



GUIDANCE FOR SELECTING METHODS AND TOOLS FOR  
**HIV ECONOMIC STUDIES**

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April 2024

**G:ENESIS**  
UNLOCKING VALUE

# PLEASE NOTE

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This document has been designed as an electronic document. A printed version of this document would reflect an incoherent flow and structure and interactive links would be lost. This is a large document and printing it would lead to unnecessary use of paper.

**A summary reference guide can be downloaded [here](#) and is suitable for printing.**



# ACKNOWLEDGEMENTS

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## 1 | [Introduction](#)

## 2 | [How to use this guide](#)

This section describes how to use this guide, in a step by step process, to determine the best methodologies and tools to address specific research questions.

## 3 | [Choosing the best-fit approach and tools for the study](#)

This section allows the user to work through the different stages in the planning cycle and gives the user options regarding the 'best-fit' methodologies and tools to use for the specific study question.

The user will start at Step 1 by identifying their information needs in relation to financial planning cycle. Step 2 will involve the selection of relevant research questions and study type under the chosen stage of the planning cycle. Step 3 of this process will require the user to review and confirm a selection of appropriate and suggested approaches. And finally, Step 4 is where the user will confirm their selection of method or tool in that it meets their required objectives.

## 4 | [Where to from here?](#)

This section provides a brief overview of the typical next steps that are required to implement a research study, once the appropriate methodology and tool have been selected.

## 5 | [Annexures](#)

The annexures provide a more detailed description of all the tools mentioned in Section 3. Links are provided from Section 3 to the respective tools.

### ***Navigation Guide***

Click on the Headings on the Contents Page to navigate to the desired Sub-Section.

To navigate the rest of the document, follow the ***Navigation Prompts*** (where provided) included in the Navigation Guide box, like this one.

Also, make use of the ***Navigation Bar options***, along with the < and > arrows.

***Underlined*** Text is linked to content elsewhere in the Guide or online sources.



# ACRONYMS

<b>ABC/M</b>	Activity Based Costing for Management	<b>NGOs</b>	Non-Governmental Organization
<b>BMGF</b>	Bill and Melinda Gates Foundation	<b>NHA</b>	National Health Accounting
<b>CORRT</b>	Country Owned Real Time Resource Tracking	<b>NSP</b>	National Strategic Plan
<b>CSO</b>	Civil Society Organizations	<b>PEPFAR</b>	US President's Emergency Plan for AIDS Relief
<b>FMIS</b>	Financial Management Information System	<b>PFM</b>	Public Financial Management
<b>GAAP</b>	Generally Accepted Accounting Principles	<b>PHC</b>	Primary Health Care
<b>GF</b>	The Global Fund	<b>RM</b>	Resource Mapping
<b>GFF</b>	Global Financing Facility	<b>TDABC</b>	Time Driven Activity Based Costing
<b>GHCC</b>	Global Health Costing Consortium	<b>UHC</b>	Universal Health Coverage
<b>IC</b>	Investment Case	<b>UNAIDS</b>	Joint United Nations Program on HIV/AIDS
<b>JLN</b>	Joint Learning Network	<b>USAID</b>	United States Agency for Economic Development
<b>MOF</b>	Ministry of Health	<b>USG</b>	United States Government
<b>MOH</b>	Ministry of Finance	<b>WB</b>	World Bank
<b>MSH</b>	Management Sciences for Health	<b>WHO</b>	World Health Organization
<b>M&amp;CTs</b>	Management and Costing Tools		

## 1 | INTRODUCTION

- [Background](#)
- [Purpose of the guide](#)
- [Approach to developing this guidance](#)
- [Alignment of this guide with other costing guidance](#)
- [Who can use this guide?](#)
- [Limitations of this guide](#)

# INTRODUCTION

## BACKGROUND

The last few decades have seen a significant investment in resources mapping, expenditure tracking and costing studies for HIV and primary health care services. Results from these initiatives have provided policy makers, program managers and other financial planning bodies, within partner organizations and government, with the ability to forecast the cost of an intervention, estimate the total resource requirement of the HIV response, trace funds from source through to beneficiary and track actual expenditure incurred in the provision of services. These efforts have resulted in the proliferation of related costing tools alongside the refined implementation of existing large-scale resource mapping and expenditure tracking exercises<sup>6</sup> and the development of methodologies for big-data manipulation and analysis. A recent landscaping of existing methodologies and tools, specifically for HIV interventions and primary health care services, revealed that there are more than 50 different methodologies and tools which can be used to generate information about either HIV financing, costs or expenditure. These exclude bespoke country specific solutions and those developed for once-off costing studies. For several reasons, many tools have fallen into disuse or are no longer supported whilst others are not known to potential users.

Although the landscaping highlighted several costing guides, which typically support the use of a specific methodology and/or tool, little formal guidance was found to assist planners and managers to choose the correct methodology and/or tool given specific information needs.

Assumptions have been made that planners and decision makers have a good understanding of different resource and expenditure tracking and costing methodologies, are familiar with the many available tools and related output and will therefore choose the most appropriate combination of methodology and tool to generate the information needed. In practice, the selection of methods and tools is frequently influenced by the service provider's preferences, investments which have been made in the development of a particular tool, familiarity with a tool and lack of knowledge about other available tools.

The need for relevant financial information at each stage of the planning cycle remains and with such a wide variety of available tools and methodologies has left policy makers and planners burdened with the need to choose which approach, method or tool to use for costing or to decide whether the significant investment in large-scale resource mapping and expenditure tracking exercises is justified given a specific information need or whether alternatives exist. It becomes apparent that there is a need to assist planners and program managers, many of whom are not costing experts, to more clearly formulate their information needs and to guide the selection of appropriate method and/or tools which are most likely to yield the required information.

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<sup>6</sup> National AIDS Spending Assessment, National Health Accounts and other supported resource mapping and tracking approaches.



## PURPOSE OF THE GUIDE

The overarching purpose of this guide is to contribute to the efficient allocation of scarce resources to achieve health outcomes through better financial planning and decision making. A better understanding of financial information needs and how to obtain that information by selecting the most suitable methodology and tools will contribute to above objectives.

For these reasons, Genesis Analytics supported by the Bill & Melinda Gates Foundation (BMGF)<sup>7</sup> and in close collaboration with the S/GAC<sup>8</sup> and USAID has created this simple, user-friendly guide to assists policy makers, planners and program managers to:

- Clarify planning and decision-making information needs which relate to resource mapping, expenditure tracking and costing
- Select the most suitable approach, methodology and tools to address identified information needs.
- This guide can also be used to inform COP and Global Fund guidance, and other processes.

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## APPROACH TO DEVELOPING THIS GUIDANCE

Throughout this document, a user centric approach has been adopted and provides guidance that tracks a typical decision-making process rather than focusing from the start on describing methodologies and tools and their possible advantages and disadvantages. This approach was adopted after extensive consultation with stakeholders and potential users. This guide focuses on HIV methods and tools. Non-HIV health methods or tools have been included where these provide good examples or templates.

Methodologies and tools have been developed to be used in a particular context given a particular need. It is therefore more important to clearly define the context and then suggest the appropriate tool, i.e. finding the '*Right Tool for the Right Job*'. The guide establishes the context by using a planning cycle. Users are encouraged to describe their context by referring to the different stages in the planning cycle and defining their information needs. Based on an understanding of the information needs, the guide links and presents the selected methodologies and tools that potentially meet the information needs. The guide therefore introduces a logical procedure to the selection of methodology and tools. (Section 2 describes in detail how the guide should be used.)

Given this approach the guide does not seek to evaluate methodologies and tools but provides brief descriptions, including summary use cases in a standard format in an annexure, which assist the user with the selection process. Where possible, references and website hyperlinks have been included in the summary descriptions, indicating where additional information about the methodology and tools can be found. Users are encouraged to read the additional information to ensure, that selected tools meet requirements.

The guide is sufficiently generic to facilitate use at both national and sub-national level; the stages in the planning cycle are deemed to be substantially similar but some national level methodologies are less applicable at sub-national level. Where this is the case, a suitable caution has been included in the guidance.

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<sup>7</sup> This report is based on research funded by the Bill & Melinda Gates Foundation. The findings and conclusions contained within are those of the authors and do not necessarily reflect positions or policies of the Bill & Melinda Gates Foundation.

<sup>8</sup> S/GAC: Office of the United States Global AIDS Coordinator

# ALIGNMENT OF THIS GUIDE WITH OTHER COSTING GUIDANCE

While little guidance exists to help users navigate the planning cycle and then chose the most appropriate study methodology and tools for resource mapping, expenditure tracking and costing, several guides have been published over the last two decades to assist users with the costing of specific health interventions (often in relation to the use of a specific tool), strategies and operational plans. These guides fulfill a critical role and provide detailed guidance for specific studies and use of tools. Users are encouraged to engage with these guides once a methodology and tool has been selected through use of this guide. Through a landscaping of existing, globally used HIV costing methodologies and tools, some of these costing guides have been identified and included in the descriptions of methodologies and tools and links have been provided to facilitate access where possible. These detailed costing guides are a natural extension of the guidance provided in this document.

## WHO CAN USE THIS GUIDE?

The guide is aimed at a wide range of users and stakeholders and includes anybody, in the context of financial planning and resource management for HIV and PHC service delivery, that actively participates in reviewing and formulating policy, strategic planning including resource allocation, compiling and managing budgets, monitoring budget execution and related routine reporting and implements *ad hoc* evidence gathering and evaluation efforts. The guide is aimed at potential users in government, development partners, independent practitioners, and research institutions. Some prior knowledge of economic analysis is beneficial for use of and interpreting the guidance.

Importantly, the guide is not only aimed at those who will implement the resources and expenditure tracking and costing activities but also at officials in all institutions responsible for financing and monitoring these research activities. These officials need to be able to conceptualize the activity, motivate for its financing, evaluate proposals from service providers and ultimately monitor the implementation. Possible users are shown in the box below but have also been mapped to each stage in the planning cycle.

### Possible Users

- Strategic planners in government and partner institutions
- Health economics and evaluation units
- Oversight bodies at different levels of government
- Project managers from funding institutions and agents<sup>9</sup>
- Program managers and planners
- Budgeting teams in MOH, MOF and partner institutions
- Procurement managers and staff
- District and facility managers
- Financial managers and officers at all levels
- Executive management committees

<sup>9</sup> Agents refer to intermediary beneficiaries of funding responsible for recruiting and deploying service providers

## SCOPE

A number of criteria were used to decide which broad categories of globally-used methods and tools should be included in the guide; namely those that facilitate the:

- Retrospective and prospective costing of HIV/TB services
- Estimation of total resource needs to implement programs or interventions
- Mapping of financial resource flows or/and tracking of expenditure
- Routine-cost accounting and reporting systems (excluding government-wide budget and accounting systems)

The following methods and tools were excluded from the scope of this guide:

- Public Financial Management (PFM) systems and other routine government and implementer accounting systems
- Tools and datasets used for cost-effectiveness analysis, cost utility analysis and optimization
- Broad approaches and guidelines for cost analyzes and expenditure tracking, that do not demonstrate evidence of a formal methodology that can be applied repeatedly in different contexts
- “Home grown” (study specific or service provider specific) tools not in the public domain and difficult to access.

Notwithstanding the use of above criteria, the inclusion or exclusion of some tools from the guide required a subjective judgment call. Users should consider other existing methods and tools, even if not listed in this guide, or develop their own tools to address specific needs. References to tool reviews or user guides on the Internet should not be interpreted as an endorsement of the method or tool.

Users who wish to comment on the inclusion or exclusion of tools in this guide can contact Genesis on the following [email](#).

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## LIMITATIONS OF THE GUIDE

This guide does not seek to provide a comprehensive list of all costing tools and methodologies that exist. The guide only seeks to provide a list of the most commonly used, supported and updated tools and methodologies. Similarly, the planning cycle used to determine the questions a policy planner or other individual may have to answer to undertake a costing of their program is not exhaustive of all the different financing needs and questions that could exist. It is also important to note that although the guide provides information on the costing tools and methods, the guide is not meant to be an evaluation of the tool or method. The guide only provides a limited amount of information on the tools and methods and should not be considered exhaustive of the information that may exist for a particular tool or method.

### *Please Note*

#### **DO NOT PRINT THIS GUIDE**

Please note that this guide is interactive with links and can only be useful if used in an online version.

### *What this guide does not do*

This guidance does not constitute an evaluation of methodologies and tools and does not express a view on the quality of tools but rather, seeks to create an awareness of available methodologies and tools, identifies the stage in the planning cycle where their use is deemed most appropriate and provides summary descriptions of the most commonly used methods and tools. The guide also does not comprise a comprehensive list of all available methods and tools but does provide examples for each category of tools most frequently used, mainly for planning and managing the HIV response.



## 2 | HOW TO USE THIS GUIDE

- [STEP 1: Identify information needs in relation to the planning cycle](#)
- [STEP 2: Select the relevant research question and study type](#)
- [STEP 3: Review and confirm the suggested approach](#)
- [STEP 4: Review the suggested tool/s and select methodology and tools](#)
- [Summary of Key Steps](#)

### *Please Note*

The purpose of this section is to provide guidance to users on how this guide should be used. The guide has been designed around four logical and sequential steps. Step 1 will assist users to define their information needs in relation to a generic planning cycle. Step 2 will assist users to select relevant research questions and study types which typically address the information needs. Step 3 presents a study approach summary for consideration by users and finally Step 4 guides the selection an appropriate methodology and tool. Where possible, use case examples and additional information are provided. Each of the four steps is described in more detail in this chapter.

# HOW TO USE THIS GUIDE

The purpose of this section is to guide users through a series of logical steps to establish and define the information needs and what the information's intended use is. A deep understanding of the information needs and how this information will be used to inform planning and decisions is essential and determines the selection of the appropriate approach, methodology and costing tool.

The logical steps comprise of the following:



**IDENTIFY  
PLANNING  
STAGE**

## **STEP 1:** Identify information needs in relation to the planning cycle

The purpose of this step is to determine where the research activity fits best in the broader planning and resource management cycle (the planning cycle) as described in Step 1 in Section 3. It is critical to clearly define the purpose of the research and what the related information needs are.

**To do this, consider the following:**

- What planning activities have been completed and what information is currently available?
- What will the information be used for once this has been obtained?
- Which of the research questions described under each planning stage, most closely match information requirements?

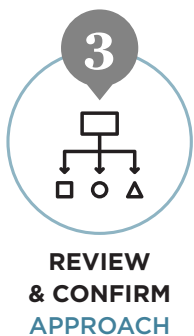


**SELECT  
RESEARCH  
QUESTION &  
STUDY TYPE**

## **STEP 2:** Select the relevant research question and study type

Once the best-fit planning stage has been selected in Step 1, navigate to Step 2 to select the relevant research question and study type. For each planning stage, a table summarizes the related research questions and the types of studies, typically associated with the various questions. *Follow the prompts on the page to select the study type that responds to the information need. It is possible that users may want to choose more than one study type, which is permissible and may lead to the identification of more than one methodology and tool to be used together to address the information need.*

The list of research questions and study types is not exhaustive, and a perfect match may not be possible in which case the 'best-fit' option should be selected. If none of the combinations of research question and study type matches the information need, navigate back to the planning cycle and consider selecting a different planning stage.



### STEP 3: Review and confirm the suggested approach

From the study type table, navigate to the summary description of the selected study type and its associated approach tables. Consider the summary approach table which outlines the *typical* approach for each type of study based on a limited number of approach elements. Each approach has been summarized based on the elements in the table below and builds on the principles outlined in the GHCC reference case<sup>10</sup>. This short list of elements is deemed to be most critical in terms of shaping the broad study approach and selection of tools.

Summary Approach Table

APPROACH ELEMENT	MEANING IN THIS CONTEXT <i>(see Glossary for definitions of terminology)</i>
PERSPECTIVE	Health Provider vs Societal
TIME PERIOD	Prospective or retrospective
LEVEL OF DETAIL	High-level estimates or detailed ingredients-based/micro costing
ACTUAL VS NORMATIVE	Actual expenditures or actual costs vs. normative estimates based on guidelines, norms and standards
REPORTING REQUIREMENTS	Costs to be reported by activity, by budget line items, cost categories, intervention, level of the health system and funding source

*If after reviewing the approach table the fit is considered poor, return to the planning cycle and research questions (Step 1) and start again to find a planning stage and research questions that provide a better fit.*

**Note:** A detailed costing approach provides for other criteria such as financial vs economic costing, full costs vs direct or incremental costs only, top-down or ingredients-based costing. A comprehensive costing approach table has been included in [Annexure C](#) and should be completed for each research activity before starting the research work. Users are also encouraged to read the reference case published by the GHCC and can be found [here](#), which provides details on each costing approach principle.

<sup>10</sup> Reference Case for Estimating the Costs of Global Health Services and Interventions, Anna Vassall et al, Global Health Cost Consortium. [↗](#)





**REVIEW  
TOOLS & SELECT  
METHODOLOGY  
+ TOOLS**

## STEP 4: Review the suggested tool/s and select methodology and tools

If the study type and summary approach comprise a good fit with the identified research question and information needs, consider the use of the listed tools provided below each summary approach table for different study types. To learn more about each tool navigate to the relevant tool annexure which provides further details about the tool including a summary use case, hyperlinks to tool reviews or the tool download function where this is available. Review example use cases, were available, to corroborate the choice of study type, method and tool. Although this guide suggests the use of specific tools for various study types, it may be possible to use or adapt robust country tools for the planned study. In certain instances, an existing method or tool does not exist or is not known, in which case the suggested next step is to define the detailed costing approach in the template provided (see Annexure C) and to take steps to develop a custom tool for the activity.

*For example, step-down costing may be used to estimate shared above facility costs, while ingredients-based costing is used to estimate the direct costs of service delivery.*

**Availability of input data:** The availability of required input data is a key determinant in the final selection on the study approach and tools. Based on a preliminary scan, users should carefully consider whether the required input data (both financial and operational) is likely to be available, or can be imputed in isolated cases, in order to successfully deploy and populate the selected tool. If the conclusion is that required input data is not available or is not sufficiently accurate users should examine other options for addressing the information need in terms of a different study type, approach or tool selection for which the input data requirements are more easily met. This may result in a mixed method approach where different approaches and tools are used to estimate different cost components.

**Completing the detailed study approach table:** Although not part of the four core steps which guide users to a methodology and tools, all users are encouraged to complete the detailed study approach template referred to above in Annexure C. This will not result in a change in the tool selection but will rather guide the user to comprehensively define the study approach and inform *how* the tool will be used and what input data will be required.

### Summary of Key Steps

- **1 IDENTIFY PLANNING STAGE**  
Identify information needs in relation to the planning cycle (Stage 1 - 4), clearly define the purpose of the research activity and what the related information needs are.
- **2 SELECT RESEARCH QUESTION & STUDY TYPE**  
Select relevant research question and type of economic investigation.
- **3 REVIEW & CONFIRM APPROACH**  
Review and confirm the suggested approach for the investigation.
- **4 REVIEW TOOLS & SELECT METHODOLOGY + TOOLS**  
Review the suggested tool or tools and select the appropriate methodology and tools.

### 3 CHOOSING THE BEST-FIT APPROACH & TOOLS FOR THE STUDY

→ STEP 1: Identify information needs in relation to the planning cycle



# CHOOSING THE BEST-FIT APPROACH AND TOOLS FOR THE STUDY

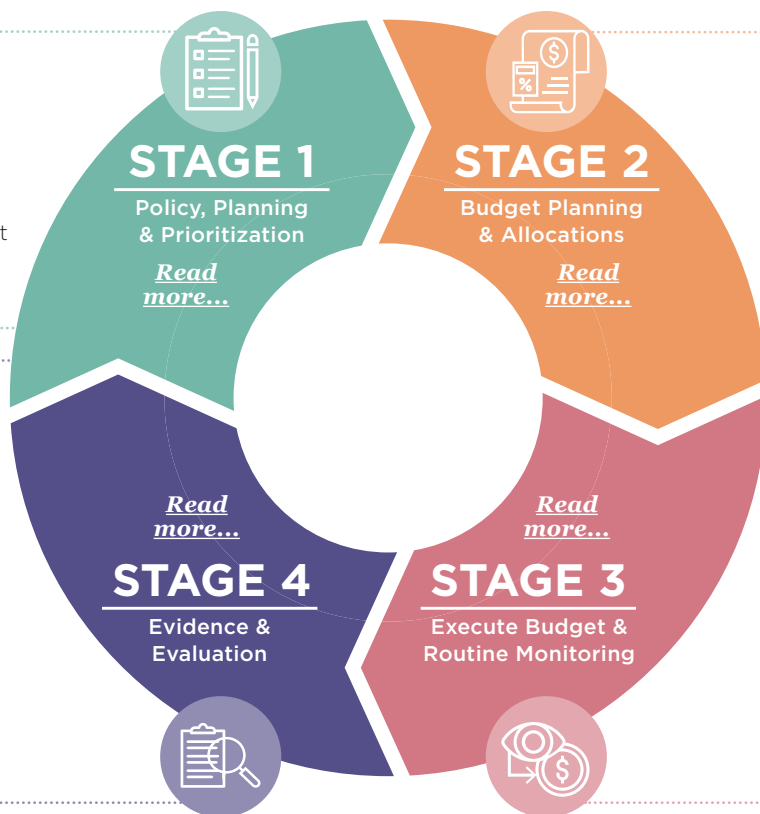
## STEP 1: IDENTIFY INFORMATION NEEDS IN RELATION TO THE PLANNING CYCLE

The diagram below represents the planning and resource management cycle used in this guide. For a detailed description of each stage and relevant research questions, click on “Read more” in the diagram. After reading the summary descriptions and research questions, return to the diagram and select that stage in the planning cycle which describes most accurately the context for the planned research activity. Click on the relevant stage to navigate to Step 2.

