>
</tr>
<tr>
<td>Monitoring and evaluation</td>
<td>Total cost of supervision</td>
</tr>
<tr>
<td>Other</td>
<td>Total cost of contracts of provision of services and the &quot;Other&quot; item</td>
</tr>
</tbody>
</table>

3.f Mark your work status

At this stage you probably have gone through the main items. Note your work status and go to the next intervention to cost!
5.1 Advocacy, communication and social mobilization (ACSM)

1. Review relevant strategy(ies) and objective(s) from the Stop TB Strategy

This intervention is aimed at

Objective 5 of the Stop TB Strategy:

Empower people with TB and communities,

sub-component 5.1 Advocacy, communication and social mobilization

What is advocacy, communication and social mobilization?

- **Advocacy**: Advocacy for TB is to be understood as a broad set of coordinated interventions, designed to place TB high on the political and development agenda, foster political will, increase and sustain financial and other resources.

- **Communication**: Within countries, and in the context of TB control, communication primarily seeks to create and improve knowledge among the general public about TB (e.g. its symptoms and curability), TB control services (e.g. diagnosis and treatment) and improve interpersonal communication between patients and programme providers contributing to behavioral change or to meet a particular behavioral goal.

- **Social Mobilization**: In the national and sub-national contexts, social mobilization is a process of generating public will by actively securing broad consensus and social commitment within civil society to fight stigma and eliminate TB as a public health threat. That is, social mobilization seeks to convert knowledge into demonstrable action.

Expected outcomes of this chapter

Plan and budget in detail for activities related to Political Commitment and ACSM.

You will learn how to cost in detail a meeting, which will be useful throughout all interventions!

2. Plan for inputs/resources

- What activities are you planning to place TB high on the political and development agenda?
- And to improve the understanding of TB prevention and care?
- And to secure public consensus?
3. Choose a method to budget for this intervention

3.a. The quick method simply provides the estimated budget for ACSM from Global Plan estimates. Feel free to override the values with your own estimates. Please state the source.

**Estimated total cost of ACSM (for one country/jurisdiction) as in Global Plan**

*Source: The Global Plan*

The detailed method allows you to cost in detail the following suggested activities (Figure 26):

**Figure 26. Activities to plan and budget for ACSM**

- 5.1.1 General management
- 5.1.2 Advocacy
- 5.1.3 Communication
- 5.1.4 Social mobilization
- 5.1.5 Patients’ charter
- Other
3.b Choose an activity to cost

Use the detailed costing method to plan and budget for the above list of activities.

5.1.1 General management

General Management is referred to as:

- A situation/needs assessment: KAP survey and other information sources to identify challenges, priority populations and key behaviour targets to create ACSM strategies
- National level meetings to coordinate monitoring of ACSM activities, to define indicators to monitor, and to evaluate progress towards indicators

Budgeting for this activity excludes dedicated staff or training that appear in the staff or training section of the tool. To cost it you may compute items ranging from the number of international experts and their cost to hotel rentals.

5.1.2 Advocacy

With the aim of placing TB high on the political agenda, fostering political will, increasing and sustaining financial and other resources, you might be implementing activities such as:

- targeting media outreach (training journalists in TB issues, national level meetings with media briefings with journalists and editorial boards);
- raising awareness through activities for leaders around TB (at the national level through high-level discussions around TB);
- field visits for high-level officials or via the Stop TB Partnership and national advocates (for national level events or other support costs for Partnership or advocates).

Budgeting for advocacy through the detailed method involves reviewing quantities and costs of sessions, meetings, stationary, training, etc.

5.1.3 Communication

The activities designed to create and improve knowledge among the general public about TB (e.g. its symptoms and curability) through mass media campaign, dissemination of targeted information to the communities, and improved interpersonal communication of health workers and peer educators (community volunteers) with patients, involves providing costs and quantities for a variety of items such as development and production materials, mass media campaigns, transportation costs etc.
5.1.4 Social mobilization

Costing activities designed to generate public will to fight stigma and eliminate TB as a public health threat, within targeted audiences such as religious communities, patients’ groups, schools, work-places etc., involves accounting for quantities of sessions, participants, facilitators, stationary, etc and their respective unit cost or per diem for:

- Civil Society Engagement: peer education for community
- Patient Engagement: patient empowerment workshops
- Educational programme for community leaders
- De-stigmatization activities: educational meetings in schools, churches or workplace-based organizations

5.1.5 Patients’ charter

The detailed method of costing the patients’ charter promotion and dissemination may involve completing items such as total cost of translation (if any), total cost of printing, total cost of dissemination, and other costs.

3.c Enter quantities and unit costs

To calculate the total cost of each of the above mentioned activities, you may follow the same logic.

How to calculate total cost of activities within ACSM (Box 2), example of de-stigmatization activities

Box 2. Formula behind Total cost of activities within ACSM

Total cost of de-stigmatization activities is calculated as:

\[ \text{Total cost of de-stigmatization activities} = N \times \text{Cost of de-stigmatization session per year} \]

Where Cost of de-stigmatization session per year equals:

\[ \text{Per diem per person/day} \times \text{number of participants requiring per diem} \times \text{length of session} \]

\[ + \text{Cost of transportation per participant} \times \text{number of participants per session} \]

\[ + \text{number of facilitators per session} \times \text{per diem per facilitator and per day} \times \text{length of session} \]

\[ + \text{number of facilitator} \times \text{cost of transport} \]

\[ + \text{number of participants requiring hotel} \times \text{cost of hotel} \times \text{length of session} \]

\[ + \text{number of participants in session} \times \text{cost of refresher and lunch per person/day} \times \text{length of session} \]

\[ + \text{other cost} \]
3.d Indicate sources of funding

Don’t forget to fill in the source of funding for the above activities!

3.e Check the link with GCC (Global Fund)

<table>
<thead>
<tr>
<th>Training</th>
<th>GCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computes costs of national meetings and all meetings workshops in social mobilization i.e. Total cost of meetings (general management and ACSM) + Total cost of training + Total cost of community outreach + Total cost of education for the community + Total cost of patient engagement + Total cost for education for community leaders + Total cost for de-stigmatization activities</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Communication material</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Includes production/development of IEC materials and mass media campaigns for advocacy and communication, as well as press conferences and other costs for advocacy.</td>
<td></td>
</tr>
</tbody>
</table>

| Other                  | Total cost of other item       |

3.f Mark your work status
5.2. Community involvement

1. Review relevant strategy(ies) and objective(s) from the Stop TB Strategy

This intervention is aimed at **Objective 5**

**of the Stop TB Strategy:** Empower people with TB, and communities sub-component 5.2

Community Involvement. The aim of community involvement is to:

- facilitate access to health services and bring services to where people live
- promote a partnership between health services and communities aimed at community and patient empowerment
- bring about behavioural change, avoid health risks in the future, and become more self-reliant
- promote institution support, based on principles of equity and social justice, to initiatives in which community members express their responsibility and solidarity towards those who are suffering

**Expected outcomes of this chapter**

Plan and budget for detailed activities aimed at increasing community involvement in TB care.

Detailed costing is very intuitive.

2. Plan for inputs/resources

3.a. Choose a method to budget for this intervention

You can choose the calculating method.

The quick method provides an estimate for the total cost of this intervention based on Global Plan estimates:

<table>
<thead>
<tr>
<th>Estimated cost of community involvement activities, as in Global Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source: Global Plan</td>
</tr>
</tbody>
</table>

The detailed method allows you to cost the activities to support community involvement. This worksheet presents five main activities used to build Community involvement:

- 5.2.1 Policy and piloting
- 5.2.2 Advocacy and communication
- 5.2.3 Development of training materials
- 5.2.4 Incentives to community health workers
- Special challenges and operational research
- Other

3.b Choose an activity to cost

The logic: Planning for this intervention is very intuitive, following the ingredients approach and the suggested items within each activity. We will describe either the formulas underlying the total cost of each activity or an example.