### Output from each Stage

- National policies and guidelines
- Global policies and guidelines (WHO, UNAIDS)
- PEPFAR Country Operational Plan (COP) Guidance
- Global Fund Funding Request investment policies and country allocation letter
- National Strategic Plans

- Program evaluations and reviews
- Program reviews by PEPFAR's Scientific Advisory Board and the Global Fund's Technical Evaluation Reference Group
- Global Fund - Office of the Inspector General reports
- Retrospective costing studies
- Cost-effectiveness and efficiency studies
- Value for money assessments
- National Aids Spending Assessment and National Health Accounts
- World Bank Public Expenditure Reviews



### Output from each Stage

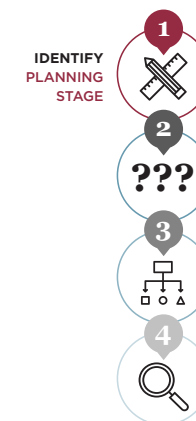
- National and sub-national health budgets and associated M&E frameworks
- Global Fund Funding Request, budgets and performance frameworks
- PEPFAR Country Operational Plans
- Program annual operational and performance plans

- Quarterly program progress reports
- Management accounts (produced by finance directorates)
- Annual audit
- Global Fund performance
- Monitoring and reporting
- PEPFAR expenditure reporting

### Navigation Guide

Click on **Read more** for a definition of the Planning Stage

Click on the relevant Stage to navigate to **Step 2**





# STAGE 1: POLICY, PLANNING AND PRIORITIZATION



## STAGE 1

Policy, Planning & Prioritization

Stage 1 activities are carried out at the beginning and end stages of a planning cycle, be it a strategic 5-year cycle, a 3-year medium term cycle or an annual operational planning cycle. The policy review process uses evidence from the **Evidence and Evaluation Stage (Stage 4)** to assess whether previous policies and guidelines resulted in the achievement of strategic objectives and health outcomes and remain relevant within the latest socio-economic, political and epidemiological context.

Evidence generating activities such as cost-effectiveness analysis and other evaluations, are included in Stage 4. Based on this review, policy makers create a revised policy framework which sets out overall objectives, key priorities and guidelines and establishes and allocates resource envelopes to high-level strategic areas.

### Activities under this planning stage will include:

- Considering the effectiveness of existing health policies given evidence from Stage 4
- Assessing the impact of international policy and national level economic and other policies
- Conducting forward looking modeling and/or scenario planning
- Defining revised/new policy priorities e.g. Treat All, geographic prioritization, differentiated care
- Determining a broad resource envelope possibly for preferred planning scenarios
- Allocating a resource envelope broadly between treatment, prevention pillars and enabling environment strategies

### Question under Stage 1 of the planning cycle may include:

- What are the total resources currently being invested in HIV or other disease priorities?
- What additional resources need to be mobilized to achieve strategic objectives?
- What reallocations should take place from ineffective to cost-effective interventions?
- How much funding should be allocated to new health priorities/technologies?
- Are resources for PHC and diseases allocated efficiently across districts and population groups?
- What is the optimal budget allocation under multiple budget scenarios?

### Output from Stage 1 may include:

- National policies and guidelines
- Global policies and guidelines (WHO, UNAIDS)
- PEPFAR Country Operational Plan (COP) Guidance
- Global Fund Funding Request investment policies and country allocation letter
- National Strategic Plans

### Navigation Guide

If this stage describes the context most accurately, [click here to proceed to Step 2](#)

If not, [return to Planning Cycle](#)

IDENTIFY PLANNING STAGE



## STAGE 2: OPERATIONAL AND BUDGET PLANNING



### STAGE 2

Operational & Budget Planning

Whilst **Stage 1** is essentially a policy-level prioritization process, the budget planning process determines how total available resources should be rationed or apportioned to programs or result areas. This stage involves translating strategic plans and policy priorities into programs and allocating resources to implement planned interventions, as part of the annual budget cycle. In many countries the process unfolds at national and sub-national level and may also involve setting operational-level output targets for interventions.

The World Bank Budget Planning Handbook (2016) argues it is above all a political exercise. Nevertheless, planning officials rely on evidence from financial and economic evaluations, fiscal space analysis as well as health system constraints to inform budget estimates and prioritization.

The following planning and evaluation activities typically support a national budget planning process:

- Formulating and negotiating sector budgets
- Compiling operational plans with detailed intervention targets which align with latest strategic policies and guidelines
- Detailing cost estimates of implementing planned interventions
- Compiling national level and sub-national budgets based on targets and detailed costing data
- Loading approved budgets onto institutional accounting system or PEPFAR/GF specific systems

#### Questions asked under Stage 2 include:

- How to allocate available budget to program priorities and budget line items?
- What unit costs should be used for budgeting?
- What is the total cost or budget implication of implementing a new intervention?
- What is the incremental cost to scale-up a health intervention?
- Can technical efficiencies be implemented to realize savings?
- How will costs be shared across multiple funding sources?

#### Key outputs from Stage 2 may include:

- National and sub-national health budgets and associated M&E frameworks
- Medium Term Expenditure Framework (MTEF)
- Global Fund Funding Request, budgets and performance frameworks
- PEPFAR Country Operational Plans
- Program annual operational and performance plans

#### Navigation Guide

If this stage describes the context most accurately, [click here to proceed to \*\*Step 2\*\*](#)

If not, [return to \*\*Planning Cycle\*\*](#)

IDENTIFY PLANNING STAGE



# STAGE 3: EXECUTE BUDGET AND ROUTINE MONITORING



## STAGE 3

Execute Budget & Routine Monitoring

During **Step 3** of the planning cycle, revenues are collected and budgeted funds are distributed to the various programs outlined in the national or sub-national budget to be used to deploy personnel and equipment and procure goods and services whilst implementing planned activities. Financial and programmatic performance is monitored by management and oversight forums through analyzing routine data from management information systems and short-term corrective actions may be executed as part an adaptive-management system.

Development partners will generally have their own budget and performance management systems in place and may be integrated with government planning processes to achieve targeted results.

### Activities implemented by Stage 3 participants might include:

- Implementing approved activities using allocated budget
- Maintain accurate institutional accounting and reporting systems
- Compiling routine financial and non-financial performance reports
- Compile reports to meet national reporting commitments to partners/international agencies
- Prepare for and facilitate annual audits/validations

### Questions asked under Stage 3 include:

- What must be achieved with the available budget?
- What is the budget to spend on this activity?
- Have funds been transferred for this activity?
- What remains for this activity?
- Does the rate of expenditure match the rate of implementation?
- How much has been spent on each intervention?
- Where is there over-spending or underspending of the budget allocations?
- Is the unit of expenditure per health service output aligned with the expected unit cost for that output?
- What is the rate of expenditure and is it aligned with the service delivery performance?
- Do any interventions require further root-cause analysis resulting from information on expenditure and output performance patterns to date?
- Where to re-allocate savings to/from?
- Was the execution of the budget in according with Generally Accepted Accounting Principles (GAAP)?

### Key outputs from Stage 3 may include:

- Quarterly program progress reports (financial/non-financial)
- Management accounts (produced by finance directorates)
- Annual audit
- Global Fund Performance Updates and Disbursement Requests from PRs to CCM and GF Country Team
- Global Fund budget re-alignment requests
- Digital program/grant performance dashboards
- PEPFAR COP progress reports to HQ

### Navigation Guide

If this stage describes the context most accurately, [click here to proceed to Step 2](#)

If not, [return to Planning Cycle](#)

IDENTIFY PLANNING STAGE





# STAGE 4: EVIDENCE AND EVALUATION



## STAGE 4

Evidence & Evaluation

The final stage of the planning process, involves the evaluation of policies, implemented programs and interventions and how finances were allocated and spent. This stage includes program reviews, evaluations and retrospective cost analysis studies including cost effectiveness and efficiency studies. Evaluation studies may be commissioned to understand the outcomes and impacts of technologies and interventions.

The studies, reviews and evaluations included in this stage are non-routine in nature and are implemented on an *ad hoc* basis or periodically every two to three years. This stage generates much of the evidence and information needed by the participants in Stage 1 to review and set policy, facilitate strategic planning and prioritization.

### Typical activities under this stage include the following:

- Evaluate policies, and programs and interventions delivered under the policies
- Conduct non-routine studies which include:
  - Assessment of how finances were allocated and spent (including expenditure tracking surveys)
  - Cost effectiveness and comparative efficiency studies
  - Retrospective costing studies (e.g. large, once-off studies and high-level step-down costing studies)
  - Once-off resource mapping and funding landscape analysis

### Questions asked under Stage 4 include:

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• What did it cost to implement new differentiated treatment services?</li> <li>• What was the total expenditure on the HIV Program (other disease priorities) over the last two years?</li> <li>• Were HIV interventions implemented efficiently?</li> <li>• What are the total resources currently being invested in HIV or other disease priorities?</li> <li>• From which sources of funding were the priority disease programs financed?</li> </ul> | <ul style="list-style-type: none"> <li>• What was the impact of the previous period's strategy?</li> <li>• What additional resources need to be mobilized to achieve strategic objectives?</li> <li>• Are resources for PHC and diseases allocated efficiently across districts and population groups</li> <li>• Did the program provide value for money (economical, allocatively, technically efficient, and equitable)?</li> <li>• Was the intervention cost effective?</li> </ul> |
|---|---|

### Key outputs from Stage 4 may include:

- Program evaluations and reviews
- Program reviews by PEPFAR's Scientific Advisory Board and the Global Fund's Technical Evaluation Reference Group
- Global Fund - Office of the Inspector General reports
- Retrospective costing studies
- Cost-effectiveness and efficiency studies
- Value for money assessments
- National Aids Spending Assessment and National Health Accounts
- World Bank Public Expenditure Reviews

### Navigation Guide

If this stage describes the context most accurately, [click here to proceed to \*\*Step 2\*\*](#)

If not, [return to \*\*Planning Cycle\*\*](#)

IDENTIFY PLANNING STAGE





# STAGE 1 STEP 2 SELECT THE RELEVANT RESEARCH QUESTION AND STUDY TYPE

**Instruction:** Determine where the activity fits in the broader financial management and planning cycle as described above. Consider each stage of the planning cycle and choose that stage, the research question and type of study that matches closely with information needs and activity purpose. *Once a research question and study type has been selected, navigate to the summary approach tables by clicking on the study type hyperlink.*

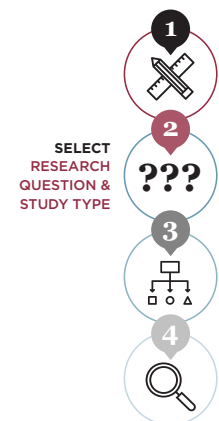
Stage 1 Possible Questions	Study Type
<ul style="list-style-type: none"> <li>What resources need to be mobilized to achieve strategic objectives in the HIV NSP?</li> <li>What is the total budget envelope?</li> </ul>	<p>i. <a href="#">Estimating the medium- and long-term resource requirements of national/sub-national disease programs or health sector plan</a></p>
<ul style="list-style-type: none"> <li>What are the total resources being invested in HIV and other disease priorities?</li> <li>Is there sufficient funding to achieve planned intervention outcomes, and where are the funding gaps?</li> </ul>	<p>ii. <a href="#">Funding landscape analysis</a></p>
<ul style="list-style-type: none"> <li>Are resources for PHC or a specific HIV intervention allocated efficiently across sub-national levels?</li> </ul>	<p>iii. <a href="#">Allocative efficiency analysis</a></p>
<ul style="list-style-type: none"> <li>What is the optimal budget allocation under multiple budget scenarios?</li> <li>What key challenges or issues need to be adjusted to enable increased impact for the following period?</li> <li>Should the intervention be included in the benefit package?</li> </ul>	<p>iv. <a href="#">Resource optimization study</a></p>

### Navigation Guide

Select the option (click) that most closely aligns with the information needs

### Navigation Guide

If the information needs do not align with these options, navigate to the next stage in the Planning Cycle:  
**Stage 2:**  
*Budget Planning & Allocations*





## STAGE 2 STEP 2 SELECT THE RELEVANT RESEARCH QUESTION AND STUDY TYPE

**Instruction:** Determine where the activity fits in the broader financial management and planning cycle as described above. Consider each stage of the planning cycle and choose that stage, the research question and type of study that matches closely with information needs and activity purpose. *Once a research question and study type has been selected, navigate to the summary approach tables by clicking on the study type hyperlink.*

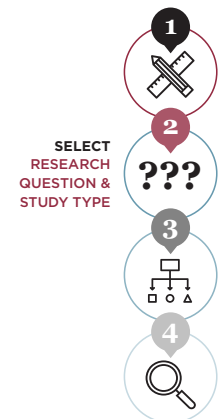
<b>Stage 2 Possible Questions</b> <i>Some questions are similar to those in Stage 1 but the level of detail is more operational</i>	<b>Study Type</b>
<ul style="list-style-type: none"> <li>• What is the total cost or budget implication of implementing a new intervention?</li> <li>• What is the incremental cost to scale up an intervention?</li> <li>• What unit costs should be used for budgeting?</li> <li>• At line-item level, what is the appropriate cost per patient for different facility types?</li> <li>• How much funding should be allocated to facilitate the implementation of new health priorities/technologies?</li> </ul>	<p>v. <a href="#">Detailed cost estimates of planned or scaled-up interventions</a></p>
<ul style="list-style-type: none"> <li>• How can a given intervention be delivered more efficiently?</li> <li>• How can we achieve higher healthcare output given the current level of inputs?</li> </ul>	<p>vi. <a href="#">Technical efficiency analysis</a></p>
<ul style="list-style-type: none"> <li>• How will budgeted costs be shared across multiple funding sources?</li> </ul>	<p>vii. <a href="#">Cross-sectoral funding analysis and detailed budgeting</a></p>

### Navigation Guide

Select the option (click) that most closely aligns with the information needs

### Navigation Guide

If the information needs do not align with these options, navigate to the next stage in the Planning Cycle:  
**Stage 3:**  
*Execute Budget & Routine Monitoring*







## STAGE 3 STEP 2 SELECT THE RELEVANT RESEARCH QUESTION AND STUDY TYPE

**Instruction:** Determine where the activity fits in the broader financial management and planning cycle as described above. Consider each stage of the planning cycle and choose that stage, the research question and type of economic investigation that matches closely with information needs and activity purpose. *Once a research question and study type has been selected, navigate to the summary approach tables by clicking on the study type hyperlink.*

Stage 3 Possible Questions	Study Type
<ul style="list-style-type: none"> <li>• What must be achieved with the available budget?</li> <li>• What is the budget to spend on this activity?</li> <li>• Have funds been transferred for this activity?</li> <li>• What budget remains for this activity?</li> </ul>	At this point in the planning cycle, the budget has been captured into the public accounting system and the questions can be answered by referring to detailed budget workings and requests, operational plans, procurement systems and the public accounting and FMIS systems.
<ul style="list-style-type: none"> <li>• How much has been spent on each intervention (more detailed than program level and <u>not</u> budget line item detail only)?</li> </ul>	<a href="#">ix. Routine expenditure tracking by intervention</a>
<ul style="list-style-type: none"> <li>• Where is there over-spending or underspending of budget allocations?</li> <li>• What is the expenditure burn rate and is it aligned with intervention delivery performance?</li> </ul>	The budget has been captured into the public accounting system and the questions can be answered by referring to the public accounting and FMIS system reports.
<ul style="list-style-type: none"> <li>• Is the unit of expenditure per health intervention output aligned with the expected unit cost for that output?</li> </ul>	<a href="#">x. Efficiency and intervention unit cost analysis</a>
<ul style="list-style-type: none"> <li>• Is the data accurate, complete and valid</li> </ul>	<a href="#">xi. Internal/external audit and data validation</a>
<ul style="list-style-type: none"> <li>• What are the current available sources of funding by source?</li> </ul>	<a href="#">xii. Routine financial resource mapping</a>

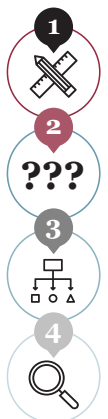
### Navigation Guide

Select the option (click) that most closely aligns with the information needs

### Navigation Guide

If the information needs do not align with these options, navigate to the next stage in the Planning Cycle:  
**Stage 4:**  
*Evidence & Evaluation*

SELECT RESEARCH QUESTION & STUDY TYPE





## STAGE 4 STEP 2 SELECT THE RELEVANT RESEARCH QUESTION AND STUDY TYPE

**Instruction:** Determine where the activity fits in the broader financial management and planning cycle as described above. Consider each stage of the planning cycle and choose that stage, the research question and type of study that matches closely with information needs and activity purpose. *Once a research question and study type has been selected, navigate to the summary approach tables by clicking on the study type hyperlink.*

Stage 4 Possible Questions	Study Types
<ul style="list-style-type: none"> <li>What was the total HIV program expenditure by intervention?</li> </ul>	<p><a href="#">xiii. Expenditure analysis</a></p>
<ul style="list-style-type: none"> <li>Is the existing or planned intervention cost-effective when compared to a cost-effectiveness threshold or other alternative interventions?</li> </ul>	<p><a href="#">xiv. Cost effectiveness analysis</a></p>
<ul style="list-style-type: none"> <li>Did the program provide value for money (economical, allocatively and technically efficient and equitable)?</li> </ul>	<p><a href="#">xv. Value for money analysis</a></p>
<ul style="list-style-type: none"> <li>Was actual expenditure aligned with strategic priorities?</li> <li>What barriers or bottlenecks prevented efficient budget execution?</li> <li>What are the implications for policy and programming?</li> </ul>	<p><a href="#">xvi. Public expenditure reviews</a></p>
<ul style="list-style-type: none"> <li>Was the execution of the budget in accordance with GAAP?</li> </ul>	<p>This question can be addressed through the statutory external audit.</p>
<ul style="list-style-type: none"> <li>What were the actual costs and cost drivers of specific interventions?</li> </ul>	<p><a href="#">xvii. Detailed, retrospective cost analysis of HIV/package of PHC interventions</a></p> <p><a href="#">xviii. High-level analysis of actual costs</a></p>
<ul style="list-style-type: none"> <li>From which sources of funding where the priority disease programs financed?</li> </ul>	<p><a href="#">xix. Resource mapping by intervention (sources of funding)</a></p>

### Navigation Guide

Select the option (click) that most closely aligns with the information needs

### Navigation Guide

If the information needs do not align with these options, navigate back to the first stage in the Planning Cycle: **Stage 1: Review & Set Policy**

SELECT RESEARCH QUESTION & STUDY TYPE



# STAGE 1 STEP 3 CONFIRM THE APPROACH

**Instruction:** This section of the guide provides a summary description of the study type and the associated study approach table. *Consider the study type description and summary approach and assess if these comprise a good fit with the identified research question and information needs. If the study type and approach are appropriate, navigate to Step 4 to review and select suggested methodologies and tools.*

## ESTIMATING THE MEDIUM- AND LONGTERM RESOURCE REQUIREMENTS OF NATIONAL/SUB-NATIONAL DISEASE PROGRAMS OR HEALTH SECTOR PLAN

These studies seek to estimate the total resources needed to implement the national strategic plan, components of the plan or other discrete programs over a period of 4 to 5 years. The estimates are high-level and rely on estimates of coverage and output level unit cost.

*How to cost National Strategic Plans (Harvard)*

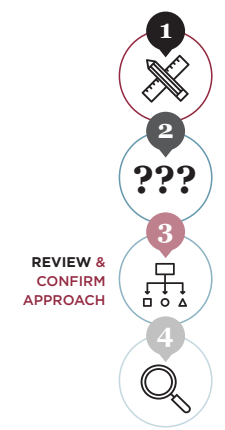
*In progress*

### Study approach summary

Approach Element	Study Approach
Perspective	Health provider
Time Period	Prospective
Level of Detail	High-level estimates (not detailed)
Actual or Normative Values	Normative
Reporting Detail and Structure	By Intervention and systems level

**Navigation Guide**

If this approach is considered appropriate navigate to **(Step 4)** to see a list of potential methods and tools to use.





# STAGE 1 STEP 4 SELECT METHODOLOGY AND TOOLS



## Please Note

Click on the Additional Info reference links for more information.

**Instruction:** If the study type and summary approach are considered appropriate, review available tools and the use case example (where available) and then select a methodology and tool which best meets the requirements for the selected study. More details of the listed tools are included in the tool description annexure. ***If the fit is not considered satisfactory, navigate back to [Step 1](#) and start again.***

### Existing methodologies and tools to support estimating the resource requirements or total budget impact

Tool Name	What the tool CAN DO	What this tool CANNOT DO	Additional Info
<b>RESOURCE NEEDS MODEL</b>	Projects total resource needs for HIV interventions based on output level coverage targets for up to 10 years.	The result is a total resource need estimate by HIV intervention but does not provide estimates by health system level or cost category.	<a href="#">A1.1</a>
<b>ONEHEALTH TOOL</b>	The tool provides planners with a single framework for scenario analysis, costing, health impact analysis, budgeting and financing of strategies for all major diseases and health system components including some selected non-health interventions that may have health impacts. Cost and impact estimates can be developed at health system or program level.	The tool is designed to cost health interventions at intervention output level. This results in the loss of some of the costing detail and granularity which may be available from disease specific, ingredients-based costing tools.	<a href="#">A1.2</a>
<b>PHC COSTING TOOL RESOURCE NEEDS PROJECTION MODULE</b>	The PHC Costing Tool projects the total cost of a package of PHC services, by PHC service, over five years and broken down by HR, drugs and medical supplies and other recurrent costs. The tool can estimate the costs of different scenarios by changing coverage assumptions, amending the service package and switching between actual and normative costs.	PHC Costing Tool estimates exclude capital costs, above-service delivery costs and out-of-pocket costs. Disaggregation of cost estimates beyond the standard cost categories (HR, Drugs and medical supplies, other) is not possible and costs are not allocated to detailed activities.	<a href="#">A1.19</a>

**[View example on Next Page...](#)**

### **Example:** Costing of the NSP in Ethiopia

The National AIDS Commission recently facilitated the completion of the National Strategic Plan for HIV, STIs and TB for the period 2020 – 2025. The treasury and development partners asked the Ministry of Health to estimate the total resource requirements for implementing the strategy. A detailed operational has not been completed. Coverage targets are available from the M&E plan and results framework. Through consultations with development partners and the treasury the MOH confirms that a high level of detail is not required. The results from the resource estimation will be used to estimate the funding gap over the medium term and advocate for additional domestic resources. After further consultations, the ministry appointed a service provider to cost the NSP using the **Resource Needs Model**.