3.c Enter quantities and unit costs

   5.2.1 Policy and piloting

Example: You are responsible for community involvement in TB care and prevention in Mozambique, and you are planning the budget for 2008 for the following related activities at the national level:

(Figure 27). To do so, you will hold two meetings per year at the national level with a Core Working Group.

Details of the meeting: the meetings last one day; 25 local experts attend with no per diem foreseen; one international expert attends at the first meeting only, her per diem is US$ 200 with travel costs of US$ 4000; consumables cost US$ 6, stationary for each meeting US$ 50, photocopies for every meeting US$ 15. What is the total cost of these meetings?

Answer: US$ 4636.
Hiring the production of policy guidance will cost you US$ 200, printing itself is around US$ 3 per copy and you need 1000 copies. What is the total cost of printing the Policy Guidance? Answer: US$ 3200 (Figure 28)

If Mozambique did not already have a community involvement programme, you probably would have conducted a situational analysis, following the logic used in other interventions, and also field (or demonstration areas, if in pilot phase) initial/support/monitoring visits.

So what is the total cost for policy and piloting? US$ 7 836 which is the sum of the above (US$ 4 636 and US$ 3 200).

5.2.2 Advocacy and communication

You have experience in budgeting for advocacy and communication from ACSM chapter in the present manual. Please use the logic from that chapter to calculate total cost of meetings and total cost of producing communication tools (such as media campaigns, posters or brochures).

If you are budgeting for training materials, you will probably plan to include a “needs assessment”, and tools for capacity building for all stakeholders (training material etc).
Total cost of needs assessment = Number of consultants hired to work on the HRD plan and training materials \* Per diem for consultant (per person and per day) \* Contract duration for developing the plan and training materials (number of days) + Other costs

5.2.3 Development of training materials

You will also need to print the training materials and perhaps consult to review/endorse and get familiar with Advocacy and Communication plan and tools, HR development plan and tools, and M&E indicators. To budget for printing please follow the logic learned in the chapter devoted to ACSM.

5.2.4 Incentives to community health workers

Please note that usually, although not always, rationale for presence/absence of financial incentives is related to the community health workers’ functions and daily time spent. In cases of limited functions and less than one hour per day involvement, WHO recommends avoiding financial incentives; they can have negative effect on sustainability.

Special challenges and operational research

Designing and implementing community involvement with participation of people living in or with challenging conditions should be integrated in all other sections of this sheet OR addressed through other components of the strategy.

All operational research activities and costs for community involvement should be entered under the “Operational Research” sheet in the tool.

3.d Indicate sources of funding

Once you have completed all your planned costs and resources for community involvement, you may now go to the bottom of the worksheet and complete sources of funding for this intervention.
3.e Check the link with GCC (Global Fund)

<table>
<thead>
<tr>
<th>Human resources</th>
<th>Total costs for incentives for community health care workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical and management assistance</td>
<td>Total cost of developing training materials + Total cost of development of advocacy and communication strategy + Total cost of conducting situational analysis</td>
</tr>
<tr>
<td>Training</td>
<td>Total cost of meetings (policy) + Total cost of advocacy meetings at national level + Total cost of advocacy meetings at local level + Total costs of printing of training materials + Total cost of meetings (to develop training materials)</td>
</tr>
<tr>
<td>Communication material</td>
<td>Total costs of development / printing of policy guidance + Total costs of development / printing of advocacy and communication strategy and tools</td>
</tr>
<tr>
<td>Monitoring and evaluation</td>
<td>Total costs of visits</td>
</tr>
<tr>
<td>Living support to clients</td>
<td>Total costs of other items</td>
</tr>
</tbody>
</table>

3.f Mark your work status

At this stage you probably have gone through the main items. Note your work status and go to the next intervention to cost!
6.1 Operational research

1. Review relevant strategy(ies) and objective(s) from the Stop TB Strategy

This intervention is aimed at Objective 6 of the Stop TB Strategy: Enable and promote research, sub-component 6.1 Operational Research (O.R.)

O.R. is aimed at assessing innovations within existing health systems. Their research aims at optimizing the use of current strategies and tools and to operationalize the introduction of new ones by linking their use with epidemiological, operational, behavioural, social, health systems, health economics and policy research. O.R. includes randomized controlled studies of existing interventions within routine programme settings, as well as epidemiology, surveillance, or targeted evaluation of new or existing interventions to improve TB programme performance and reduce TB rates.

Expected outcomes of this chapter

Be able to budget in detail a study aimed at improving TB programme performance or reduce TB rates

2. Plan for inputs/resources

Source: http://www.who.int/tb/strategy/en/

Am I planning to carry out studies related to improving TB programme performance and reducing TB?
3.a. Choose a method to budget for this intervention

The quick method simply multiplies the estimated budget per patient for OR

<table>
<thead>
<tr>
<th>Estimated budget per patient for OR x Estimated number of new TB patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source: The budget per patient for OR is based on your own estimates, for historic data, please see the budget reported in 2006, page 'Baseline Budget'. The number of TB patients (default) comes from the epidemiology worksheet.</td>
</tr>
</tbody>
</table>

The detailed method allows you to cost a study in detail.

3.b Choose an activity to cost

The logic Total cost of a study is as simple as the sum of the budget for designing the study, collecting data, analysing the results, and writing and disseminating the findings.

3.c Enter quantities and unit costs

Example. In India, you have decided to carry out a study to reduce default rates. Some of the work, such as the study design and data collection will be outsourced, and hence you have estimated the budget for this work (based perhaps on number of full days consultancy work x consultancy fees per day!). The study design is expected to cost US$ 6 000, the data collection US$ 20 000, data analysis US$ 3 000, writing results US$ 2 000, and disseminating study results is budgeted for US$1000. What is the total cost of this study? Answer. First of all please provide a label with the title or type of study (unprotect cells). Secondly, please enter the values as in Figure 29. The total cost of this study has been budgeted at US$ 34000.

Figure 29. Planning for a study to reduce default rates, an example

<table>
<thead>
<tr>
<th>Type of study 3: Reducing default rates in India</th>
</tr>
</thead>
<tbody>
<tr>
<td>Budget for study design</td>
</tr>
<tr>
<td>Budget for data collection</td>
</tr>
<tr>
<td>Budget for data analysis</td>
</tr>
<tr>
<td>Budget for writing results</td>
</tr>
<tr>
<td>Budget for dissemination of studies</td>
</tr>
<tr>
<td>Other costs &lt;specify&gt;</td>
</tr>
<tr>
<td>Other costs &lt;specify&gt;</td>
</tr>
<tr>
<td>Total cost of study 3</td>
</tr>
</tbody>
</table>
Please note that the Task Force on TB Impact Measurement\(^{15}\) can help you assess the feasibility and provide advice on the design of such studies.

3.d Indicate sources of funding
Once you have completed all your planned costs and resources for operational research, you may now go to the bottom of the worksheet and complete sources of funding for this intervention.

3.e Check the link with GCC (Global Fund)

<table>
<thead>
<tr>
<th>MyGlobalFund</th>
<th>GCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitoring and Evaluation</td>
<td>Total Operational Research costs</td>
</tr>
</tbody>
</table>

3.f Mark your work status

\(^{15}\) tbimpactmeasurement@who.int.
Use of general health services

1. Review relevant strategy(ies) and objective(s) from the Stop TB Strategy
This worksheet is aimed at capturing the cost of TB patients' utilization of General Health Services.