REVIEW  
TOOLS & SELECT  
METHODOLOGY  
+ TOOLS



#### **Navigation Guide**

If an appropriate methodology and/or tool has been selected, navigate to **Where to from here?** for practical guidance to implement the study or return to **Step 1.**



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## STAGE 1 STEP 3 CONFIRM THE APPROACH

**Instruction:** This section of the guide provides a summary description of the study type and the associated study approach table. *Consider the study type description and summary approach and assess if these comprise a good fit with the identified research question and information needs. If study type and approach are appropriate, navigate to Step 4 to review and select suggested methodologies and tools.*

### FUNDING LANDSCAPE ANALYSIS BY DISEASE OR INTERVENTION

A funding landscape analysis is a review of the investment environment for a national or sub-national health program, with the overall objective of mobilizing, co-ordinating and optimizing future investments to achieve program goals.

The funding landscape analysis describes and quantifies the various sources of funding to support the HIV response and usually includes funding from external partners, government sources and the private sector. This level of analysis typically excludes household expenditure which would be included in expenditure analysis surveys. The period of analysis typically includes 2 or 3 years of historical data, the current financial year and 3 to 5 years of prospective analysis, depending on the needs of the strategic planning products that the analysis will inform. The level of granularity may vary from study to study, but will frequently be disaggregated by intervention area, such as Sex Worker prevention, MMC and Antiretroviral Therapy, and sometimes also assesses funding by main commodity and medicine and diagnostic procedure.

The funding landscape analysis may draw from rigorous survey data from resource mapping exercises, which require all funding actors, intermediaries and implementing agents to capture and describe funding flows.

#### Study approach summary

Approach Element	Study Approach
Perspective	Provider
Time Period	Prospective or retrospective
Level of Detail	Not detailed
Actual or Normative Values	Actual
Reporting Detail and Structure	By intervention By system level or by source

*\*Intervention in this context means, for example, an HIV intervention or module (Global Fund terminology). Examples include HIV testing, key population prevention and treatment and care services.*

#### Navigation Guide

If this approach is considered appropriate navigate to **(Step 4)** to see a list of potential methods and tools to use.



# STAGE 1 STEP 4 SELECT METHODOLOGY AND TOOLS

**Please Note**

Click on the Additional Info reference links for more information.

**Instruction:** If the study type and summary approach are considered appropriate, review available tools and the use case example (where available) and then select a methodology and tool which best meets the requirements for the selected study. More details of the listed tools are included in the tool description annexure. **If the fit is not considered satisfactory, navigate back to Step 1 and start again.**

Existing methodologies and tools to support this funding landscape analysis

Tool Name	What the tool CAN DO	What this tool CANNOT DO	Additional Info
<b>GLOBAL FUND LANDSCAPE TABLES</b>	The Global Fund funding landscape tables are a series of templates that facilitate the calculation and description of sources of and value of support for the HIV, TB and malaria responses.	These are templates and are provided with limited guidance. Except for the calculation of totals there is little automation. A detailed methodology of how the figures should be derived is not provided.	For more information please refer to <a href="#">THE GLOBAL FUND</a>

**Example: Assessing the funding gap in Ethiopia**

A funding landscape analysis was undertaken by the Government of Ethiopia (GOE) to inform its planning for the new National Strategic Plan for HIV/AIDS and to prioritize its funding needs for the forthcoming request for funding to the Global Fund. The analysis determined how much annual funding had been committed to the national program to achieve its results to date, where investments from different external and domestic partners were concentrated, and how much funding was expected from the different sources over the next 5 years. Based on a recent costing of the NSP, the GOE determined the total resource needs by priority intervention and by year over the next 5-years and which interventions were showing shortfalls in required funding. Historical funding/expenditure was sourced from the National Health Accounts and National AIDS Spending Assessment Surveys. External partner expenditure and future commitments was taken from PEPFAR's web-based data exchange and GF Principal Recipient expenditure reports and budgets. The analysis confirmed that there was insufficient funding over the medium term to achieve all NSP results, and an iterative process of program optimization was undertaken to recalibrate targets and results using the Goals model to support allocative efficiency

The Global Fund Funding Landscape Tables were used to determine the types and granularity of data needed to complete the exercise and to present the summary analysis.

**Navigation Guide**

If an appropriate methodology and/or tool has been selected, navigate to **Where to from here?** for practical guidance to implement the study or return to **Step 1.**





# STAGE 1 STEP 3 CONFIRM THE APPROACH

**Instruction:** This section of the guide provides a summary description of the study type. *Consider the study type description and assess if these comprise a good fit with the identified research question and information needs.*

## ALLOCATIVE EFFICIENCY ANALYSIS

The concept of allocative efficiency refers to the maximization of health outcomes using the least costly mix of health interventions. Allocative efficiency studies seek to determine how limited resources for a specific HIV intervention or combination of interventions should be allocated to different healthcare interventions, or between different districts or other geographically demarcated areas to obtain the greatest health outcomes. A standard methodology and tools to facilitate efficient allocation of resources do not exist but often includes comparing the cost-effectiveness of different interventions, the budget impact thereof as well as other socio-economic, demographic and environmental factors (in the case of allocation between geographies).



### **Example:** Mapping of wards/hot spots in South Africa or selection of priority districts for VMMC in South Africa

The Departments of Basic Education and Health as well as the National AIDS Council selected 11 out of 52 districts for an intensive AGYW package for inclusion in the request for funding to the Global Fund, which was subsequently approved by the GF Board and implemented. The prioritization exercise identified indicators that best reflected HIV risk and burden and that were aligned with the theory of change of the national AGYW strategy. The indicators included HIV incidence, birth rate for 10-19-year-olds, gender-based violence incidence and poverty statistics. Population size was also considered, to ensure sufficient efficiencies of scale. Operational factors were considered, namely similar AGYW investments by other development partners in the targeted districts (such as under the PEPFAR Dreams program).



### **Navigation Guide**

If study type is appropriate navigate to [Step 4](#) to see a list of potential methods and tools to use.



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## STAGE 1 STEP 3 CONFIRM THE APPROACH

**Instruction:** This section of the guide provides a summary description of the study type. *Consider the study type description and assess if this comprises a good fit with the identified research question and information needs. If the fit is not considered satisfactory, navigate back to Step 1 and start again.*

### RESOURCE OPTIMIZATION STUDY

To address the many questions which relate to optimal use of limited resources to different combinations of health programs or interventions within health programs to maximize health impact and outcomes is usually underpinned by cost effectiveness analysis. The analysis usually requires the epidemiological modeling and economic analysis for different scenarios which also includes the calculation of incremental cost effectiveness ratios where specific options are considered. These studies are not costing studies but use the output from costing studies to facilitate the economic analysis. These inputs usually include output level unit costs for health interventions and allocation percentages for above facility and enabling environment costs.

#### **Example:** Improved resource allocation in Sudan based on modeling

Government decision-makers, program managers, researchers and development partners worked together to improve the allocation of HIV resources in Sudan to achieve the country HIV objectives. The initial modeling analysis showed that by reallocating funds towards antiretroviral treatment (ART) and prevention programs in Sudan, 37% of new HIV infections could be averted with the same amount of funding. These allocations combined with additional technical efficiency gains would allow for increasing ART coverage from 6 percent in 2013 to 34 percent in 2017, and more than double program coverage for key populations.

“World Bank. 2015. A Case Study on How Allocative Efficiency Analysis Supported by Mathematical Modeling Changed HIV Investment in Sudan. From Analysis to Action; World Bank, Washington, DC. © World Bank.

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#### **Navigation Guide**

If study type is appropriate navigate to **(Step 4)** to see a list of potential methods and tools to use.



# STAGE 1 STEP 4 SELECT METHODOLOGY AND TOOLS



**Please Note**

Click on the Additional Info reference links for more information.

**Instruction:** If the study type and summary approach are considered appropriate, review available tools and the use case example (where available) and then select a methodology and tool which best meets the requirements for the selected study. **If the fit is not considered satisfactory, navigate back to Step 1 and start again.**

Existing methodologies and tools to support allocative efficiency analysis

Tool Name	What the methodology/tool CAN DO	What the methodology/tool CANNOT DO	Additional Info
<b>SPECTRUM GOALS MODEL</b>	Using existing Spectrum projections and unit cost input data, GOALS calculates the health impacts and outcomes for a set of pre-defined scenarios. Scenarios present different combinations of HIV interventions in terms of coverage. High-level costs estimates are produced for each scenario.	GOALS generates a high-level resource needs estimate of any given scenario which usually includes the NSP. If a more detailed costing or resource needs estimate is required of the HIV response or NSP strategies, GOALS is not able to produce detailed estimates.	<a href="#">GOALS</a>
<b>OPTIMA</b>	Assist allocation of current/projected budgets across the portfolio of interventions in HIV responses. Combines epidemiological model of HIV transmission and disease progression integrated within a flexible economic and financial analysis to inform on i.e. program cost-effectiveness, allocative and technical efficiency, returns on investment, long-term epidemiological forecasts and optimal allocation to achieve set objectives.	Does not produced detailed budgeting estimates/not a budgeting tool.	<a href="#">OPTIMA HIV</a>
<b>DCP 3 - DISEASE CONTROL PRIORITIES COST MODEL (DCP-CM)</b>	Tool developed to support the costing of universal health coverage in two country economic contexts (LIC and lower-MIC). Provides a single point of reference for cost effectiveness evidence. Meant to give the user a sense of the probable magnitude of the cost of various combinations of interventions (or EUHC as a whole) for the 2 stylized countries.	The online tool is not designed to generate precise estimates of the cost of interventions to do budgeting/planning at a country level. The cost of various combinations of interventions is based on a very heterogeneous mix of countries and health system arrangements.	<a href="#">WEB-BASED VERSION</a> <a href="#">ALL SOURCE CODES AND INPUT DATA FOR THE DCP COST MODEL</a>



**Navigation Guide**

If an appropriate methodology and/or tool has been selected, navigate to **Where to from here?** for practical guidance to implement the study or return to **Step 1.**



## STAGE 2 STEP 3 CONFIRM THE APPROACH

**Instruction:** This section of the guide provides a summary description of the study type and the associated study approach table. *Consider the study type description and summary approach and assess if these comprise a good fit with the identified research question and information needs. If study type and approach are appropriate, navigate to Step 4 to review and select suggested methodologies and tools.*

### DETAILED COST ESTIMATES OF PLANNED OR SCALED-UP INTERVENTIONS

These prospective studies are conducted to estimate, in a relatively high level of detail, the costs of implementing interventions over a period of one to three years. The studies frequently rely, as a starting point, on operational plans and WHO or country guidelines, usually use an ingredients-based approach which examines the resources consumed by the intervention and often allocate estimated costs to activities. This could also include budget impact analyses, which are used to estimate the likely change in expenditure when implementing a new healthcare technology or intervention at the population level. Budget impact is typically calculated for a three to five year period to match national planning cycles, and indicates affordability of a new intervention or technology. Several relevant tools are described in the table below, but in practice, many of these studies are carried out by practitioners using their own, unpublished Excel tools (especially for budget impact analysis). Many tools are also adapted to show the source of possible funding for each cost item which facilitates subsequent funding gap analysis.

#### Study approach summary

Approach Element	Study Approach
Perspective	Provider
Time Period	Prospective
Level of Detail	Detailed
Actual or Normative Values	Normative and/or Actual
Reporting Detail and Structure	By activity, line item and intervention By cost category, system level and/or funding source

#### Navigation Guide

If this approach is considered appropriate navigate to ***(Step 4)*** to see a list of potential methods and tools to use.

REVIEW &  
CONFIRM  
APPROACH





## STAGE 2 STEP 4 SELECT METHODOLOGY AND TOOLS

**Instruction:** If the study type and summary approach are considered appropriate, review available tools and the use case example (where available) and then select a methodology and tool which best meets the requirements for the selected study. More details of the listed tools are included in the tool description annexure. ***If the fit is not considered satisfactory, navigate back to Step 1 and start again.***

### Please Note

Click on the Additional Info reference links for more information.



**Community-led response costing guideline (UNAIDS)**

*In progress*

### Existing methodologies and tools to support detailed costing

Tool Name	What the tool CAN DO	What this tool CANNOT DO	Additional Info
<b>ANTIRETROVIRAL THERAPY UNIT COST</b>	The tool was developed to estimate the unit cost of providing pre-antiretroviral therapy, paediatric and adult AIDS treatment with the option to change regimen mix, testing, and visit schedules. The unit is per patient cost per annum.	The tool generates unit cost and links with the (Spectrum) Resource Needs Model. It does not generate total ART intervention costs which are generated from the RNM, but comprehensive unit costs can be applied to coverage estimates to arrive at a total cost estimate. Standard reports do not reflect activity costs.	<a href="#">A1.3</a>
<b>VMMC DECISION MAKERS PROGRAM PLANNING TOOL (Costing Component)</b>	The VMMC tool comprises a modelling and a costing module. The costing module facilitates the development of an ingredients-based unit costs for facility-based circumcisions and can be adapted for outreach. Costs can be based on either actual or normative values.	The tool generates unit cost and does not generate total VMMC intervention costs. Comprehensive unit costs can be applied to coverage estimates to arrive at a total cost estimate. Standard reports do not reflect activity costs but do include unit costs by cost category.	<a href="#">A1.4</a>
<b>HIV TESTING AND COUNSELING SERVICE DELIVERY COSTING MODEL</b>	This model assists in estimating the cost of each client receiving HTC including the amount of staff time and other inputs required to perform the services. It also provides for determining the most efficient ways to allocate resources based on the country context and how cost-efficient each service delivery model is.	Although costs are calculated for different service delivery modalities, it is unlikely that costs are allocated to specific activities within HTC. This could however not be verified from available information. Cost are allocated to cost categories.	<a href="#">A1.5</a>

***Continued on next Page...***

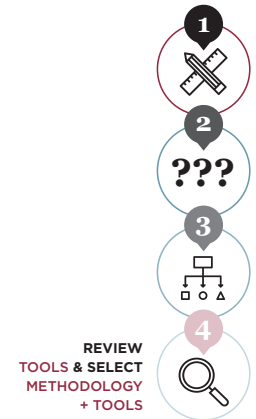
<b>KEY POPULATIONS COSTING WORKBOOK</b>	<p>The tool facilitates the collection and consolidation of costing data for providing prevention services to a single contact within the key populations (unit cost). It helps funders and decision-makers understand the costs of providing HIV services to KPs.</p> <p>It shows the share between overhead and service provision costs. Total program costs are also calculated.</p>	<p>If used for multiple countries in one workbook, cost estimates are not definitive at the country level, given the variability and limitations of the data across government and non-government delivery platforms.</p>	<a href="#">A1.6</a>
<b>PrEP IT COSTING AND MODELLING</b>	<p>The tool helps governments and stakeholders plan, monitor, and evaluate their PrEP delivery to those in need. Use of the tool facilitates an assessment of service capacity, monitoring, projecting needs for drugs, setting targets, estimating unit and total program costs and projecting the impact of service delivery.</p>	<p>The cost forecasts are for a period of 12 months and do not provide multiple year cost estimates.</p> <p>Costs are presented by cost category and not by activity but do include unit costs by cost category and district.</p>	<a href="#">A1.7</a>
<b>INSTITUTIONAL BUDGET SYSTEMS AND TOOLS</b>	<p>Ultimately, most government and partner budgets are compiled using generic templates, usually issued by the treasury (in government) or similar departments.</p> <p>These templates are structured to reflect standard government budgeting structures (votes, sub-votes, programs and sub-programs etc.) and align with the general ledger coding.</p>	<p>Budget templates and processes do not generate cost and operational input data but rely on research studies, actual expenditure and external workings to provide required values and operational quantities.</p>	<p>Refer to in-country guidance which is often located on the Ministry of Finance and Treasury websites.</p>
<b>HOSPICAL</b>	<p>Although primarily designed to analyze actual costs by cost centre in a hospital setting, the tool does generate output-based unit costs and facilitate efficiency analysis and projecting costs if hospital services are expanded or modified.</p>	<p>HOSPICAL does not calculate detailed service line costs without some adaptation but focuses on the cost of in-patient stays and out-patient visits based on the hospital clinical costs centres. Consequently, detailed prospective cost projections for specific services within cost centres are not generated.</p>	<a href="#">A1.8</a>

***[View example on Next Page...](#)***

### **Example:** Costing of the Integrated School Health Program (ISHP) in South Africa

The Department of Health has determined that the service delivery for the current ISHP does not reflect policy imperatives for more integration and multi-sectoral co-ordination. The full cost of the program in actual and normative terms has not been determined accurately and sufficiently analyzed. The department wants to understand how much it will cost to deliver the national ISHP more effectively and efficiently at the targeted scale. This should lead to a) resource mobilization or re-prioritization for school health services and b) more up-to-date and accurate provincial budgets for the ISHP.

The Core Plus Costing Tool would support this investigation through. It is a “bottom-up” approach to costing that allows the user to estimate a standard unit cost for each health service, broken down by medicines, diagnostics, medical supplies, and staff. The standard unit costs are multiplied by the coverage target for each type of service to build the total direct costs for a facility or a population catchment. Indirect costs of running service, such as maintenance, cleaning and administrative staff are added to the direct service costs.



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### TECHNICAL EFFICIENCY ANALYSIS

The research and analysis required to identify technical efficiencies is varied and non-standard in nature. There appears to be no widely distributed, standard *methodology* to guide this type of analysis and as a result this can take on many forms. Analysis and quantification of possible technical efficiencies may be based on simple methods such as process mapping for service delivery options, a detailed review of input costs, changing to different drug regimens, results from pilot studies testing new health technologies and other innovations while assessing the efficiency of components of the health technologies may deploy relatively sophisticated analysis such as data envelopment analysis and stochastic frontier analysis<sup>11</sup>.

Many online guides and published articles provide some guidance, two of which are listed below as examples:

- Tools and methodologies to assess the efficiency of health care services in Europe. Available [here](#).
- Health system efficiency: How to make measurement matter for policy and management. Available [here](#).



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<sup>11</sup> Health system efficiency: How to make measurement matter for policy and management. Health Policy Series, No. 46. Cylus J, Papanicolas I, Smith PC, editors. Copenhagen (Denmark): European Observatory on Health Systems and Policies; 2016. [Link](#)



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### CROSS-SECTORAL FUNDING ANALYSIS AND DETAILED BUDGETING

The analysis of different funding sources to support the implementation of HIV or PHC interventions is often carried out as part of other research studies. Several disease specific cost estimation tools allow users to attach a source-of-funding flag to each costed activity or to line items. This allows subsequent summary reporting by source of financing which could include different sectors, non-governmental actors and development partners. This type of analysis is particularly useful where different sources of finance are used to fund a single intervention, which is often the case in practice. Formal budgets are typically institution-specific and do not provide for an overall view of all projected financing sources. In practice, this type of forward mapping of resources is made more difficult because of different institutional budget structures and expenditure coding which may not align directly with budget structures. In the context of compiling a detailed budget, stand-alone tools were not identified which facilitate this type of analysis for the whole HIV program or for PHC services.



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### ROUTINE EXPENDITURE TRACKING BY INTERVENTION

Routine expenditure tracking by intervention refers to the ongoing recording and reporting of expenditure on a monthly and quarterly basis. Institution-wide accounting and reporting systems are used to capture the underlying transactions and produce routine reports. Whether or not these systems are able to report on specific HIV interventions or PHC services depends on how the general ledger has been structured and coded. In most cases, government accounting systems are not able to routinely report expenditure by intervention and typically provide reports by budget line items, programs, cost centres (usually health facilities or specific functions) and by budget vote<sup>12</sup>. Unless specific budget line items have been created for HIV related expenditure, such as ARVs, expenditure on similar line items from all health programs are lumped together. On the other hand, most development partners require detailed expenditure tracking by their implementing partners which requires ledger coding to facilitate reporting by line item, supported intervention and frequently by main activity. In particular PEPFAR has developed a comprehensive system of tracking expenditure which must be complied with by their implementers and the Global Fund requires expenditure reporting by module and costing dimension.

#### Study approach summary

Approach Element	Study Approach
Perspective	Provider
Time Period	Retrospective
Level of Detail	Detailed
Actual or Normative Values	Actual
Reporting Detail and Structure	By activity, line item and by intervention By cost category, system level and by source

#### Navigation Guide

If this approach is considered appropriate navigate to **(Step 4)** to see a list of potential methods and tools to use.



<sup>12</sup> These represent examples and government accounting system are mostly unique in terms of their structure and coding

## STAGE 3 STEP 4 SELECT METHODOLOGY AND TOOLS



### Please Note

Click on the Additional Info reference links for more information.