Expected outcomes of this chapter
Be able to budget for the number of beds dedicated to TB patients that are available, the number of outpatient visits that patients need to make to a health facility during treatment and the average length

2. Plan for inputs/resources
Up to this point, you have planned and cost specific interventions related to TB detection, prevention or cure. Since TB patients will also be using hospitals and out-patient consultations mostly for DOT treatment, it is important to also capture these estimated expenses through the P&B tool.

3.a. Choose a method to budget for this intervention
Based on the usual ingredients approach, using this worksheet, you will be estimating (Figure 30):

Figure 30. Activities to plan and budget for use of General Health Services
- Inpatient
- Outpatient visits for DOT
- Inpatient for MDR-TB patients
- Outpatient visits for DOT and monitoring for MDR-TB patients

3.b Choose an activity to cost
Hospitalization costs for smear positive and smear negative (DOT)
Total cost of hospitalization, automatically calculated within the worksheet, reflects the highest value between two options:

- Unit cost per bed day × Number of hospital beds used exclusively for TB
- Unit cost per bed day × Expected percentage of new TB patients that are hospitalized × 365
3.c Enter quantities and unit costs
Please complete the percentage of TB patients hospitalized, the duration of their stay and the
number of hospital beds used exclusively for TB. Please replace default unit cost per bed day
with your own estimates. This method assumes that the percentage of TB patients hospitalized
is stable across the years. It is a simplification and you should feel free to adapt the tool to
reflect an evolution or change in hospitalization practices if you wish.

TIP: Can I calculate the number of beds needed?
Yes!

\[
\text{Number of bed-days} = \text{estimated average duration of stay} \times \text{number of estimated patients}
\]
So

\[
\text{Number of beds}^{16} = \frac{\text{Number of bed-days}}{365}
\]

Outpatient costs for smear positive and smear negative (DOT)
The total cost of outpatient visits is automatically calculated for smear-positive and smear-
negative patients. Please provide both the typical number of visits required by a new TB patient
for DOT and the cost per visit.

| Typical number of visits to a health facility required by a new TB patient for DOT and
| monitoring X Unit cost per outpatient visit |

Hospitalization costs and outpatient costs for MDR patients
You may use the same logic as above, using the expected number of MDR patients instead of
the number of smear-positive and negative.

3.d Indicate sources of funding
Once you have completed all your planned costs and resources for general health services, you
may now go to the bottom of the worksheet and state the sources of financing, i.e. whether
financing is by central, intermediate or local government. Since it is assumed that general
health services are never financed by the Global Fund, there is no link with GCC.

3.f Mark your work status

---

16 This is usually for 85% occupation rate
**Completing an Intervention Worksheet**

### Objective 2: Address TB/HIV, MDR-TB and other challenges

#### 2.3.3 Childhood TB

**Mozambique**

**AFRHiGH**

**STATUS:**

<table>
<thead>
<tr>
<th>Status</th>
<th>Not Started</th>
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</thead>
</table>

**BUDGET METHOD:**

<table>
<thead>
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<th></th>
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<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Quick method</td>
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<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
</tbody>
</table>

### Detailed method

**2.3.3.1 Preparation phase**

**Conducting situational analysis (if needed)**

- Number of consultants hired to work on situational analysis (if applicable)
- Per diem for consultant (per person and per day)
- Contract duration for conducting situational analysis (number of days)

**Other costs <specify>**

<table>
<thead>
<tr>
<th>Year</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
</tbody>
</table>

**Total cost of conducting situational analysis**

<table>
<thead>
<tr>
<th>Year</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
</tbody>
</table>

**Summary costs**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total costs (Quick method)</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>2.3.3.1 Total costs of preparation phase</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Total cost for other items</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td><strong>Total costs for childhood TB activities</strong></td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
</tbody>
</table>

**Sources of funding**

- Government, central / national
- Government, intermediate / provincial
- Government, local / district
- Loans
- GFATM
- Other Grants

**Funding Gap**

<table>
<thead>
<tr>
<th>Year</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gap</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
</tbody>
</table>