**Instruction:** If the study type and summary approach are considered appropriate, review available tools and the use case example (where available) and then select a methodology and tool which best meets the requirements for the selected study. More details of the listed tools are included in the tool description annexure. ***If the fit is not considered satisfactory, navigate back to Step 1 and start again.***

### Existing methodologies and tools to support this routine expenditure tracking

Tool Name	What the tool CAN DO	What this tool CANNOT DO	Additional Info
<b>INSTITUTIONAL ACCOUNTING AND REPORTING SYSTEMS</b>	Institution wide systems are designed to capture expenditure transactions on an ongoing basis and produce routine expenditure reports aligned to the budget architecture.	These systems are <i>usually</i> not able to provide detailed reports by intervention, activity or health program due to the consolidation of similar expenditure by line items.	N/A
<b>PEPFAR FINANCIAL MANAGEMENT SYSTEM</b>	<p><b>PEPFAR provides publicly available information online, that allows users to:</b></p> <ul style="list-style-type: none"> <li>View and utilize PEPFAR-planned funding, program results, and expenditure analysis data in an accessible and easy-to-use format.</li> <li>Budget expenditure information available at the sub-program level at cost category level.</li> </ul>	<p>The updated Expenditure Reporting system does not track budget and expenditure data by sub-national geography.</p> <p>Expenditure reports reflect only PEPFAR expenditure and not total intervention expenditure.</p>	<a href="#">A1.9</a>
<b>ABC/M ROUTINE EXPENDITURE REPORTING (PEPFAR)</b>	<p>ABC/M once fully implemented, aims to provide accurate and routine activity-based expenditure reporting for planning and responsive management and to improve the efficiency of service delivery.</p> <p>ABC/M will use data generated by country systems.</p>	In order to generate detailed activity-based reports, accurate expenditure data must be available in the required format. ABC/M consolidates and analyzes data but does not replace the accounting and budgeting system. Allocation keys for shared and above facility costs are not updated automatically.	<a href="#">A1.10</a>

***Continued on next Page...***

**RESOURCE MAPPING EXPENDITURE TRACKING (RMET)** The Global Finance Facility and other supporting partners assist countries to develop a country system which, once mature, reports up-to-date resources mapping and expenditure across the health sector (partners and government).

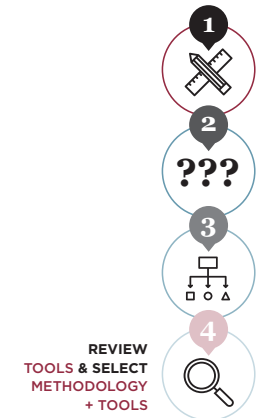
Accurate reporting requires the participation of all partners and timeous submission of expenditure data. For government budgets and expenditure data, IFMIS is required which generates data in the required format and with accuracy. The system consolidates and analyzes data but does not replace the accounting and budgeting system.

Implementing partner **COOPER SMITH** and **CHAI**  
**A1.13**



**Navigation Guide**

If an appropriate methodology and/or tool has been selected, navigate to **Where to from here?** for practical guidance to implement the study or return to **Step 1.**





# STAGE 3 STEP 3 CONFIRM THE APPROACH

**Instruction:** This section of the guide provides a summary description of the study type. *Consider the study type description and assess if this comprises a good fit with the identified research question and information needs. If study type is appropriate, navigate to Step 4 to review and select suggested methodologies and tools.*

## EFFICIENCY AND INTERVENTION UNIT COST ANALYSIS

In this context and given the related questions posed under Stage 3, this line of research and analysis suggests that intervention expenditure and output and outcomes data can be used to routinely calculate a number of efficiency and other indicators which are useful to manage ongoing resource and financial management. In most cases efficiency indicators include the calculation of unit costs for health services and rates of resource consumption by district or facility (where possible) to facilitate comparative analysis, early identification of outliers and setting of benchmarks.

### Navigation Guide

If the study is appropriate, navigate to **Where to from here?** for practical guidance to implement the study or return to **Step 1**.



## STAGE 3 STEP 4 SELECT METHODOLOGY AND TOOLS

**Instruction:** If the study type and summary approach are considered appropriate, review available tools and the use case example (where available) and then select a methodology and tool which best meets the requirements for the selected study. More details of the listed tools are included in the tool description annexure. ***If the fit is not considered satisfactory, navigate back to Step 1 and start again.***

### Please Note

Click on the Additional Info reference links for more information.

### Existing methodologies and tools to support unit cost analysis

Few routine tools or systems exist to facilitate efficiency analysis and many government systems are limited to calculating and reporting a cost per patient day equivalent with most routine indicators reflecting output measures. The Reproductive Health Cost Reporting System referred to below may not be applicable directly to HIV but provides an example of a tool that facilitates some of the analysis referred to earlier. Another example includes the Routine Efficiency Monitoring Systems (REMS) which was introduced in Zambia. Once fully developed and implemented, ABC/M will provide efficiency indicators to support management.

Tool Name	What the tool CAN DO	What this tool CANNOT DO	Additional Info
ABC/M	The ABC/M, once fully implemented, aims to provide accurate and routine activity-based expenditure reporting for planning and responsive management and to improve the efficiency of service delivery. ABC/M will use data generated by country systems.	In order to generate detailed activity-based reports, accurate expenditure data must be available in the required format. ABC/M consolidates and analyzes data but does not replace the accounting and budgeting system. Allocation keys for shared and above facility costs are not updated automatically.	<a href="#">A1.10</a>
REPRO- DUCTIVE HEALTH COST REPORTING SYSTEM (RHCR)	Routinely analyzes financial, commodity, labour, and other cost data to estimate what it costs to deliver specific interventions, what the cost drivers are, and how these costs may differ across service delivery points (SDPs), across regions and over time.  The system is designed as a general cost analysis system that can be completely customized for any health delivery system.	Once the system has been set up and customized, input data must be collected and entered regularly if reports are to be produced regularly. The system does not automatically 'harvest' data from country systems through an electronic interface.	<a href="#">A1.11</a>

***Continued on next Page...***

**ROUTINE EFFICIENCY MONITORING SYSTEM REMS (ZAMBIA)**

The REMS relational database creates an electronic linkage between IFMIS and DHIS2 data. It steps down quarterly IFMIS expenditures to the facility, allocates these to specific HIV services, and calculates unit costs for HIV services at facility level.

The system does not provide accounting functionality or independently track expenditure but provides an automated framework for routine efficiency analysis.

[A1.12](#)

**Example: Calculating and comparing service unit costs using RHCR system in Nigeria**

The system was pilot-tested in two private-sector hospitals in Abuja, Nigeria. The pilot tests allowed management to see data on service counts for their services alongside data on commodity and labour costs. The analysis generated unit costs per service and unit costs per service by cost element for each of the hospitals. This revealed considerable variation in the cost-per-service elements across services and between the two hospitals. For example, the cost for child immunization in Hospital A is ten times more expensive in Hospital J. Overall, labour costs represent the biggest cost element, followed by capital costs.

*Moreland, S., & Onoh, O. (2020). Reproductive Health Cost Reporting System: Results of a Pilot Test in Nigeria. Chapel Hill, NC, USA: MEASURE Evaluation, University of North Carolina.* [↗](#)



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If an appropriate methodology and/or tool has been selected, navigate to **Where to, from here?** for practical guidance to implement the study or return to **Step 1.**

# STAGE 3 STEP 3 CONFIRM THE APPROACH

**Instruction:** This section of the guide provides a summary description of the study type. *Consider the study type description and assess if this comprises a good fit with the identified research question and information needs. If the fit is not considered satisfactory, navigate back to Step 1 and start again.*

## INTERNAL/EXTERNAL AUDIT AND DATA VALIDATION

While audit and data validation functions are not costing or related studies, these are listed here as routine activities which take place annually or more frequently and are a critical component of the broader data management ecosystem. Effective execution of these functions is critical to ensure the accuracy and reliability of financial and non-financial data and the robustness of the underlying systems and controls that generate the data. Where these activities are absent, data becomes unreliable and undermines the value of reporting which in turn introduces inefficiency in planning and decision making and the ability of managers to respond rapidly and effectively to changing circumstances.



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If the study type is appropriate, navigate to [Where to from here?](#) for practical guidance to implement the study or return to [Step 1](#).



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### ROUTINE FINANCIAL RESOURCE MAPPING

In this context, resource mapping refers to the tracking of all resources invested in the HIV response from source to implementers. (The consumption of resources is included in expenditure tracking). Resource mapping includes the measurement of resources allocated by funders, the value of approved budgets and the disbursement of funds to intermediary organizations and implementers. It includes resources made available by government and non-government sources of financing such as Partners and the private sector and in some instances out of pocket payments by patients. (Reference diagram under Terminology and Definitions)

#### Study approach summary

Approach Element	Study Approach
Perspective	N/A
Time Period	Retrospective
Level of Detail	Detailed
Actual or Normative Values	Actual
Reporting Detail and Structure	By line item and/or by intervention By cost category, system level and by source



**Navigation Guide**

If this approach is considered appropriate navigate to **(Step 4)** to see a list of potential methods and tools to use.





## STAGE 3 STEP 4 SELECT METHODOLOGY AND TOOLS



### Please Note

Click on the Additional Info reference links for more information.

**Instruction:** If the study type and summary approach are considered appropriate, review available tools and the use case example (where available) and then select a methodology and tool which best meets the requirements for the selected study. More details of the listed tools are included in the tool description annexure. ***If the fit is not considered satisfactory, navigate back to Step 1 and start again.***

### Existing methodologies and tools to support routine financial resource mapping

Tool Name	What the tool CAN DO	What this tool CANNOT DO	Additional Info
<b>RESOURCE MAPPING EXPENDITURE TRACKING (RMET)</b>	The Global Finance Facility and other supporting partners assist countries to develop a country system which, once mature, reports up-to-date resources mapping and expenditure across the health sector (partners and government).	Accurate resources mapping requires the participation of all partners and timeous submission/capture of funding and budget data. Once mature, the system may include electronic linkage to government budget systems. The system consolidates and analyzes data but does not replace the accounting and budgeting systems.	<a href="#">A1.13</a>

(Also referenced under expenditure tracking) Includes the Health Resources Tracking Tool (HRTT)

### Example: Improving efficiency and effectiveness of HIV spending through resource mapping in Rwanda

In Rwanda, the HRTT reporting system was implemented to routinely gather data about financial resources for the health sector. It collected budget and expenditure data from public and private health sector institutions and development partners (multilateral institutions, bilateral institutions, international NGOs and local NGOs) active in the health sector. It aimed to improve evidence-based decision-making, effective planning, resource mobilization and allocation, priority setting, advocacy and overall management performance. It also introduces improved transparency and accountability. In the Rwanda pilot, stakeholders registered as users and self-reported financial data using a web-based system. Although not functional as originally implementation, it did demonstrate the ability to map and track resource flows routinely, although not without its challenges.

Rwanda Health Resource Tracking Output report; Expenditure FY 2014/15 and Budget FY 2015/16; Ministry of Health, February 2018



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## STAGE 4 STEP 3 CONFIRM THE APPROACH

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### EXPENDITURE ANALYSIS

Comprehensive expenditure tracking surveys seek to compile a complete ‘picture’ of how available resources, usually from all sources, have been spent. Expenditure is allocated to interventions, activities, budget line items, intermediaries, implementers and levels of the health system and facilitates subsequent analysis and reporting. Expenditure tracking can also be carried out together with resource mapping to facilitate an analysis of how funds flow from source to beneficiary. A reconciliation between the resource mapping and expenditure tracking provides valuable insights. Comprehensive expenditure tracking surveys require a significant investment and can take up to a year to complete. (*Reference diagram under Terminology and Definitions*)

#### Study approach summary

Approach Element	Study Approach
Perspective	Provider
Time Period	Retrospective
Level of Detail	Detailed
Actual or Normative Values	Actual
Reporting Detail and Structure	By line item and intervention By cost category, system level and source

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## STAGE 4 STEP 4 SELECT METHODOLOGY AND TOOLS

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### Please Note

Click on the Additional Info reference links for more information.



### Existing methodologies and tools to support expenditure tracking

Tool Name	What the tool CAN DO	What this tool CANNOT DO	Additional Info
<b>NATIONAL AIDS SPENDING ASSESSMENT</b>	NASA describes the flow of resources spent in the HIV response by intervention from their origin (source of financing) to the beneficiary populations.  It aims to reconcile the expenditure incurred at implementation level with financing provided. This analysis provides a significant amount of detail.	Implementing the NASA methodology is time consuming and results are generated which are between a year and two years old. It cannot routinely generate expenditure tracking data unless institutionalized and integrated into government accounting systems.  NASA does not provide estimates of future expenditure.	<a href="#">A1.14</a>

If a **detailed** breakdown of HIV expenditure is not required, then data on HIV expenditure and financing can be obtained from National Health Accounts (NHA). The System of Health Accounts (2011) coding is used to analyze and report health expenditure.

If the information need is limited to understanding HIV expenditure NHA would not be used as a methodology.

<b>NATIONAL HEALTH ACCOUNTS</b>	National Health Accounts (NHA) is an internationally standardized methodology that tracks public and private expenditures on health in a given country, illustrating the flow of funds from financing sources to agents, providers and ultimate the services on which they are spent. NHA uses an internationally accepted coding framework, the System of Health Accounts (SHA).	Implementing the NHA methodology is time consuming and results are generated which are frequently one or two years old. NHA are usually only produced every two or three years. NHA cannot routinely generate expenditure tracking data unless institutionalized and integrated into government accounting systems and partners provides routine reports in the same format. NHA do not provide detailed results by intervention.	<a href="#">A1.15</a>
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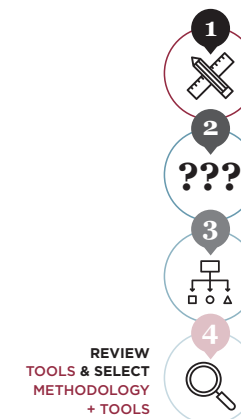
**[View example on Next Page...](#)**

### **Example:** Namibia - evidence from the 2015/16 and 2016/17 resource tracking exercises

The analysis combined NHA and NASA estimations of health and HIV expenditure into a single exercise. It revealed that the Namibian government has consistently made the largest contribution to health spending (56% in 2015/16 and 63% in 2016/17). The majority of health expenditures managed by government was spent on curative care services. In 2015/16, infectious and parasitic diseases received the highest allocation of funds, 23% of the total. This was closely followed by NCDs and reproductive health, although spending on NCDs (a growing concern in Namibia) decreased between the two years.

The analysis informed several policy implications and recommendations and revealed inter alia, significant wastage and a need for improved efficiencies and cost-effectiveness within the health sector, that there is an imbalance between spending in primary, secondary and tertiary facilities that should be investigated further, that Namibia should prioritize the development of a country-owned sustainability strategy for HIV/AIDS and that domestic sources for HIV/AIDS should be diversified.

*Ministry of Health and Social Services. August 2018. Namibia's Health and HIV Financing Landscape: Evidence from the 2015/16 & 2016/17 Resource Tracking Exercises. Windhoek, Namibia.*



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### COST EFFECTIVENESS ANALYSIS

Cost-effectiveness analysis (CEA) is a way to examine both the costs and health outcomes of one or more interventions. It compares an intervention to another intervention (or the status quo) by estimating how much it costs to gain a unit of a health outcome, like a life year gained or a death prevented<sup>13</sup>. CEA provides information on health and cost impacts of an intervention compared to an alternative intervention (or the status quo). If the net costs of an intervention are positive the results are presented as a cost-effectiveness ratio such as cost per case of disease prevented or cost per death averted. If the net costs are negative (which means a more effective intervention is less costly), the results are reported as net cost savings. The results from CEA is one of the most frequently used forms of economic evaluation to support the activities in Stage 4, Policy, planning and evaluation. Cost effectiveness of specific interventions are key inputs into epidemiological models such tools such as GOALS and Optima which facilitate the comparison between different combinations of interventions.

Extensive methodological guidance for CEA is publicly available on the internet and in authoritative texts such as Drummond et al.

[View example on Next Page...](#)



13 [Cost-Effectiveness Analysis](#)



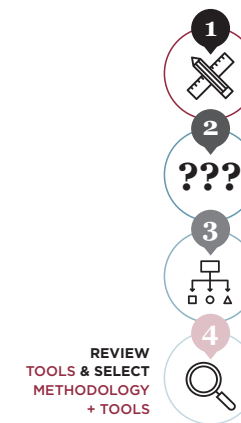


### **Example:** Cost-effectiveness of HIV prevention for high-risk groups at scale: an economic evaluation of the Avahan program in south India

In this study cost effectiveness was analyzed for 22 districts in four high-prevalence states. Effect estimates were calculated using a dynamic transmission model of HIV and sexually transmitted disease that was fitted to locally observed behavioural and prevalence trends. Incremental cost-effective ratios (ICERs) were calculated, comparing the incremental cost of Avahan per disability-adjusted life-year (DALY) averted versus a no-Avahan counterfactual scenario. The study also estimated incremental cost per HIV infection averted and incremental cost per person reached. Avahan reached roughly 150 000 high-risk individuals between 2004 and 2008 in the 22 districts studied. This reach resulted in an estimated 61 000 HIV infections averted, with roughly 11 000 HIV infections averted in the general population, at a mean incremental cost per HIV infection averted of \$785 (SD 166).

Cost-effectiveness of HIV prevention for high-risk groups at scale: an economic evaluation of the Avahan program in south India;  
 Anna Vassall et al; doi: 10.1016/S2214-109X(14)70277-3. Epub 2014 Aug 27

See examples of how cost effectiveness analysis results are used together with modeling under (iii). [Allocative efficiency analysis](#) for more effective allocation of resources.



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### VALUE FOR MONEY ANALYSIS

The Global Fund describes Value for Money (VfM) as a concept that defines how to maximize and sustain equitable and quality<sup>14</sup> health outputs, outcomes and impact for a given level of resources. It is generally accepted that an assessment of VfM requires an assessment of economy, effectiveness, efficiency and equity. The Global Fund technical note adds a fifth dimension, Sustainability. An assessment of value for money therefore requires the use of results from various types of economic evaluation and analysis, most of which are referred to in this guide. The Global Fund technical note provides a useful description of VfM terminology and methodological guidance. Results from the VfM analysis facilitate accountability and inform the planning and prioritization activities in Stage 1. Another source of guidance can be found on the BetterEvaluation website<sup>15</sup> which also provides other sources for further reading and methodological guidance.



#### Navigation Guide

If the study type is appropriate, navigate to [Where to from here?](#) for practical guidance to implement the study or return to [Step 1](#).

<sup>14</sup> Value for Money Technical Brief, The Global Fund, November 2019

<sup>15</sup> Better Evaluation [link](#)



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**Instruction:** This section of the guide provides a summary description of the study type and the associated study approach table. *Consider the study type description and summary approach and assess if these comprise a good fit with the identified research question and information needs. If study type and approach are appropriate, navigate to Step 4 to review and select suggested methodologies and tools.*

### PUBLIC HEALTH EXPENDITURE REVIEWS

PER is a methodology framework which guides expenditure reviews which are completed at a relatively high-level of reporting. Individual health service costs are not calculated but existing expenditure is analyzed and indicator values may be calculated. A Public Expenditure Review (PER) analyzes the quantity and quality of public spending over time against policy goals and performance indicators (UNICEF G/01/2017). The PER may cover all government expenditure or focus on one or more priority sectors, such as health, education or water and sanitation. PERs are commonly used as part of the process to develop a country strategy or to review progress against policy and plans. The PER methodology essentially compares the allocation and expenditure of government funds against national policy priorities. A PER typically makes use of existing data in countries. If more detailed costing data is required, these are frequently collected using the Public Expenditure Tracking Surveys (PETS) methodology and tools. To date most PERs are implemented by the World Bank (WB), either alone or in partnership with other development partners.

#### Study approach summary

Approach Element	Study Approach
Perspective	Provider
Time Period	Retrospective
Level of Detail	Not detailed
Actual or Normative Values	Actual
Reporting Detail and Structure	By intervention and source May include analysis by cost category and systems level

**Navigation Guide**

If this approach is considered appropriate navigate to **(Step 4)** to see a list of potential methods and tools to use.



# STAGE 4 STEP 4 SELECT METHODOLOGY AND TOOLS

**Instruction:** If the study type and summary approach are considered appropriate, review available tools and the use case example (where available) and then select a methodology and tool which best meets the requirements for the selected study. More details of the listed tools are included in the tool description annexure. ***If the fit is not considered satisfactory, navigate back to Step 1 and start again.***

**Please Note**

Click on the *Additional Info* reference links for more information.

Existing methodologies and tools to support the public health expenditure review

Tool Name	What the tool CAN DO	What this tool CANNOT DO	Additional Info
<b>WORLD BANK PUBLIC HEALTH EXPENDITURE REVIEW (PER)</b>	The PERs supports the process to develop a country strategy and to review progress against policy and plans. The PER methodology facilitates a comparison between the allocation and expenditure of government funds against national policy priorities. The scope of a PER is flexible and can be adjusted to meet country or sector-specific needs.	The World Bank PER guidance assists practitioners to complete the review. The Review relies mainly on secondary data and is effectively a desk-top exercise. Existing data is analyzed to inform the review. Where necessary a PETS ( <a href="#">See xix</a> ) Resource mapping is carried out to support the review.	<a href="#">A1.16</a>

**Navigation Guide**

If an appropriate methodology and/or tool has been selected, navigate to [Where to from here?](#) for practical guidance to implement the study or return to [Step 1](#).



## STAGE 4 STEP 3 CONFIRM THE APPROACH

**Instruction:** This section of the guide provides a summary description of the study type and the associated study approach table. *Consider the study type description and summary approach and assess if these comprise a good fit with the identified research question and information needs. If study type and approach are appropriate, navigate to Step 4 to review and select suggested methodologies and tools.*

### DETAILED, RETROSPECTIVE COST ANALYSIS OF HIV INTERVENTION/PACKAGE OF PHC INTERVENTIONS

Detailed retrospective costing studies seek to estimate the actual cost of specific HIV interventions (or combination of interventions) and aim for a high level of granularity. Several different methodologies can be applied but typically these require primary data collection from a sample of health facilities, an analysis of the ingredient resources consumed to deliver interventions and the valuation of these consumed resources. The detailed costing approach determines the costing perspective, whether costing comprises economic or financial costing (or both), whether it is a comprehensive (full) costing or isolates certain cost elements only (e.g. facility level costs) or whether only incremental costs will be considered. In many settings, detailed retrospective costing studies make use of a mixed-methods approach which combines, for example, detailed ingredients-based costing of facility costs with step-down costing to allocate overhead costs. Although not always the case, activity-based costing is frequently used as a method to facilitate the identification and costing of ingredients by activity. The advantage of this approach is the ability to analyze costs not only by cost line items but also by activities, which together must be implemented to deliver the intervention. This can enhance the value of findings and uses of results for decision-making.

#### Study approach summary

Approach Element	Study Approach
Perspective	Provider and/or societal
Time Period	Retrospective
Level of Detail	Detailed and not detailed
Actual or Normative Values	Actual
Reporting Detail and Structure	By activity, line item or by intervention By cost category, and system level

#### Navigation Guide

If this approach is considered appropriate navigate to **(Step 4)** to see a list of potential methods and tools to use.

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## STAGE 4 STEP 4 SELECT METHODOLOGY AND TOOLS

**Instruction:** If the study type and summary approach are considered appropriate, review available tools and the use case example (where available) and then select a methodology and tool which best meets the requirements for the selected study. More details of the listed tools are included in the tool description annexure. ***If the fit is not considered satisfactory, navigate back to Step 1 and start again.***

### Please Note

Click on the Additional Info reference links for more information.



### Existing methodologies and tools to support costing of HIV interventions or PHC packages

Few *standardized* tools exist to facilitate retrospective costing but guidance on how to cost health interventions is publicly available from several sources. In addition to specific guidance referred to in this document, examples of other comprehensive and frequently used guides for retrospective costing are listed in the table below. Many practitioners, consultancies, NGOs and partner organizations have developed excellent in-house costing tools to facilitate the capture of input data and the calculation and analysis of costs and can easily be adapted for different interventions. These tools are seldom available to the public and are frequently treated as proprietary tools and are therefore not listed below.

Name of Costing Guide	Reference and Link to Guide
GLOBAL HEALTH COST CONSORTIUM REFERENCE CASE FOR ESTIMATING THE COSTS OF GLOBAL HEALTH SERVICES AND INTERVENTIONS	Available <a href="#">here</a> .
HOW TO COST IMMUNIZATION PROGRAMS	Available <a href="#">here</a> .

***Continue to next Page to view relevant methodologies and tools...***



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Existing methodologies and tools to support costing of HIV interventions or PHC packages

Tool Name	What the tool CAN DO	What this tool CANNOT DO	Additional Info
<b>HOSPICAL TOOL (COSTING MODULE)</b>	The tool analyzes current hospital costs and revenues to support prospective estimates. The tool uses step-down costing to allocate actual expenditure and revenue (including donor funded resources) in a hospital to ancillary and clinical departments that serve as cost centres. Output-based unit cost calculated to facilitate efficiency analysis, and support planning.	HOSPICAL does not calculate detailed service line costs without some adaptation but focuses on the cost of in-patient stays and out-patient visits based on the hospital clinical costs centres. Notwithstanding the above, these provide a platform for more detailed costing.	<a href="#">A1.8</a>
<b>ABC/M BASELINE COSTING MODULE</b>	ABC/M once fully implemented, aims to provide accurate and routine activity-based expenditure reporting for planning and responsive management and to improve the efficiency of service delivery. Phase I of implementation comprises detailed data systems and process mapping and activity-based costing of the base-line year, which generates detailed unit costs for HIV and other included services.	In order to generate detailed activity-based reports, accurate expenditure data must be available in the required format. ABC/M consolidates and analyzes data but does not replace the accounting and budgeting system. Allocation keys for shared and above facility costs are not updated automatically.	<a href="#">A1.10</a>
<b>PHC BASELINE COSTING MODULE</b>	The PHC Costing Tool estimates the actual unit costs for PHC services. Actual costs refer to the actual services (type and quantity) being offered at a primary health care facilities using the actual staff compliment. Costs are categorized as human resources (clinical and non-clinical personnel), drugs and medical supplies and other recurring costs. Costs are allocated to services based on the reported number of inpatients and outpatients.	The PHC Costing Tool estimates the actual unit costs for PHC services. Actual costs refer to the actual services (type and quantity) being offered at a primary health care facilities using the actual staff compliment. Costs are categorized as human resources (clinical and non-clinical personnel), drugs and medical supplies and other recurring costs. Costs are allocated to services based on the reported number of inpatients and outpatients.	<a href="#">A1.19</a>



**Navigation Guide**

If an appropriate methodology and/or tool has been selected, navigate to ***Where to from here?*** for practical guidance to implement the study or return to ***Step 1.***



## STAGE 4 STEP 3 CONFIRM THE APPROACH

**Instruction:** This section of the guide provides a summary description of the study type and the associated study approach table. *Consider the study type description and summary approach and assess if these comprise a good fit with the identified research question and information needs. If study type and approach are appropriate, navigate to Step 4 to review and select suggested methodologies and tools.*


### HIGH-LEVEL ANALYSIS OF ACTUAL COSTS BY INTERVENTION

In certain situations, where the available time for generating research results and/or budget is limited, it may be appropriate to estimate expenditure by intervention by using step down costing methodology for overhead and above facility costs and (crude) tracing factors for shared direct costs. This methodology may not be as accurate in determining intervention costs and cannot yield detailed activity-level costs (unless used as part of a comprehensive ABC costing exercise) but may generate results that are sufficiently accurate to support planning and decision making. The advantage is that the level of effort and the cost involved to generating top down estimates is relatively low in comparison to more comprehensive costing studies. A specific, stand-alone tool to facility step down costing for HIV has not been identified although some ingredients-based costing tools contain functionality for limited step-down costing of overhead costs. Guidance on how to carry out step-down costing is available in several costing guidelines or articles; two examples are:

- Michael F. Drummond, et al; *Methods for the Economic Evaluation of Health Care Programs (Oxford Medical Publications) 4<sup>th</sup> Edition, 2015*
- Conteh L, Walker D. *Cost and unit cost calculations using step-down accounting. Health Policy Plan. 2004 Mar; 19(2):127-35. doi: 10.1093/heapol/czh015. PMID: 14982891.*

#### Study approach summary

Approach Element	Study Approach
Perspective	Provider
Time Period	Retrospective
Level of Detail	Not detailed
Actual or Normative Values	Actual
Reporting Detail and Structure	By intervention By cost category, or by system level



**Navigation Guide**

If this approach is considered appropriate navigate to **(Step 4)** to see a list of potential methods and tools to use.



## STAGE 4 STEP 4 SELECT METHODOLOGY AND TOOLS



### Please Note

Click on the Additional Info reference links for more information.

**Instruction:** If the study type and summary approach are considered appropriate, review available tools and the use case example (where available) and then select a methodology and tool which best meets the requirements for the selected study. More details of the listed tools are included in the tool description annexure. **If the fit is not considered satisfactory, navigate back to Step 1 and start again.**

### Existing methodologies and tools to support the high-level analysis of actual costs

Tool Name	What the tool CAN DO	What this tool CANNOT DO	Additional Info
<b>STEP-DOWN COST ACCOUNTING MODEL</b>	The SDCAM uses a “step-down” cost accounting methodology to apportion costs from higher-level cost centres to lower level cost centres that are closer to direct patient care, in a stepwise process. It is typically used in a hospital setting to estimate unit costs.	Shared direct costs captured at the department level and assigned to interventions through allocation keys. The model does not provide for ingredients-based costing. Results may not be as accurate unless the allocation keys are based on detailed activity analysis.	<a href="#">A1.17</a>

### Example: Aarogyasri Hospital Services and Benefit Packages Costing (India, 2011/12)

The Step-down Cost Accounting Tool was used to estimate and understand the unit costs of services and high-volume or high-value procedures in small, medium, and large hospital settings, and to empower the payer (Aarogyasri) in provider payment negotiation. During provider payment negotiations these unit costs were then used for benchmarking. The results created awareness among policymakers about cost drivers, cost and price of services, and variances. A standard methodology was created to streamline the provider payment mechanism, including tools and templates.

“Özaltın, A., and C. Cashin, eds. *Costing of Health Services for Provider Payment: A Practical Manual Based on Country Costing Challenges, Trade-offs, and Solutions. Joint Learning Network for Universal Health Coverage, 2014.*”



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METHODOLOGY  
+ TOOLS



### Navigation Guide

If an appropriate methodology and/or tool has been selected, navigate to **Where to from here?** for practical guidance to implement the study or return to **Step 1.**

## STAGE 4 STEP 3 CONFIRM THE APPROACH

**Instruction:** This section of the guide provides a summary description of the study type and the associated study approach table. *Consider the study type description and summary approach and assess if these comprise a good fit with the identified research question and information needs. If study type and approach are appropriate, navigate to Step 4 to review and select suggested methodologies and tools.*

### RESOURCE MAPPING (SOURCES OF FUNDING)

Resource mapping in this context refers to *ad hoc* studies to research and map in detail how the funding flows from source, including government and partners, to intermediaries and implementers in the health sector. The mapping frequently distinguishes between allocated funding, approved budget values and disbursements. Although typically based on current budget values, the analysis may include previous years as well as budgets for future years, where these are available. Where possible, the flow of funding is mapped by interventions and cost categories. The level of detail is higher than the funding landscape tables referred to above and the mapping typically a lot more comprehensive.

#### Study approach summary

Approach Element	Study Approach
Perspective	Provider
Time Period	Prospective and/or Retrospective
Level of Detail	Not detailed
Actual or Normative Values	Actual
Reporting Detail and Structure	By intervention By cost category, system level and source

*\*Intervention in this context means, for example, an HIV intervention or module (Global Fund terminology). Examples include HIV testing, key population prevention and treatment and care services.*

#### Navigation Guide

If this approach is considered appropriate navigate to ***(Step 4)*** to see a list of potential methods and tools to use.

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## STAGE 4 STEP 4 SELECT METHODOLOGY AND TOOLS



### Please Note

Click on the Additional Info reference links for more information.

**Instruction:** If the study type and summary approach are considered appropriate, review available tools and the use case example (where available) and then select a methodology and tool which best meets the requirements for the selected study. More details of the listed tools are included in the tool description annexure. **If the fit is not considered satisfactory, navigate back to Step 1 and start again.**

### Existing methodologies and tools to support resource mapping

Tool Name	What the methodology/tool CAN DO	What the methodology/tool CANNOT DO	Additional Info
<b>RMET APPROACH, METHODOLOGY AND RELATED TOOL KITS</b>	Although a standard tool kit is available, guidance suggests the development of an approach to resource mapping based on country specific information needs and the subsequent development of country specific applications. (Initiatives supported by CHAI and the GFF (WB) and other partners). Study approaches can be developed to generate current data.	A participatory development process responds to country needs and requirements. Over a number of years, the system can evolve to provide routine data but initially this is likely to be an ad-hoc study.	<a href="#">A1.13</a>
<b>NATIONAL AIDS SPENDING ASSESSMENT (NASA):</b> Specific modules	Using standardized methodology, guidelines and data collection templates detailed information is collected on sources of funding and intended use. An attempt is made to reconcile the sources of funding with the expenditure of available funding. NASA provides significantly more detail about HIV than the NHA (below).	It is not possible to provide resource mapping information for the current financial year. The exercise takes a long time to complete and output data it typically between a year and two years old.	<a href="#">A1.14</a>
<b>NATIONAL HEALTH ACCOUNTS (NHA):</b> Specific modules	Sources of funding are quantified for the health sector. The exercise generates useful macro-economic indicators such as total health expenditure and government domestic health expenditure etc. It shows the allocation of resources between major health programs.	National Health Accounts are not typically produced each year. The exercise takes a long time to complete and output data is between a year and two years old. The accounts provide limited detail about the allocation of resources within the HIV response.	<a href="#">A1.15</a>

***Continued on next Page...***

**PUBLIC EXPENDITURE TRACKING SURVEY (PETS)**

Public Expenditure Tracking Surveys are tools in a methodology used to map the flow of public resources (including human, financial, or in kind) from the highest levels of government to frontline service providers through the different levels of government and can help policy makers identify areas of leakage.

PETS does not necessarily result in a reconciliation between actual expenditure and resource flows but focuses on identifying delays in financial and in-kind transfers, leakage rates, and general inefficiencies in public spending.

[A1.18](#)

**Example: Improving efficiency and effectiveness of HIV spending through resource mapping in Malawi**

The resource mapping process using the health Resource Tracking Tool (HRTT) provided the Ministry of Health (MOH) with its first complete view of donor funding. Malawi is severely resource-constrained and highly dependent on donor funds with 80% of total health expenditure and 99% of HIV expenditure stemming from donors. The mapping process, however, highlighted that there was 30% more funding available than the MOH realized and assisted with the identification of resource gaps. The MOH and its development partners were able to improve the allocation of US\$300 million to higher-impact, underfunded interventions and strengthened national ownership and coordination of the HIV response.

*Clinton Health Access Initiative, Case Study: Improving efficiency and effectiveness of HIV spending through resource mapping in Malawi. 2015.* [🔗](#)



REVIEW  
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**Navigation Guide**

If an appropriate methodology and/or tool has been selected, navigate to ***Where to from here?*** for practical guidance to implement the study or return to ***Step 1.***

# WHERE TO FROM HERE?

Having completed Steps 1 to 4, it should be clear which planning stage will be informed by the proposed research, related decisions and information needs will have been clarified, and the most suitable approach, methodologies and tools will have been selected. The next steps in the process of implementation are briefly described below as a means of concluding this guide and providing a way forward. The process described below is generic in nature and each institution has its own standard operating procedures and processes for compiling requests for mobilizing resources, recruiting and contracting service providers and overseeing and coordinating implementation. Nevertheless, implementation should provide for at least the following in addition to institution specific requirements; some of these steps may unfold concurrently.

**Assess data availability:** Assessing the availability of required financial and operational data, given a particular approach and methodology, is essential. Before proceeding with the drafting of detailed terms of reference and proceeding with implementation, a detailed assessment of data availability should be carried out. It is seldom that complete data is available in the precise format required and it is frequently necessary to analyze or convert available data to make it suitable for use. However, in some instances this is not possible and in such a case, it may be necessary to re-examine the selected methodology and tool and explore other alternatives. In practice, the solution frequently comprises a mixed-method approach which combines elements from different methodologies or may require the development of a custom tool. Although this step is frequently included in the inception phase of the research study, it is our view that early completion of this step informs an assessment of feasibility and improves the drafting of terms of reference and the understanding of related deliverables.

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**Develop a schedule for implementation:** An accurate schedule for implementing the research study is important and maps out the key implementation milestones, some of which are described here in this section, against a timeframe. Drafting the schedule requires a good understanding of institutional procurement modalities and other procedural requirements. Experience shows that implementation almost always takes longer than anticipated which can have negative consequences in situations where the output from the study informs other planning processes such as budget preparation. Being realistic about the time required to obtain necessary approvals, mobilize resources, employing technical assistance service providers and the time required to complete the study, will ultimately result in a more controlled process which establishes realistic expectations with stakeholders and a better quality end product.

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**Assess internal capacity to implement and support the research study:** All assignments comprise a team effort between the client, the technical assistance service providers and selected stakeholders including key informants and steering committee members. It is important to understand what capacity can be mobilized internally to do some of the work and to support the service providers. Managing and supporting large research studies can be very onerous and should not be underestimated. The available internal capacity should be assessed and should inform the development of terms of reference and the study time frames. Failing to mobilize adequate internal capacity can significantly impact on the study and frequently results in delays in implementation.

*[Continued on next Page...](#)*

**Establish an oversight committee:** The purpose of an oversight committee includes the need to ensure efficient implementation of the study, secure technical expertise to inform the design of the study, assess the quality of draft products and guide the finalization of these, advocate for the use of end products and provide a mechanism for accountability. The committee can include representatives from government at national and sub-national levels, partners, funders and external users and experts. Establishing the committee early is advantageous as members can provide valuable input for drafting the TORs and support the technical assistance procurement process.

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**Draft terms of reference and consult with stakeholders:** It is important to develop terms of reference which accurately capture research study objectives, the study scope, a preferred methodology and required deliverables. Many templates and guidance exist for drafting TORs. Poorly drafted TORs can negatively impact on the study process and output. These can be interpreted differently by different parties, can lead to a misunderstanding between client and consultant and ultimately impact on the quality of the product. TORs should be shared widely amongst stakeholders to ensure that uncertainties are removed as far as this is possible and to establish a common understanding between stakeholders before consultants are recruited and work commences.

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**Estimate study costs and resource mobilization:** Estimating the total cost of a study is sometimes difficult but is necessary to motivate for and secure resources for the study, whether funded from the government budget or by a partner. To do this, consulting with colleagues and partners can be useful as many will have been involved in similar studies and may be able to provide a good estimate of the total cost of the study. The total level of effort should also be estimated based on the terms of reference and applied to an indicative daily rate for international and local experts. Past experience may also provide an indicative rule of thumb which can be applied to the value of consultants' time to estimate total direct study expenditure (travel, training and other direct costs). If direct expenses are likely to be significant, these should be quantified more accurately by developing an estimate for each main activity described in the terms of reference.

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**Recruitment and contracting of service providers:** The recruitment, selection and contracting of service providers may vary significantly from one country to another and between institutions depending on the value of the procurement and procurement procedures. These will address the need for competitive procurement, restricted or published calls for proposals and other procurement modalities, the process of evaluation and selection of service providers and subsequent contracting. This process often takes longer than anticipated and should be understood and adequately provided for in the schedule referred to earlier. The recruitment process should encourage the participation of local consultants to lead studies where possible or work closely with expert international consultants to support ongoing efforts to strengthen technical assistance capacity in countries.

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**Develop a strategy for dissemination and use:** Lastly, maximizing the use of study results for planning and decision making is a key objective. Careful consideration should be given to the dissemination of results at the end of the study through workshops with national and sub-national levels, distribution of soft-copy materials to target audiences, focused presentations to key working groups and individuals and through publications. A strategy for dissemination should be considered early in the process and provided for in the terms of reference to ensure that relevant products are produced at the end of the study such as policy briefs and manuscripts for publication in addition to the full study report.



## 5 ANNEXURES

- [ANNEXURE A: Summary Tool Descriptions](#)
- [ANNEXURE B: Terminology and Definitions](#)
- [ANNEXURE C: Detailed Costing Approach Template](#)
- [ANNEXURE D: Comparing Unit Costs when using different Costing Approaches](#)

## ANNEXURE A: SUMMARY TOOL DESCRIPTIONS

The purpose of this annexure is to provide a brief overview of key costing methodologies and tools included in our landscaping and mapping. Each overview summary includes links and references, where these were available, to more detailed reviews, descriptions about and/or use of the methodology or tool.