**Total budget by generic cost categories (as defined by the Global Fund)**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Human resources</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Technical and management assistance</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Training</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Health products and health equipment</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
</tbody>
</table>
## ANNEX 2. Troubleshooting

<table>
<thead>
<tr>
<th>TROUBLE SHOOTING</th>
<th>SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Macro Security</strong></td>
<td>If a warning message appears with “Macros are disabled”. Close the planning and budgeting tool. Open a new book. Then, in Excel, go to the Tools menu and choose Macro, and then under Macros choose Security (Tools-Macro-Security). Then select “medium” for your security level (if set to High or Very high, the tool will not work). When you reopen the tool, you will be asked if you want to enable or disable the macros. Always choose to “Enable macros”.</td>
</tr>
<tr>
<td><strong>Automatic calculations</strong></td>
<td>If by any chance automatic calculations are not happening, do the following. Go to the Tools menu, then select Options, and then select Calculation (Tools-Options-Calculation). Make sure that the option “automatic” is selected. Another way to solve this problem is to press the F9 key</td>
</tr>
<tr>
<td><strong>The value you entered is not valid</strong></td>
<td>If this message appears when you enter a number into a cell, do the following. The values that can be entered in some parts of the tool have, in some cases, been deliberately restricted. This is to try to prevent incorrect data being entered. If you are sure that the data that you want to enter make sense/are correct, then you will need to “undo” the restriction that has been imposed on these cells. You can do this by highlighting the relevant cells using the mouse, then go to the Data menu, choose Validation, and then make sure that “any value” is the option selected under the heading “validation criteria” (Data-Validation)</td>
</tr>
<tr>
<td><strong>Adding rows or insert duplicate tables involves reviewing “automatic calculations”</strong></td>
<td>You need to CHECK the formulae for any budget sub-totals that include the items that you have added. If the relevant rows/cells that you have added are not included in the formulae, you will need to modify the formula so that they are included. You can easily see which cells are included in any formula as follows: a) click on the cell that contains the formula for a sub-total b) then, in the formula bar at the top of the screen, click at the end of the formula. Unless the formula is very complicated, all the cells that are contributing to the existing formula will be highlighted. Any</td>
</tr>
</tbody>
</table>
items that you have added can then be included by adding the cell with the relevant total (or subtotal) to this formula. You can do this by typing a new “add” sign (+) into the formula bar at the top of the screen and then clicking on the cell that you want to add.

<table>
<thead>
<tr>
<th>Show/Hide row numbers and column letters</th>
<th>For presentational reasons, the default setting of the tool is such that column and row letter headings and numbers are not shown. You can change this by going to the Tools menu, then selecting Options, and then selecting View (Tools-Options-View). In the View menu, make sure that the box for “row and column headers” is ticked. Another way to solve this problem is go to the “Application Options” in the tool on the Welcome page at the bottom right, click on it, and select show/hide sheet headers on the menu.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enter formula linked to a cell in another page/sheet</td>
<td>The tool is set up with a menu system such that the names of individual sheets are not shown at the bottom of the screen in the way that you would typically see them in an Excel workbook. If you are entering a formula in one sheet and you want to include a cell from another sheet in that formula, then you will need to change the way that the workbook is displayed. You can change this by going to the Tools menu, then selecting Options, and then selecting View (Tools-Options-View). In the View menu, make sure that the box for “sheet tabs” is ticked. Another way to solve this problem is go to the “Application Options” in the tool on the Welcome page at the bottom right, click on it, and select show/hide sheet tabs on the menu.</td>
</tr>
</tbody>
</table>
ANNEX 3. Self-training

Budgeting for improving diagnosis

Assume you are responsible for Myanmar’s laboratory programme.

a. You have plans to upgrade and repair 10 microscopy laboratories every year, starting in 2008 and continuing until 2015. The central unit thinks that the default value for upgrading and repairing a laboratory does not apply to Myanmar, and that the cost appropriate in Myanmar is US$ 1,300 per laboratory.

b. There are no plans to establish any new microscopy laboratories and therefore no need to purchase a full package of equipment for any laboratory. However, there is a need to replace old microscopes. It is estimated that 20 new microscopes will need to be purchased in each year 2008 to 2015. The unit cost of a microscope is US$ 2,400.

c. The default value for the cost of one sputum smear is US$ 1 in the tool. However, the Myanmar NTP has estimated that in Myanmar the cost is US$ 0.41.