[A1.1 Spectrum Resource Needs Model \(RNM\)](#)

[A1.2 OneHealth Tool \(OHT\)](#)

[A1.3 Antiretroviral Therapy Unit Cost Spreadsheet](#)

[A1.4 VMDC Decision Makers Program Planning Tool \(DMPPT 2\)](#)

[A1.5 HIV Testing and Counselling Service Delivery Costing Model \(HSDC\)](#)

[A1.6 Key Populations Costing Workbook](#)

[A1.7 PrEP It Tool](#)

[A1.8 HOSPICAL](#)

[A1.9 PEPFAR Financial Management System](#)

[A1.10 Activity Based Cost Management \(ABC/M\)](#)

[A1.11 Reproductive Health Cost Reporting System](#)

[A1.12 Routine Efficiency Monitoring System \(REMS\)](#)

[A1.13 Resource Mapping and Expenditure Tracking \(RMET\)](#)

[A1.14 National AIDS Spending Assessment \(NASA\)](#)

[A1.15 National Health Accounts \(NHA\)](#)

[A1.16 Public Expenditure Review \(PER\)](#)


[A1.17 Step-down Cost Accounting Model](#)

[A1.18 Public Expenditure Tracking Surveys \(PETS\)](#)



[A1.19 Primary Health Care Costing Tool](#)



NAME OF TOOL	A1.1   SPECTRUM RESOURCE NEEDS MODEL (RNM)
DEVELOPER/CUSTODIAN/ OWNER OF TOOL	Avenir Health
CATEGORY OF TOOL	Costing, budgeting and financial resource estimations
OVERVIEW	<p>Over the past 40 years, Avenir Health (formerly known as the Futures Institute) has led the development of models across many areas of the health sector. Most of these models are assembled within the Spectrum suite. Spectrum is a system of policy models that support analysis, planning, and advocacy for health programs</p> <p>The RNM was originally developed and presented in Excel only and was used by UNAIDS for global resource needs estimates. The tool has been transitioned into the Spectrum application software (Delphi) but is still frequently used in Excel format, typically to accommodate country specific edits which are easier to make in Excel.</p>
SOFTWARE PLATFORM	Delphi platform
DESCRIPTION & SCOPE	<p>The Resource Needs Model estimates the costs and total resource requirement of implementing an HIV/AIDS program, including costs for care and treatment, prevention programs, and policy and program support.</p> <p>It allows planners and decision makers to assess how total program costs are apportioned by intervention, prevention, treatment and enablers and to understand the significant cost drivers of the program. The RNM can be used for scenario analysis to determine the cost and budget impact of different scale-up scenarios across interventions. The model does not calculate health impacts.</p> <p>The RNM estimates the number of people receiving each service by multiplying the number of people needing the service by the coverage rate (persons who receive services as a proportion of those who need the service). The resources needed are then estimated by multiplying the number of people receiving the service by the comprehensive unit cost of providing the service. Before RNM can be used, both a demographic and an HIV/AIDS projection must be prepared. New custom populations can be added to model and existing can be deleted.</p> <p>Some intervention-level assumptions for quantification and consumption of resources can be flexed, for instance injections pa for PWIDs, STIs that are symptomatic, proportion of treatment regimens (1<sup>st</sup> line/2<sup>nd</sup> line) and condom distribution.</p>
USE CASES	<p><b>Estimating the impact and cost-effectiveness of circumcising different age groups of men in Mozambique</b></p> <p>In 2017, Mozambique's VMMC program assessed its age-targeting strategy at the province level and desired updated male circumcision coverage estimates at the national, provincial, and district levels to inform program planning and monitoring. The National Male Circumcision Strategy (NMCS) called for circumcising two million males ages 10 to 49 from 2013 to 2017. The impact and cost-effectiveness of circumcising different age groups of men were examined using DMPPT 2. The model was also applied to assess the scale-up efforts through the end of September 2017 and project their impact on HIV incidence through 2030.</p> <p style="text-align: right;"><i><b>Continued on next Page...</b></i></p>

KEY USER GROUPS	The model is widely used and supported by United Nations (UN) agencies and linked with the OneHealth Tool and other disease modelling for broad health sector planning. Users include strategic planners in government and donors and finance team responsible for resource mobilization and medium-term budgeting.
LEVEL OF EFFORT	If the unit costs, demographic and coverage data are available (e.g. a recently updated Spectrum file and unit costs) the population of the RNM a moderate level of effort. If these underlying data sets are not available, the level of effort can increase significantly.
USER SUPPORT	Support is provided by Avenir Health and some support resource are available via the <a href="#">Spectrum website</a> . The website offers a knowledge base, community forum and ability to submit a request for assistance. Technical assistance to populate the tool is frequently provided by UNAIDS and other sponsors.
GEOGRAPHICAL USE	60 countries in 2009, as part of UNAIDS collection of country-level RN estimates (Khan et al).
INPUT DATA REQUIREMENTS	The main data inputs comprise the following data elements: Demographic and HIV-related projections and program statistics (AIM), Output-level unit costs, Sub-populations in need, Baseline coverage and targets.
COST CALCULATIONS & OUTPUT	<p>The RNM does not calculate any output level unit costs and these are an input data element. The main calculations carried out by the model comprise the product of populations in need, the coverage rate and the output unit cost.</p> <p>In certain instances, and for some interventions the input costs can be flexed based on intervention specific assumptions about resources consumed.</p> <p>The main output from the model comprises the total cost by intervention and by year over a period of multiple years.</p>
TYPICAL AGE OF DATA IN METHOD/TOOL OUTPUTS (Note: T-0 = Current Year, T+ = Prospective Estimates)	 <p>Cadence refers to frequency of study or how often data is collected.</p>
RELATIONSHIP WITH OTHER TOOLS	The Resource Needs Model generates high-level estimates of total resource needs by HIV intervention. These high-level estimates inform strategic planning, resource allocation and mobilization decisions. Key inputs into the resource needs model are usually unit costs per client receiving HIV services (coverage). The output from several detailed costing methodologies and tools potentially provide input for the resource needs model. These include, for example, the ART unit cost spreadsheet, the costing module of the VMMC Decision Makers Program Planning Tool, ABC/M, PHC Costing Tool and the HIV Testing and Counselling Service Delivery Costing Model. Other sources of input are the many once-off costing studies that are carried out for specific programs or services and yield intervention unit costs.

*Continued on next Page...*

<p>MAIN ADVANTAGES</p>	<p>One of the main advantages of the RNM is that it is easy to use and requires a relatively low level of effort to populate assuming unit costs and target population coverage are readily available for most of the interventions.</p> <p>This allows for multiple iterations and costing different scenarios with relatively little effort and supports prioritization and other planning processes.</p> <p>The Excel version of the RNM can be adapted relatively easily to accommodate changes in service provision modalities or accommodate additional services.</p>
<p>CAVEATS</p>	<p>The following limitations impact on use of the RNM:</p> <ul style="list-style-type: none"> <li>• Low level of flexibility given the user interface provided by the Spectrum application software. This is less of an issue when the Excel version of the RNM is used</li> <li>• Unit costs are an input, and so inconsistent assumptions (embedded in the unit costs) could be applied across interventions (for instance, some unit costs may include above-site costs while others don't)</li> <li>• AGYW, ABYM, Stigma and GBV have a fixed menu of interventions which may not match a country program</li> <li>• SBCC interventions for general population are one line and not unpacked (provision for annual campaign costs only). The model does not make provision for interventions targeting youth in and out of schools in the general population (only AGYW and ABYM)</li> <li>• The RNM does not currently provide for a number of important interventions such as SRH, FP<sup>16</sup> and cervical cancer screening and diagnosis for HIV positive clients, "non-ART treatment and care" and enablers</li> <li>• Excludes structured costing for HSS (it provides for annual amounts or percentages only)</li> </ul> <p>Based on discussions with Avenir Health, a revision of the RNM is underway and is likely to address some of the intervention-related issues mentioned above.</p>
<p>LINK TO TOOL &amp; GUIDELINE</p>	<ul style="list-style-type: none"> <li> Spectrum Model</li> <li> Costing Tool Guide</li> </ul>
<p>REFERENCE TO DETAILED REVIEW (IF AVAILABLE)</p>	<p>Kahn, Bollinger, Stover, Marseille. Major Infectious Diseases 4<sup>th</sup> edition. Ch 9 Improving the efficiency of the HIV/AIDS response A guide to resource allocation modelling</p> <p>E Korenromp et al, Impact and Cost of the HIV/AIDS National Strategic Plan for Mozambique, 2015-2019 - Projections with the Spectrum/Goals Model, PLoS, November 2015</p>

<sup>16</sup> Sexual and Reproductive Health (SRH), Family Planning (FP)

**Annexure Ends:** Navigate to ***Where to from here?*** if selected tool meets study requirements OR return to ***Step 4*** to view other methodologies and tools.




NAME OF TOOL	A1.2   ONEHEALTH TOOL (OHT)
DEVELOPER/CUSTODIAN/ OWNER OF TOOL	<p><b>Developed by Avenir Health</b></p> <p>Overseen by the UN Inter-Agency Working Group on Costing (IAWG-Costing), led by WHO</p>
CATEGORY OF TOOL	<p>Resource needs approach (coverage x unit cost = total costs)</p> <p>Ingredients-based approach for generating unit costs for some services</p>
OVERVIEW	<p>The OneHealth Tool was developed in 2012 by UN agencies, the World Bank and WHO in response to an expressed need to create an international, standardized planning and costing tool for health sector.</p> <p>Most costing tools at the time took a disease specific approach rather than a health systems approach.</p>
SOFTWARE PLATFORM	<p>Spectrum suite of software models.</p> <p>Proprietary software developed on a Delphi platform.</p> <p>The desktop version of OneHealth Tool is being migrated to a web-based platform and will be rebranded as the Integrated Health Tool for Planning and Costing (IHT). The IHT is expected to go live in 2025.</p>
DESCRIPTION & SCOPE	<p>The OneHealth Tool was designed for strategic planning and determining the financial costs associated with activities and targets outlined in a health plan (national and sub-national), along with an assessment of estimated health impact. It is aimed at assisting low and middle-income countries.</p> <p>The tool provides planners with a single framework for scenario analysis, costing, health impact analysis, budgeting and financing of strategies for all major diseases and health system components. The tool Incorporates coverage of private sector interventions and includes some selected non-health interventions that may have health impacts. Cost and impact estimates can be developed at health system or program level.</p> <p>The OneHealth Tool has two options for the mode of analysis, which the user is prompted to select when creating a new projection. Interventions and coverage levels can be organized, either by:</p> <ol style="list-style-type: none"> <li>1. Service delivery level (community, health centre, district hospital, etc.) or,</li> <li>2. Disease area (HIV/AIDS, NCDs, MNCH, etc.).</li> </ol> <p>To organize the interventions by service delivery level, the user must specify packages of services at each level and produce results disaggregated by level. The OneHealth Tool has default packages by level, which may be customized by the user.</p> <p>The most recent version of the tool includes a new function to cost PHC services. The user can open a PHC editor function, then specify what share of costs are allocated to PHC for service delivery by program area, as well as for human resources, logistics, and infrastructure.</p>

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<p>USE CASES</p>	<p><b>Projecting the health sector costs in Cambodia</b></p> <p>The exercise developed a total cost of the national health strategic plan 2016–2020 using the OneHealth Tool.</p> <p>Through a consultative process, the health ministry estimated the needed and available resources to implement the strategic plan. The health ministry compared the estimate costs of expanding public sector service provision with estimates of projected available financing. The results both informed development of the strategic plan, and contributed to the evidence base for improved budgeting, resource mobilization strategies and stronger overall public sector financial planning.</p>
<p>KEY USER GROUPS</p>	<p>Users include strategic planners in donor organizations and government, resource mobilization teams in international agencies and country treasuries, MOH, and national-level program co-coordinators.</p>
<p>LEVEL OF EFFORT</p>	<p>Building a OneHealth projection usually requires external, technical assistance unless there are dedicated staff in a health financing unit in the Ministry of Health. A comprehensive OneHealth projection at country level required a high level of effort.</p>
<p>USER SUPPORT</p>	<p>The OneHealth Tool is supported by the WHO. The model is publicly available and user manuals have been developed. UNFPA and other UN organizations host training workshops from time to time. Use of the tool is typically supported through TA.</p>
<p>GEOGRAPHICAL USE</p>	<p>Used in more than 40 countries (Zheng et al)</p>
<p>INPUT DATA REQUIREMENTS</p>	<p>Developing a OneHealth projection requires a significant amount of input data:</p> <ul style="list-style-type: none"> <li>• Epidemiological data (e.g. prevalence or incidence of particular diseases or conditions),</li> <li>• Baseline and targeted intervention coverage</li> <li>• Health program activities</li> <li>• Health system requirements, including human resources for health and facilities to be constructed, commodity prices.</li> </ul>
<p>COST CALCULATIONS &amp; OUTPUT</p>	<p>The tool uses a bottom-up, ingredients-based approach for costing health services. Cost calculations are based on the following:</p> <ul style="list-style-type: none"> <li>• Clinical care norms are translated into quantities of inputs required per service</li> <li>• Treatment assumptions for each intervention – namely, drugs and supplies used, and time and level of medical personnel required – are input by default in the tool and updated regularly.</li> <li>• Quantities are multiplied by input-specific prices which can be set up to change over time.</li> <li>• The user enters coverage figures for each service to determine the total number of services and costs per program year.</li> <li>• Additional customized interventions can be entered for specific resource needs.</li> <li>• The tool links coverage targets to health outcome and impact models, including the Lives Saved Tool (LiST).</li> <li>• The link to epidemiological models allows for health services to be dynamically estimated over time, taking into account population growth, reduced mortality and reduced incidence etc. as coverage of interventions (preventive and curative) increases.</li> </ul>

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<p><b>COST CALCULATIONS &amp; OUTPUT (CONT.)</b></p>	<p>The output from the OneHealth Tool include costed strategic health plans and estimates of total resource needs, an assessment of estimated health impact of programs and fiscal space analysis and scenario analysis. Specific output products include:</p> <ul style="list-style-type: none"> <li>• Total and incremental costs by program area and resource type for baseline and projection years</li> <li>• Total quantity and cost of each type of medicine and supply needed</li> <li>• Total quantity of staff and cost of salaries and benefits for human resources for health, as well as costs of in-service and pre-service training, human resource administration</li> <li>• Program costs, including training, supervision, monitoring and evaluation, advocacy, and communication</li> <li>• Health systems costs, comprising infrastructure, human resources, logistics/supply chain, health information systems, health financing, and governance</li> <li>• Budget mapping by category; and financial space, including planned expenditures vs fiscal space, projections of macroeconomic environment, and health expenditure</li> </ul>
<p><b>TYPICAL AGE OF DATA IN METHOD/TOOL OUTPUTS</b></p> <p>(Note: T-0 = Current Year, T+ = Prospective Estimates)</p>	 <p>Cadence refers to frequency of study or how often data is collected.</p>
<p><b>RELATIONSHIP WITH OTHER TOOLS</b></p>	<p>The OneHealth Tool generates high-level estimates of total resource needs for a range of primary health care interventions including HIV based on coverage targets. These high-level estimates inform strategic planning, resource allocation and mobilization decisions. Key inputs are unit costs per client receiving health services (coverage). The output from several detailed costing methodologies and tools potentially provide input for the resource needs model. These include, for example, the ART unit cost spreadsheet, the costing module of the VMMC Decision Makers Program Planning Tool, ABC/M, PHC Costing Tool and the Reproductive Health Cost Reporting System. Once-off costing studies that are carried out for specific programs or services can also generate intervention unit costs.</p>
<p><b>MAIN ADVANTAGES</b></p>	<p>The OneHealth Tool provides strategic planners and decision makers with a complete view of health sector resource needs and the allocation of resources between health programs and interventions. This broader view of the total resource needs provides a framework for discussion and prioritizing the allocation of resources between programs which is not possible with disease specific resources estimates, which tend to focus on resource allocation within health programs.</p> <p>One other advantage is that completion of the OneHealth Tool requires significant input from government and other country stakeholders which ultimately results in a high degree of country ownership.</p>

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CAVEATS	<p>Modifications or customization can only be carried out by Avenir Health.</p> <p>The completion of the OneHealth Tool is complex and requires a full team of costing and program experts to provide all the input data.</p> <p>The tool is designed to cost health interventions at intervention output level. This results in the loss of some of the costing detail and granularity which may be available from disease specific, ingredients-based costing tools. Given that the whole health sector is covered it is not practical to try and accommodate the need for more detail in this type of tool without further increasing complexity.</p>
LINK TO TOOL & GUIDELINE	 OneHealth Tool
REFERENCE TO DETAILED REVIEW (IF AVAILABLE)	N/A


**Annexure Ends:** Navigate to ***Where to from here?*** if selected tool meets study requirements OR return to ***Step 4*** to view other methodologies and tools.




<b>NAME OF TOOL</b>	<b>A1.3   ANTIRETROVIRAL THERAPY UNIT COST SPREADSHEET</b>
DEVELOPER/CUSTODIAN/ OWNER OF TOOL	<b>Avenir Health</b>
CATEGORY OF TOOL	Costing, budgeting and financial resource estimations
OVERVIEW	Increasing access to antiretroviral therapy (ART) is a major goal in the international response to HIV and AIDS. WHO guidelines have evolved over time and many countries now implement a ‘treat all’ policy. The rapid scale-up of ART in many countries, generated a need to understand the projected cost of scaling up and the related resource need. Costs can vary greatly from country to country and it is important for decision-makers to have estimates that are as context-specific. The ART Unit Cost Spreadsheet tool was developed to work hand-in-hand with the AIDS Impact Model (AIM) and Resource Needs Model (RNM) components of the Spectrum software suite and improves upon the previously used Cape Town Model.
SOFTWARE PLATFORM	MS Excel
DESCRIPTION & SCOPE	<p>The tool was developed to estimate the unit<sup>17</sup> cost of providing pre-antiretroviral therapy, paediatric and adult AIDS treatment with the option to change regimen mix, testing, and visit schedules.</p> <p>The tool includes several refinements to the Cape Town model, the use of which has since been discontinued. The unit cost for treating one patient per annum is based on the ingredients consumed in providing treatment. Default values are provided for ingredients, but users are encouraged to update these for local values.</p>
USE CASES	<p>The tool can be used to inform strategic planning by providing ART unit cost which can be applied to coverage targets. Similarly, specific unit cost for adults, paediatric patients or specific regimens can be used to inform more detailed prospective costing and budget processes.</p> <p>As noted above the spreadsheet feeds into the RNM and AIM. Any use of these modules in Spectrum, constitute a potential use of the spreadsheet. RNM has been used widely in many countries to estimate total HIV program costs and supports GOALS cost estimates to inform investment cases and NSPs.</p> <p>Discussions with the developer have highlighted that the use of this spreadsheet has diminished over the years because it is difficult to secure all the input data required by the spreadsheet. More frequently, an average cost for first line and second line ART regimens (sourced from costing studies) are used as an input for RNM.</p>

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<sup>17</sup> The unit is per patient cost per annum

KEY USER GROUPS	<p>ART program planners and coordinators.</p> <p>Budgeting experts responsible for compiling ART budget estimates.</p> <p>Practitioners and other experts responsible for updating unit cost estimates to feed into RNM and GOALS.</p>
LEVEL OF EFFORT	<p>Level of effort is relatively low to moderate if the input data is readily available. Frequently, the required data is however not readily available and finding the data increases the level of effort.</p>
USER SUPPORT	<p>Support is provided by Avenir Health usually under a framework agreement with UNAIDS.</p>
GEOGRAPHICAL USE	<p>The tool has been widely used through use of the RNM to estimate country ART program costs and can be used to inform the regional resource needs estimates.</p>
INPUT DATA REQUIREMENTS	<p>Input data required includes the:</p> <ul style="list-style-type: none"> <li>• Drug regimens</li> <li>• Input prices for ARVs and medicines for opportunistic infections</li> <li>• Laboratory tests costs and schedules</li> <li>• Schedule of visits and related staff time and cost.</li> </ul>
COST CALCULATIONS & OUTPUT	<p>The ingredients-based method is used to calculate costs which requires the measurement of all ingredient resources consumed multiplied by the costs of resources.</p> <p>Unit costs of providing pre-antiretroviral therapy, paediatric and adult AIDS treatment with the option to change regimen mix, testing, and visit schedules. Unit costs are per patient per annum.</p>
<p>TYPICAL AGE OF DATA IN METHOD/TOOL OUTPUTS</p> <p>(Note: T-0 = Current Year, T+ = Prospective Estimates)</p>	 <p>Cadence refers to frequency of study or how often data is collected.</p>
RELATIONSHIP WITH OTHER TOOLS	<p>The ART unit costing spreadsheet generates unit costs for providing ART services to clients. This is an ingredients-based costing tool and does not rely for inputs on other costing tools. The unit costs generated by this tool can be used as inputs for resource needs estimates using either the resource needs model, the OneHealth Tool or other tools used to estimate resource needs based on coverage targets.</p>
MAIN ADVANTAGES	<p>Accurate unit costs are calculated for paediatrics and adult patients separately, separate costs are developed for first line and second line treatment and the regimen mix can be flexed over time.</p>

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CAVEATS	The tool is developed to generate unit cost but does not generate total program costs which are generated from AIM and the RNM.
REFERENCE TO TOOLS & GUIDELINES	Not available.
REFERENCE TO DETAILED REVIEW (IF AVAILABLE)	 Health Initiative


**Annexure Ends:** Navigate to [Where to from here?](#) if selected tool meets study requirements OR return to [Step 4](#) to view other methodologies and tools.



<b>NAME OF TOOL</b>	<b>A1.4   VMMC DECISION MAKERS PROGRAM PLANNING TOOL (DMPPT 2)</b>
DEVELOPER/CUSTODIAN/ OWNER OF TOOL	<b>Avenir Health</b>
CATEGORY OF TOOL	Costing, budgeting and financial resource estimations
OVERVIEW	<p>Medical Male Circumcision (MMC) has been shown by several studies<sup>18</sup> to be an effective intervention to prevent HIV infection in 2006/07. A need arose to demonstrate the investment case for MMC to encourage the inclusion of the intervention in country HIV responses and support resource mobilization efforts by partners and country governments. The development of the DMPPT was supported by the USAID   Health Policy Initiative, Costing Task Order in collaboration with UNAIDS/WHO. The DMPPT was developed by Avenir (then Futures) and has been used in many countries with a general epidemic to support strategic and program planning regarding MMC.</p>
SOFTWARE PLATFORM	Version 1 of the DMPPT was developed on an Excel platform. A second version of the tool includes an online version and includes data through up until December 2023.
DESCRIPTION & SCOPE	<p>The online version of the DMPPT 2 is a monitoring and planning tool that generates coverage estimates and targets and impact projections for the VMMC program down to the district level, disaggregated by five-year age group. <a href="#">↗</a> The tool estimates to the total cost of reaching coverage targets, calculates the discounted savings by avoiding lifetime treatment costs for infections averted and includes unit costs such as cost per infection averted.</p> <p>The DMPPT tool focuses on MMC only and does not include projections for other HIV interventions. Using the tool requires the capture of historical demographics data including HIV related prevalence, incidence and sexual behaviour data. The data is used to 'fit' the historical projection curves to specific data points derived from surveys or other external estimates. A separate costing module is available to facilitate the development of an ingredients-based unit costs for facility-based circumcisions. Assumptions are made about the coverage for specific target group to yield epidemiological and financial projections.</p>
USE CASES	<p><b>Estimating the impact and cost-effectiveness of circumcising different age groups of men in Mozambique</b></p> <p>In 2017, Mozambique's VMMC program assessed its age-targeting strategy at the province level and desired updated male circumcision coverage estimates at the national, provincial, and district levels to inform program planning and monitoring. The National Male Circumcision Strategy (NMCS) called for circumcising two million males ages 10 to 49 from 2013 to 2017.</p> <p>The impact and cost-effectiveness of circumcising different age groups of men were examined using the Decision Makers' Program Planning Toolkit, Version 2.1 (DMPPT 2). The model was also applied to assess the scale-up efforts through the end of September 2017 and project their impact on HIV incidence through 2030.</p>



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<sup>18</sup> Auvert et al., 2005; Bailey et al., 2007; Gray et al., 2007

KEY USER GROUPS	Strategic and program planners and coordinators in donor institutions and country governments. With sufficient data, the tool can also support planners and program coordinators at sub-national levels.
LEVEL OF EFFORT	If required input data, including demographics data from e.g. Spectrum, and accurate MC unit costs are available, the modelling can be done with relatively low level of effort. If primary data collection is required to develop unit costs for MC the level of effort increases in relation to the sample size.
USER SUPPORT	User support is provided by Avenir Health usually funded through a framework agreement with e.g. UNAIDS
GEOGRAPHICAL USE:	The DMPPT tool has been used in many countries but the DMPPT2 tool was used for sub-national analysis in at least nine countries: Malawi, South Africa, Eswatini, Tanzania, Uganda, Kenya, Namibia, Lesotho, and Mozambique.
INPUT DATA REQUIREMENTS	<ul style="list-style-type: none"> <li>• Demographics data at national and sub-national level</li> <li>• HIV prevalence and incidence data by age groups</li> <li>• Data on sexual behaviour</li> <li>• Accurate unit costs for providing MMC services to different target populations</li> </ul>
COST CALCULATIONS & OUTPUT	<p>Cost calculations take place at two levels. The first module provides a workbook which can be used to calculate ingredients based unit costs based in data collection from facilities for MC for specific target populations.</p> <p>The second layer of costing relates to the prospective projections made by the modelling tool of the total program costs and cost per infection averted, using the unit costs and target population specific coverage data.</p> <p><b>Output includes:</b></p> <ul style="list-style-type: none"> <li>• MMC unit costs by target population group,</li> <li>• Projections of infections averted and mortality as a result of MC interventions and coverage</li> <li>• Total cost of the MC program,</li> <li>• Cost per infection averted and savings realized from lifetime treatment costs averted.</li> </ul>
<p>TYPICAL AGE OF DATA IN METHOD/TOOL OUTPUTS</p> <p>(Note: T-0 = Current Year, T+ = Prospective Estimates)</p>	 <p>Cadence refers to frequency of study or how often data is collected.</p>

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<p>RELATIONSHIP WITH OTHER TOOLS</p>	<p>The DMPPT tool generates unit costs for providing MMC services to clients. This is an ingredients-based costing tool and does not rely for inputs on other costing tools. The unit costs generated by this tool can be used as inputs for resource needs estimates using either the resource needs model, the OneHealth Tool or other tools used to estimate resource needs based on coverage targets. The modelling component generates total resource needs based on the coverage and unit costs. The output can be inserted directly into estimates of total resource needs for the HIV response. The cost per infection averted can be used in resource allocation planning, prioritization and optimization.</p> <p>The Step Down Cost Accounting model can be used to step-down overhead and indirect costs and calculate related unit costs.</p>
<p>MAIN ADVANTAGES</p>	<p>The costing model and the impact model are relatively easy to use. The Output can be used directly in program planning target setting. Facilitates prioritization in resource constrained environments and provides understandable evidence for advocacy and resource mobilization.</p>
<p>CAVEATS</p>	<p>If unit costs for MC are not available, significant effort may be required to generate accurate unit costs and accurate cost projections.</p> <p>Data for some of the underlying assumptions such as sexual behaviour and current MC prevalence may not be readily available.</p>
<p>LINK TO TOOL &amp; GUIDELINE</p>	<p> Male Circumcision</p>
<p>REFERENCE TO DETAILED REVIEW (IF AVAILABLE)</p>	<p> Male Circumcision</p> <p>Using mathematical modelling to inform health policy: A case study from voluntary medical male circumcision scale-up in eastern and southern Africa and proposed framework for success, Emmanuel Njehumeli 1,* Melissa Schnure 2, Andrea Vazzano 2, Elizabeth Gold 3, Peter Stegman 4, Katharine Kripke 4, Michel Tchenche 4, Lori Bollinger 4, Steven Forsythe 4, and Catherine Hankins 5, 6.</p>

**Annexure Ends:** Navigate to [Where to from here?](#) if selected tool meets study requirements OR return to [Step 4](#) to view other methodologies and tools. 

NAME OF TOOL	A1.5   HIV TESTING AND COUNSELLING SERVICE DELIVERY COSTING MODEL (HSDC)
DEVELOPER/CUSTODIAN/ OWNER OF TOOL	Health Policy Initiative
CATEGORY OF TOOL	Costing, budgeting and resource needs estimations
OVERVIEW	<p>The main purpose of the tool is to assist, policymakers and program managers in decision-making processes toward the pursuit of cost effective, quality HTC service delivery modalities that can potentially expand coverage, especially among key populations, and get people into treatment at an earlier stage of infection.</p> <p>The tool is not available on the HPI site and was not found during a google search, so it assumed that the tool is currently not actively used or disseminated.</p>
SOFTWARE PLATFORM	<p>MS Excel spreadsheet to calculate costs.</p> <p>Service data collection instruments guide (MS Word document)</p>
DESCRIPTION	<p>This model assists in estimating the cost of each client receiving HTC as well as the amount of staff time and other inputs required to perform the services.</p> <p>It also provides for determining the most efficient ways to allocate resources based on the country context and how cost-efficient each service delivery model is.</p> <p>The data collection instruments capture data for each delivery mode and incorporate both service delivery and central level costs.</p> <p>The data collected are then transferred into the Excel-based model which can be used to:</p> <ul style="list-style-type: none"> <li>• Cost individual HTC programs, compare service delivery model costs within the same country, monitor primary and secondary outputs of HTC programs.</li> </ul> <p>There are seven MS Word-based data collection instruments to obtain a complete picture of a program's costs. The instruments are tailored to be used at all levels of a national HTC program, from national to district level and across multiple delivery platforms.</p> <p>For each component, the instruments guide key informant interviews with program and facility officials with knowledge of the costs and resource requirements of delivering HTC services. The instruments request both general information about the facility and more specific information about HTC delivery itself.</p>
USE CASES	An internet search on the Google platform did not reveal any published material about a specific use case.

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KEY USER GROUPS	Policy makers, planners and program managers.
LEVEL OF EFFORT	Given the focus of this tool on HTS services the collection of data and the population of the workbook is considered to require a low to moderate level of effort even if several service modalities are costed.
USER SUPPORT	Health Policy Initiative
GEOGRAPHICAL USE	Could not be determined.
INPUT DATA REQUIREMENTS	General information about the specific facility as well as more specific information about the resource ingredients consumed by HTC delivery services. These include health worker and support staff time, commodities and consumption of overheads and support services.
COST CALCULATIONS & OUTPUT	The HSDC tool returns modality-specific estimates of HTC costs, including unit costs per client tested and HIV cases identified. Other unit cost estimates include cost per person referred for ART, cost per person with CD4 count below 250, and cost per person tested for the first time.
TYPICAL AGE OF DATA IN METHOD/TOOL OUTPUTS  (Note: T-0 = Current Year, T+ = Prospective Estimates)	 <p>Cadence refers to frequency of study or how often data is collected.</p>
RELATIONSHIP WITH OTHER TOOLS	The modality specific HTC unit costs calculated with this tool can be used as inputs for tools such as the Spectrum RNM, the OneHealth Tool or other tools used to estimate resource needs based on coverage targets. This is an ingredients-based costing tool and does not rely for inputs on other costing tools. The Step Down Cost Accounting model can be used to step-down overhead and indirect costs and calculate related unit costs.
MAIN ADVANTAGES	The tool can be used to cost and compare different HTS service delivery modalities and allows for a split in the cost estimates between different levels of the health system.
CAVEATS	N/A - Insufficient information
LINK TO TOOL & GUIDELINE	Could not be determined.
REFERENCE TO DETAILED REVIEW (IF AVAILABLE)	 <a href="#">HIV/AIDS Program Costing Tools</a>




**Annexure Ends:** Navigate to [Where to from here?](#) if selected tool meets study requirements OR return to [Step 4](#) to view other methodologies and tools.



NAME OF TOOL	A1.6   KEY POPULATIONS COSTING WORKBOOK
DEVELOPER/CUSTODIAN/ OWNER OF TOOL	Health Policy Plus Initiative
CATEGORY OF TOOL	Costing, budgeting and resource needs estimations
OVERVIEW	<p>The key populations costing workbook is one of several costing and resource estimation tools developed by the USAID Health Policy Initiative Costing Task Order in 2013. The tool facilitates the collection and consolidation of costing data for a single HIV program targeting key populations in multiple countries. It is intended to help funders and decision-makers understand the costs of providing HIV services to these groups. It helps implementers understand the share between overhead and service provision costs.</p>
SOFTWARE PLATFORM	MS excel based tool (unprotected)
DESCRIPTION	<p>Data must be collected from various institutions on their: program activities, including type, frequency, reach, and methods of service delivery, raw cost data, including staff salaries, activity expenses, and overhead costs, amount of program activities and staff time dedicated to HIV and key population services.</p> <p>This is followed by the itemization and standardization of activities. Based on the services CSOs are currently providing, this analysis organizes activities and costs under four categories of services defined in the MARP<sup>19</sup> guidelines: peer education and outreach, voluntary HIV counselling and testing, support groups, and HIV care and treatment support.</p> <p>A reference model of CSO service delivery is then created. This model uses the allocation of staff time across services to calculate cost drivers for indirect costs. Using this model as a basis, input and cost data is gathered from other CSOs to generate unit costs.</p>
USE CASES	<p>The Health Policy Initiative used the costing workbook to estimate the unit costs of key HIV services to sex workers and males who have sex with males in Ghana (2013).</p> <p>The study focused on the comprehensive package of services outlined in Ghana's MARP Strategic Framework 2011-2015. The study analyzed unit costs, as well as the major drivers of costs within the national MARPs HIV program and the expected differences in unit cost projections as the program is brought to scale.</p> <p>More recently, The Health Policy Plus (HP+) project worked with stakeholders from government, CSOs, and development partners in Guyana to support the country in planning for sustainable transition to domestic financing of the HIV response (2018).</p>
KEY USER GROUPS	Funders, planners and cost analysts
USER SUPPORT	USAID and partners under the erstwhile Health Policy Initiative

<sup>19</sup> Most at Risk Populations

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GEOGRAPHICAL USE	Participating countries in the Health Policy Initiative and Health Policy Plus, including Ghana and Guyana.
INPUT DATA REQUIREMENTS	<ul style="list-style-type: none"> <li>• Staff salaries and time spent on different activities</li> <li>• Supplies and commodities</li> <li>• Travel related activities</li> <li>• Other costs including technical assistance, publications, workshops, equipment and office costs.</li> </ul>
COST CALCULATIONS & OUTPUT	The Workbook calculates unit costs per client contact overall, for each included program and estimates the total program cost per country. To facilitate easy cost efficiency analysis, the tool also differentiates between costs that are directly associated with HIV service provision and those costs associated with program overhead.
TYPICAL AGE OF DATA IN METHOD/TOOL OUTPUTS  (Note: T-0 = Current Year, T+ = Prospective Estimates)	 <p>Cadence refers to frequency of study or how often data is collected.</p>
RELATIONSHIP WITH OTHER TOOLS	The Key Population costing workbook tool generates unit costs for providing KP services to clients. This is an ingredients-based costing tool and does not rely for inputs on other costing tools and requires extensive primary data collection. The tool provides for the allocation of indirect costs. The unit costs generated by this tool can be used as inputs for resource needs estimates using either the resource needs model, the OneHealth Tool or other tools used to estimate resource needs based on coverage targets. The tool does generate total program costs based on the coverage and unit costs. This output can be inserted directly into estimates of total resource needs for the HIV response.
MAIN ADVANTAGES	To facilitate cost-efficiency analysis and resource needs estimations, the tool differentiates between costs that are directly associated with HIV service provision and those costs associated with program overhead. The tool supports social contracting planning and negotiations, through providing useful benchmarks for resource needs as well as estimates of the costs and variability of key cost drivers.
CAVEATS	Cost estimates are not definitive at the country level, given the variability and limitations of the data across government and non-government delivery platforms.
LINK TO TOOL & GUIDELINE	 HIV/AIDS Program Costing Tools
REFERENCE TO DETAILED REVIEW (IF AVAILABLE)	 Koleros, A. and K West Slevin. Estimating the Unit Costs of Providing Key HIV Services to Female Sex Workers and Males Who Have Sex with Males in Ghana: A Data Use Guide. Washington, DC: Futures Group, Health Policy Project.

**Annexure Ends:** Navigate to [Where to from here?](#) if selected tool meets study requirements OR return to [Step 4](#) to view other methodologies and tools.



NAME OF TOOL	A1.7   PREP IT TOOL
DEVELOPER/CUSTODIAN/ OWNER OF TOOL	Avenir Health and Palladium - Health Policy Plus Team
COSTING CLASSIFICATION	Costing, budgeting and resource needs estimations
OVERVIEW	<p>Governments, donors, and other stakeholders in countries delivering HIV/AIDS pre-exposure prophylaxis (PrEP) have encountered several programmatic challenges such as difficulty in setting targets, tracking the continuum of PrEP delivery, and estimating program costs and impact.</p> <p>In response to this, a Microsoft Excel-based tool called PrEP-it for oral PrEP implementation planning, monitoring, and evaluation was developed by the collaborating projects (with funding from PEPFAR): the U.S. Agency for International Development (USAID)'s Optimizing Prevention Technology Introduction on Schedule (OPTIONS) Consortium, Health Policy Plus (HP+) project, and Efficiency and Accountability Technical Assistance to Partners II (EATAP-II).</p>
PURPOSE OF THE TOOL	The tool has been designed to help governments and stakeholders plan, monitor, and evaluate their PrEP delivery to those in need. A pilot workshop was conducted by Health Policy Plus experts, in response to the challenges faced in setting targets, tracking PrEP delivery and estimating program costs and impacts.
SOFTWARE PLATFORM	Microsoft Excel
DESCRIPTION	<p>PrEP-it has six main functions:</p> <ol style="list-style-type: none"> <li>1. Assessing service delivery capacity and bottlenecks,</li> <li>2. Monitoring the cascade of PrEP service delivery,</li> <li>3. Projecting needs for PrEP drugs,</li> <li>4. Setting national and subnational targets,</li> <li>5. Estimating program costs, and</li> <li>6. Projecting impact based on targets and service delivery.</li> </ol>
USE CASES	Since 2019, the PrEP-it tool has been used by governments of Eswatini, Kenya, Tanzania, Zambia, and Zimbabwe as part of the target-setting process for their PrEP programmes. Additionally, it has been used in Vietnam and Ghana used PrEP-it for forecasting drug needs for their programmes.
KEY USER GROUPS	Government officials, development partners implementing partners, economists and researchers. <sup>20</sup>




<sup>20</sup> Avenir Health, FHI 360 and USAID (2021). *Development and Country Applications of a Program Planning and Monitoring and Evaluation Tool for Oral Pre-exposure Prophylaxis [White paper]*. [↗](#)


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LEVEL OF EFFORT	Not yet clear. It is expected that some level of external support to completing the tool will be required for the first few years.
USER SUPPORT	Yes - Currently HP Plus/Avenir Health
GEOGRAPHICAL USE	<p>The tool is relatively new, and has had limited application to date.</p> <p>It was used in Eswatini and has recently been introduced to the West Africa Regional PrEP Learning Network.</p>
INPUT DATA REQUIREMENTS	<ul style="list-style-type: none"> <li>• Population data (This data can be selected from the tools available options, or inputted directly into the model)</li> <li>• Continuation of treatment within population data</li> <li>• Initiation of treatment within population data</li> <li>• Capacity of population on PrEP data</li> <li>• Costing data</li> <li>• Target information</li> </ul>
COST CALCULATIONS & OUTPUT	<p>The tool provides for several operational and financial calculations and output. In summary these include:</p> <ul style="list-style-type: none"> <li>• Summary of PrEP cascade metrics from HIV testing to initiation</li> <li>• Forecast client visits for coming months based on recent past initiations and continuation rates</li> <li>• Aggregated service delivery capacity</li> <li>• Capacity bottlenecks for each service delivery unit and summary of capacity bottlenecks</li> <li>• Annual and monthly initiation targets per priority population</li> <li>• Target disaggregation by sub location and age/sex</li> <li>• Cost per person on PrEP for an entire year</li> <li>• Track service delivery against targets</li> <li>• Set targets based on capacity for service delivery</li> <li>• View potential capacity gaps based on service delivery forecasts or targets</li> <li>• Estimate monthly and total costs associated with targets or service delivery</li> <li>• Estimate the number of HIV infections averted based on targets or service delivery</li> <li>• Estimate costs per HIV infection averted</li> <li>• Annual costs per client initiated, accounting for continuation curves</li> <li>• Monthly drug needs and costs based on service delivery or targets</li> </ul>




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<p><b>TYPICAL AGE OF DATA IN METHOD/TOOL OUTPUTS</b></p> <p>(Note: T-0 = Current Year, T+ = Prospective Estimates)</p>	 <p>Cadence refers to frequency of study or how often data is collected.</p>
<p><b>RELATIONSHIP WITH OTHER TOOLS</b></p>	<p>The PrEP it tool is used to specifically cost oral PrEP. Unit costs from this tool can be used as input in several other health costing tools and methods. For example, these costs can inform the unit costs used by the Resource Needs Model, the PHC Costing Tool program costs based on the coverage and unit costs. The output can be inserted into estimates of total resource needs for the HIV response.</p> <p>The cost per infection averted can be used in resource allocation planning, prioritization and optimization.</p>
<p><b>MAIN ADVANTAGES</b></p>	<p>Four different modules are provided in PrEP-it:</p> <ol style="list-style-type: none"> <li>1. <b>Costs Lite:</b> a simplified costing approach that can be used when the user does not have a costing background or detailed cost data.</li> <li>2. <b>Detailed Costs:</b> a more comprehensive cost specification model, best suited for economists and other costing experts.</li> <li>3. <b>AGYW Geographic Prioritization module:</b> allows users to identify localized pockets of high HIV risk among AGYW that are not captured by national- or provincial-level surveys.</li> <li>4. <b>Drug Forecasting module:</b> builds on the infrastructure of the target-setting process, where users select populations, enter continuation rates, and specify scale-up patterns.</li> </ol>
<p><b>CAVEATS</b></p>	<p>N/A</p>
<p><b>LINK TO TOOL &amp; GUIDELINE</b></p>	<p> PrEP-it</p> <p> Avenir Health</p>
<p><b>REFERENCE TO DETAILED REVIEW (IF AVAILABLE)</b></p>	<p>N/A</p>

**Annexure Ends:** Navigate to [Where to from here?](#) if selected tool meets study requirements OR return to [Step 4](#) to view other methodologies and tools. 

NAME OF TOOL	A1.8   HOSPICAL
DEVELOPER/CUSTODIAN/ OWNER OF TOOL	MSH
CATEGORY OF TOOL	Costing, budgeting and financial resource estimations
OVERVIEW	This tool was developed by MSH for hospital managers and is used to calculate cost projections at the hospital level. This is a practical tool developed for hospital managers to analyze current costs and revenues, comparing efficiency, and forecasting what those figures would be if hospital services are expanded or modified. The results generated by the tool can help improve a hospital's performance and enhance its financial sustainability.
SOFTWARE PLATFORM	Open source MS Excel spreadsheet files
DESCRIPTION & SCOPE	<p>The main purpose of the tool is to analyze current hospital costs and revenues, comparing efficiency, and forecasting costs and indicator values for planning.</p> <p>The tool uses step-down costing to allocate actual expenditure and revenue (including donor funded resources) in a hospital to ancillary and clinical departments that serve as cost centres. Capital, non-recurrent expenditure and costs which do not relate to hospital services are removed from the analysis. Remaining costs are then allocated to clinical and ancillary departments. All costs from support/ancillary departments are allocated to clinical departments.</p> <p>Total costs for each inpatient clinical department are then divided by the number of bed days to arrive at the average cost per bed day for that department. Outpatient department costs are divided by the number of visits to get an average cost per visit. These unit costs can then be used to conduct efficiency analysis and comparisons within and with other hospitals.</p>
USE CASES	<p><b>Re-designing insurance reimbursement mechanisms and values in Rwanda.</b></p> <p>The goal was to determine the actual cost of services at the health centre (including community services), district hospital, and referral hospital levels. At the health centre level, the tool was used to estimate the cost of each service included in the package of minimum services. At the hospital level, the tool results informed the cost of each case treated and facilitated the establishment of Diagnosis Related Groups (DRGs). The classification of cases was based on WHO codes and norms and standards for Rwanda as identified by the MOH.</p>
KEY USER GROUPS	Hospital managers, the hospital financial planning committee, government departments and regulators.
LEVEL OF EFFORT	A comprehensive allocation of total hospital costs to clinical cost centres using well-researched allocation factors is likely to require a medium to high level of effort. If activity-based methodology is used to more accurately to allocate indirect and shared costs the level of effort will increase.
USER SUPPORT	MSH

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GEOGRAPHICAL USE	HOSPICAL has been used in several countries, such as Rwanda, Afghanistan, Liberia, Cambodia and Burundi.
INPUT DATA REQUIREMENTS	<p>The tool requires the following key categories of input data:</p> <ul style="list-style-type: none"> <li>• Total hospital expenditures, broken down by resource type (e.g., staff, drugs) and the income by source.</li> <li>• The number of each type of staff employed and their remuneration</li> <li>• The distribution of staff across departments. If staff members are shared across departments estimate the time distribution.</li> <li>• Output data related to number of in-patients, average length of stay and outpatient visits.</li> </ul>
COST CALCULATIONS & OUTPUT	Top down costing, using a step-down methodology is used to allocate actual expenditure to clinical departments. Unit costs are calculated by dividing the ‘fully loaded’ costs by output units. Output comprises total costs for running the hospital (total beds, occupied beds, with out patient visits) allocated to clinical departments and related in-patient and outpatient visit unit costs.
TYPICAL AGE OF DATA IN METHOD/TOOL OUTPUTS  (Note: T-0 = Current Year, T+ = Prospective Estimates)	 <p>Cadence refers to frequency of study or how often data is collected.</p>
RELATIONSHIP WITH OTHER TOOLS	This tool was specifically designed to arrive at unit costs per service or per case treated at health centre and hospital levels respectively. Total hospital and health centre costs are fully absorbed by clinical departments and services. Unit costs may include costs for HIV services and HIV inpatient costs which might be useful in HIV cost analysis and planning. Some unit costs might be useful for estimating total HIV-related costs and resource needs.
MAIN ADVANTAGES	HOSPICAL is designed to be user-friendly and easily adapted. It is aimed at generating ‘fully loaded’ costs of clinical departments in hospitals which include the full costs of support and ancillary departments. The tool produces unit costs which can be used for efficiency analysis and informing the DRGs.
CAVEATS	Hospital does not calculate detailed service delivery costs without some adaptation but focuses on the cost of in-patient stays and out-patient visits based on the hospital clinical costs centres. Notwithstanding the above, these provide a platform for more detailed costing. The cost of drugs reflects the expenditure made in the year and not the cost of drugs issued. There can be significant differences in these figures due to factors such as large purchases near year-end that are not issued during the year and stock losses.
REFERENCE TO TOOLS & GUIDELINES	 A Tool for Allocating Hospital Costs
REFERENCE TO DETAILED REVIEW (IF AVAILABLE)	 Rwanda Health Service Costing

**Annexure Ends:** Navigate to [Where to from here?](#) if selected tool meets study requirements OR return to [Step 4](#) to view other methodologies and tools.