Using this information and the “detailed” method, what is the budget for microscopy laboratories in 2008 and 2009?

Solution. These are the steps to follow. In brackets we refer to Excel tips topics that could come in handy. Please consult section “Excel Tips” within the manual.

Step 1. Enter the number of peripheral labs to upgrade/repair in 2008: 10
Step 2. Change cost of upgrading/repairing existing microscopy centres (Unprotect cells)
Step 3. Go to section “Equipment for existing laboratories: Please specify in the following table the equipment needed to purchase”. Enter number of microscopes: 20; Enter cost of one microscope: 2,400
Step 4. Repeat the above steps for 2009
Step 5. Complete the estimated number of new ss+ cases to be treated in each year: +50*C64 (Insert formula).

Solution: Look in 1.2.1 Total cost for microscopy laboratories in 2008: US$ 540,934 and US$ 536,265.

Budgeting for first-line drugs

Say in your country, over the last five years, the number of Category II patients has been equivalent to about 10% of the number of new patients (both adults and children). It is assumed that this fraction will stay the same in the future. Category II patients are treated with the regimen R150/H75/Z400/E275. Patients will continue with the same regimen until 2015. The
regimen costs US$ 54.21 per patient. What is the budget for first-line drugs for Category II patients in each year 2008-2012?

**Solution.** These are the steps to follow. In brackets we refer to Excel tips topics that could come in handy. Please consult section “Excel Tips” within the manual.

**Step 1.** Estimate the number of new TB patients to be treated (all forms) for 2008-2012.
Do you agree with the default data from Global Plan Estimates?

**Step 2.** Label regimen cell as R150/H75/Z400/E275 (Unprotect cells)

**Step 3.** Complete the number of patients in the regimen for 2008 as:
  \[=0.10*C15 \text{ (Insert formula)}\]
Where C15 is the cell indicating the estimated number of new TB patients to be treated (all forms) in 2008

**Step 4.** Similar reasoning applies for 2009, 2010 etc.

**Step 5.** Unit cost per patient of this regimen: include 54.21 in the cell after having checked GDF website.

**Step 6.** The total cost of the regimen calculated as above will automatically appear.
Please label the name of “Total cost of regimen R150/H75/Z400/E275” (Unprotect cells)

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**Budgeting for PPM activities at the sub-national level**

You are responsible for PPM in India and you are budgeting for outsourcing the provision of service delivery. For referral, you will be reimbursing a lump sum of US$ 1208 per annum per sputum collection centre. For the provision of Directly Observed Treatment you expect these providers to cure 510 000 patients. For every patient cured they will receive US$8.

For designated paid microscopy center, you expect around 10 000 000 slides prepared per year with a payment per slide of US$ 0.50. To promote education and community outreach through these private partners, you are budgeting for US$ 8 for every 1000 people covered, and you are expected to cover 600 000 000. You are engaging 600 NGOs to be a TB Unit and you are paying the NGO US$ 21 340. What is the total cost of contracts for provision of services?

**Solution.**

**Step 1.** Go to 4.1.2 Activities and costs at sub-national level, “Contracting for provision of service delivery”. The worksheet for this intervention offers several sub-activities to cost. Do these match your needs? In your case, under scheme 1, you have a lump sum for the collection centre, so please re-label the activity (unprotect cells/label cells).

You will also need to adjust the formula for “Total cost of contracts for provision of services” (adjust formula).

**Step 2.** Insert amounts. **Result.** US$ 26,744,000