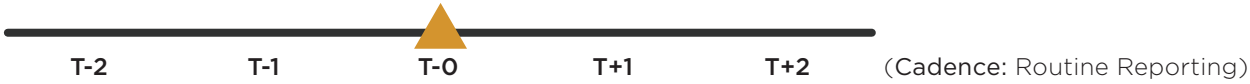







NAME OF TOOL	A1.9   PEPFAR FINANCIAL MANAGEMENT SYSTEM
DEVELOPER/CUSTODIAN/ OWNER OF TOOL	United States Government
CATEGORY OF TOOL	Resource Mapping and Expenditure Tracking
OVERVIEW	<p>The United States (U.S.) President’s Emergency Plan for AIDS Relief is one of the largest foreign assistance programs in the world that seeks to eradicate HIV/AIDS as a public health threat.</p> <p>PEPFAR takes a technical approach to increasing impact through data driven, cost effective investments. Under this approach, PEPFAR has designed a comprehensive expenditure tracking and reporting system, comprising a detailed classification framework for budgeting and expenditure reporting, a detailed tracking and reporting methodology and web-based repository and dashboards that allow stakeholders to access and use the data.</p> <p>In 2017, PEPFAR launched a new initiative to improve internal budgeting and cost analysis practices and to harmonise budget planning and expenditure reporting categories. The Expenditure Analysis (EA) system was updated to reflect the fixed and variable costs of treatment and support. The approach, now known as Expenditure Reporting (ER), has moved away from the target-based resourcing and budgeting (unit costs) to program based, bottom up budget planning that considers services and enablers.</p> <p>PEPFAR also embarked on a process to standardize budget and expenditure data with the Global Fund and partner governments.</p>
SOFTWARE PLATFORM	<p>Web-based data repository and reporting platform – PEPFAR Panorama Spotlight <a href="#">🔗</a></p> <p>Implementers use Excel-based expenditure reporting systems accompanied by detailed guidelines for categorizing expenditure using coding which is universal across all PEPFAR funded interventions.</p>
DESCRIPTION	<p>The PEPFAR Financial Management System (FMS) comprises financial management rules for all actors receiving PEPFAR funds, data capture and reporting templates, a financial classification framework and web-based data repository and reporting platform.</p> <p>The FMS forms part of the PEPFAR Data for Accountability, Transparency and Impact Monitoring (DATIM) ecosystem, which includes program targets, performance and other surveillance data.</p> <p>The PEPFAR financial classifications are used during the Country Operational Plan (COP)/Regional Operational Plan process, which calculate resource needs to achieve approved targets over a 12-month period.</p> <p>There are 6 major PEPFAR programs, four of which are site-level and two which are above-site level. All site-level sub programs are disaggregated by the type of interaction with beneficiaries and classified as either “service delivery” or “non-service delivery”.</p>

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DESCRIPTION (CONT.)	<p>COP budgets are recorded in the Funding Allocation to Strategy Tool (FAST) and by Implementing Partners in their annual workplan budgets. In the web-based dashboards, budgets and expenditure are visualized against the PEPFAR financial classifications.</p> <p><b>Templates used in the system include:</b></p> <ul style="list-style-type: none"> <li>• COP Budget and Projected Expenditure Template.</li> <li>• Expenditure Reporting Excel Template.</li> <li>• PEPFAR releases country COP guidance annually which outlines the details of how PEPFAR how to develop and implement the COP for PEPFAR-supported programs. This covers financial management as well as aspects such as program planning and design, implementation and management and monitoring and evaluation.</li> </ul>
USE CASES	<p>The FMS structure, classification and related expenditure reporting are used as the basis for COP allocations and budget planning in all grantee countries.</p> <p>The Inter-agency Collaborative for Program Improvement (ICPI) comprising experts from PEPFAR's seven implementing agencies have used this data to analyze, monitor, and optimally allocate resources needed to control the epidemic in countries and across regions.</p>
KEY USER GROUPS	<p><b>Key user groups include:</b></p> <ul style="list-style-type: none"> <li>• The PEPFAR planning and resource allocation bodies, PEPFAR agencies and implementing partners.</li> <li>• Government planners, program managers and policy makers.</li> <li>• Development partners.</li> </ul>
LEVEL OF EFFORT	<p>PEPFAR has been updating its financial management system to reduce duplication of effort of users across different reporting responsibilities and to harmonise budget planning and expenditure tracking activities. Expenditure reporting is an ongoing process and a system for routine reporting.</p>
USER SUPPORT	<p>PEPFAR hosts a comprehensive and user-friendly online knowledge centre.</p>
GEOGRAPHICAL USE	<p>PEPFAR is the largest externally funded HIV/AIDS epidemic control program and partners with more than 50 countries around the world.</p>
INPUT DATA REQUIREMENTS	<p><b>The FMS requires the following data sets as inputs:</b></p> <ul style="list-style-type: none"> <li>• Budget data</li> <li>• Expenditure data</li> <li>• Performance targets</li> <li>• Performance achievements</li> </ul>

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<p><b>COST CALCULATIONS &amp; OUTPUT</b></p>	<p>Consolidated and aggregated budget and expenditure data across various dimensions, including cost category, organization, beneficiary, program and sub-program.</p>
<p><b>TYPICAL AGE OF DATA IN METHOD/TOOL OUTPUTS</b></p> <p>(Note: T-0 = Current Year, T+ = Prospective Estimates)</p>	 <p>Cadence refers to frequency of study or how often data is collected.</p>
<p><b>RELATIONSHIP WITH OTHER TOOLS</b></p>	<p>Routine expenditure reporting data is use for monitoring budget execution and informs various planning processes, budgeting, resource allocation and value for money assessments as noted elsewhere in this annexure. Outside of PEPFAR, the results from expenditure reporting and resource alignment provide input into the development of national health accounts and NASA. Disaggregated data can provide key input data for detailed costing studies. The ABC/M project used resource alignment data to inform the analysis of above site level costs.</p>
<p><b>MAIN ADVANTAGES</b></p>	<p>PEPFAR now provides publicly available information online, that allows users to:</p> <ul style="list-style-type: none"> <li>• View and utilize PEPFAR-planned funding, program results, and expenditure analysis data in an accessible and easy-to-use format.</li> <li>• Budget expenditure information available at the sub-program level at costs category level.</li> </ul> <p>Budget, expenditure and target information can be used to triangulate or validate unit cost estimates being applied in-country. The FMS supports PEPFAR in managing the financial performance and efficiency of its agents and service delivery partners. The knowledge centre and the in-county support assists users of the PEPFAR financial management system.</p>
<p><b>CAVEATS</b></p>	<p>The updated Expenditure Reporting system does not track budget and expenditure data by sub-national geography. Users not familiar with the PEPFAR planning ecosystem may find PEPFAR terminology and nomenclature confusing.</p>
<p><b>REFERENCE TO TOOL/SYSTEM</b></p>	<p> PEPFAR Financial Management</p>
<p><b>REFERENCE TO DETAILED REVIEW (IF AVAILABLE)</b></p>	<p> PEPFAR Financial Classifications Reference Guide 5.29.20</p> <p> PEPFAR Annual Report, 2017 and  2018</p> <p> PEPFAR Financial Management</p>

**Annexure Ends:** Navigate to *Where to from here?* if selected tool meets study requirements OR return to *Step 4* to view other methodologies and tools. 



NAME OF TOOL	A1.10   ACTIVITY-BASED COSTING AND MANAGEMENT (ABC/M)
DEVELOPER/CUSTODIAN/ OWNER OF TOOL	PEPFAR
CATEGORY OF TOOL	Costing and Budgeting
OVERVIEW	<p>Policymakers and other partners undertaking funding and management of HIV and other health care programs need up-to-date information on the costs and efficiencies related to these programs.</p> <p>However, the reliable cost data used for budgeting and planning, efficiency analysis and for governments to better prepare for transition is not routinely available. This has further been complicated by a lack of understanding of how to allocate above facility costs. As well as wide variations and changes in service modalities, availability of HIV-related services at sub-national level, characteristics of the population of persons newly infected with HIV, new technologies, and price changes.</p> <p>Additionally, there has been a reduction of international assistance on health and competing demands for public funding have increased emphasis on transparency of expenditures, increased health spending efficiency, and performance measurement in HIV-related and health services.</p> <p>One-time cost studies, which are often outdated, do not always equip policymakers with the robust rationale for funding HIV and health responses, nor do they (naturally) lead to improved performance, efficiency and transparency of expenditure.</p> <p>A wide group of experts from S/GAC, USAID, CDC, UNAIDS, Global Fund, US Treasury and BMGF are supporting the implementation of routine activity-based costing and management (ABC/M) in select countries where there is strong evidence that it could significantly improve the efficiency, effectiveness, and quality of HIV services as well as support governments with transition planning.</p>
SOFTWARE PLATFORM	MS Excel
DESCRIPTION	<p>The main objective for ABC/M is to routinely generate cost information for HIV and health services at facility, in the community, and above site level, and use the information to effectively allocate resources, improve monitoring efforts, and increase efficiency.</p> <p>The first phase of implementing ABC/M requires the accurate measurement of the full cost of health service costs to provide a baseline costing and to determine tracing factors for shared and above-site costs. Direct and indirect facility costs, above-site costs and costs incurred during community service provision are consolidated to get the 'fully loaded' cost per recipient of each selected service. This phase may also include an analysis of out-of-pocket expenditure on consultation, medicine, transport, accommodation, food and supplements together with the opportunity costs associated with loss of work time by patients receiving health care services. Data is collected through client exit interviews.</p> <p>To support data collection and subsequent routinization efforts, country data systems and the related ecosystem are mapped.</p>

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DESCRIPTION (CONT.)	<p>Data is collected from a sample of health facilities and the time-driven ABC methodology is deployed to collect accurate costs of resources consumed. This requires the detailed mapping of service delivery processes and steps in facilities and ‘tracking’ patients to observe the rate at which human and other resources are consumed and the time patients wait to receive care. Data is also collected from implementing partners providing community-based services.</p> <p>Local institutions are capacitated to support ABC/M from the start to assist with data collection and to support a process of institutionalization in-country.</p> <p>A second phase of ABC/M implementation explores how required data can be collected on a routine basis to facilitate the re-costing of services, who the data users are and how capacity can be strengthened to capture additional cost data routinely and to ensure its use for more effective budgeting and planning.</p>
USE CASES	<p>ABC/M has been implemented and tested in Tanzania, Kenya, Uganda, Mozambique and Namibia with the intention is to launch similar studies in eSwatini and Lesotho. Results from these studies have been used to inform country PEPFAR COPs and are likely to have informed national level strategic planning and funding requests. However, specific examples of how the output has been used to influence policy and management decisions do not currently exist.</p>
KEY USER GROUPS	<p>Potential users of the output from ABC/M comprises a wide range of possible user groups because the output comprises both costing data for HIV services but also provides insights into the operational patient flow processes. Users therefore comprise policy makers and planners in government and development partners, district and facility managers, budgeting staff and program coordinators.</p>
LEVEL OF EFFORT	<p>The initial investment to conduct the baseline study to collect representative data from a sample of health facilities and the subsequent analysis thereof is relatively high. It is also likely that the process of institutionalizing and routinizing the methodology will require a significant investment. It is however probable that the ongoing effort to maintain ABC/M will diminish over time.</p>
USER SUPPORT	<p>The methodology is being piloted in above mentioned countries and the result comprises a refined, country-specific methodology and tools which are country-owned. The methodology is not publicly available, and the initial point of contact is with S/GAC and USAID, as the technical, lead will provide user support.</p>
GEOGRAPHICAL USE	<p>Tanzania, Kenya, Uganda, Namibia, Mozambique and planned expansion to eSwatini, India and Lesotho.</p>
INPUT DATA REQUIREMENTS	<p>The implementation of ABC/M requires the following key categories of input data:</p> <ul style="list-style-type: none"> <li>• Recorded costs and budgets values from routine financial reporting systems.</li> <li>• Human resources consumed in delivering services based on the implementation of identified steps. The steps are identified through a detailed process mapping exercise for each selected service.</li> </ul>

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INPUT DATA  
REQUIREMENTS  
(CONT.)

The direct and indirect costs of resources consumed during service provision including, for example:

Direct

- Drugs/medications
- Laboratory reagents
- Test kits
- Consumables and supplies
- Human resources
- Medical equipment
- Furniture
- Transportation

Indirect

- Office supplies
- Operational equipment
- Utilities
- Rent
- Training
- Maintenance
- Travel
- Sundry materials and supplies

For community level service provision costs: secondary data on one fiscal year of service delivery and non-service delivery expenditure and the number of clients reached is used to do a top-down assessment.

Program output and outcomes data to facilitate the calculation and analysis of efficiency indicators such as unit costs.

COST CALCULATIONS  
& OUTPUT

The first phase in implementing ABC/M requires the accurate measurement of HIV service costs to provide a baseline costing and for determining tracing factors for shared and above-site costs. To do this, ABC/M blends three costing methods, namely:

- 1. Above site costs:** Top-down allocation by program area (health administration, governance) to clinical cascade; information is collected from the country-specific Resource Alignment expenditure reports.
- 2. Site-level costs:** Time-driven activity-based costing for HIV interventions at the facility level. An important element of this method is the mapping of service delivery processes and identification of related steps but also bottlenecks and inefficiencies. This information is validated by tracking patients and resource consumption recorded for each step in the process. Additional information is collected from records as well as interviews with patients and staff.
- 3. Community services costs:** Expenditure and output analysis for HIV outreach programs targeting key population groups.

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## COST CALCULATIONS & OUTPUT (CONT.)

These costs are summed up to get the fully loaded cost per recipient of an HIV service. The calculation and analysis of direct and indirect costs incurred by patients to access HIV services is carried out and presented as a separate output.

The expected output from implementing ABC/M includes<sup>21</sup>:

- The cost of providing each (HIV) service per recipient of intervention
- Overall costs per patient disaggregated by above-site, facility, community and client level
- Unit costs for HIV care and treatment classified by new, stable and unstable patient
- Variation in costs drivers by facility
- Effects on cost due to variation in service delivery
- Recommendations to produce routine HIV cost data based on identified gaps in current data systems

If included in the study scope, client out-of-pocket expenditure and opportunity costs associated with loss of work time are collected through client exit interviews. The calculation and analysis of direct and indirect out-of-pocket costs is carried out and presented as a separate output.

## TYPICAL AGE OF DATA IN METHOD/TOOL OUTPUTS

(Note: T-0 = Current Year,  
T+ = Prospective Estimates)



Cadence refers to frequency of study or how often data is collected.

## RELATIONSHIP WITH OTHER TOOLS

The successful implementation of ABC/M will yield accurate fully loaded costs which can be used by several other costing methodologies and tools. For example, the service unit costs can inform the unit costs used by the Resource Needs Model and the OneHealth tool to generate more accurate resource needs estimates.


Similarly, the costs can provide a more accurate input for the PHC Costing Tool. All of these subsequent processes can support the more efficient allocation of resources at the strategic planning stage. The generation of routine costs can also assist district and facility manager to better allocate resources at that level and improve the day-to-day management and implementation of programs.

A by-product of the baseline costing, the detailed service delivery mapping, may present valuable opportunities for managers to streamline services and further improving efficiencies.

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<sup>21</sup> Health Policy ABC/M Training Slides, 2020.


<p>MAIN ADVANTAGES</p>	<p>The implementation of ABC/M has several advantages when compared to conventional, routine reporting systems and when compared to some once-off costing studies<sup>22</sup>.</p> <ul style="list-style-type: none"> <li>• Provides more accurate estimates of ‘fully-loaded’ service costs</li> <li>• Generates cost estimates of wide range of intermediate health products (i.e. products used in delivering health care services), providing more information to examine efficiencies</li> <li>• Supports more efficient and effective resource allocation within organization or programs</li> <li>• Informs decisions to maximize investments and encourages sustainability beyond epidemic control</li> <li>• Provides operational process data.</li> </ul>
<p>CAVEATS</p>	<p>Implementing ABC/M requires a significant investment by all parties involved but may not exceed the cost of traditional once-off studies. Although this investment is concentrated at the start of the implementation, ongoing systems support will be required to ensure routine data collection and analysis.</p> <p>ABC/M is implemented in countries where it is deemed to be feasible to institutionalize and routinise the methodology</p>
<p>REFERENCE TO TOOLS &amp; GUIDELINES</p>	<p>Methodological Framework for Activity-Based Costing and Management (ABC/M), 23 January 2020, Internal PEPFAR document)</p>
<p>REFERENCE TO DETAILED REVIEW (IF AVAILABLE)</p>	<p>N/A</p>

**Annexure Ends:** Navigate to [Where to from here?](#) if selected tool meets study requirements OR return to [Step 4](#) to view other methodologies and tools. 

<sup>22</sup> PEPFAR Presentation: Improving Efficiency and Resource Allocation: Activity Based Costing and Management, 2020.


NAME OF TOOL	A1.11   REPRODUCTIVE HEALTH COST REPORTING SYSTEM
DEVELOPER/CUSTODIAN/ OWNER OF TOOL	MEASURE Evaluation
CATEGORY OF TOOL	Routine cost accounting and reporting systems
OVERVIEW	<p>The Reproductive Health Cost Reporting System (RHCRS) is a management tool that can help reproductive health (RH) service delivery organizations to capture and analyze existing financial data on a regular basis.</p> <p>It is designed to treat financial, commodity, labour, and other cost data as inputs to a system that allows service delivery organizations to estimate what it costs to deliver specific services, what the cost drivers are, and how these costs may differ across service delivery points (SDPs), across regions and over time.</p>
PURPOSE OF THE TOOL	<p>Organizations frequently collect service delivery counts and track expenditures on human resources and labour, medical supplies and procurement, and other regularly incurred office and equipment expenses. Yet, these data are rarely assessed together.</p> <p>The RHCRS allows organizations to use these records to calculate the average cost of their services. These unit costs can then be compared across sites and regions of the organization and broken down by various cost elements. Annual data enable programs to assess trends in service costs.</p>
SOFTWARE PLATFORM	MS Excel
DESCRIPTION	<p>The RHCRS first requires users to create a web-based account. This account provides users with instructions for customizing their data collection tools to their organization's needs by entering organization-specific information, such as site names, employee types, services, and commodities. These elements define four separate Microsoft Excel data capture forms, which can then be downloaded. One file will capture the amount of time employees spend delivering different services. The others will capture site-level costs and service delivery data, with one file for administrative sites and another for service delivery sites. Once data are entered in the Excel data capture files, they will then be uploaded to the organization's online account, and the system displays results in an interactive dashboard.</p>
USE CASES	No information
KEY USER GROUPS	This tool is ideal for organizations that <b>(1)</b> provide family planning or reproductive health services, <b>(2)</b> have multiple SDPs, <b>(3)</b> are located in a low- or middle-income country, and <b>(4)</b> wish to invest in the regular collection of cost data.
LEVEL OF EFFORT	Not yet determined. It appears that some external guidance will be required during the first year of introducing and using the system.
USER SUPPORT	MEASURE Evaluation

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GEOGRAPHICAL USE	No information
INPUT DATA REQUIREMENTS	<ul style="list-style-type: none"> <li>• Direct and indirect labour costs</li> <li>• Recurrent costs</li> <li>• Staff training and professional costs</li> <li>• Direct and indirect commodity costs</li> <li>• Capital costs</li> </ul>
COST CALCULATIONS & OUTPUT	<ul style="list-style-type: none"> <li>• Cost per Service by Region</li> <li>• Cost per Service by Element</li> <li>• Cost per Service by Element for All SDPs</li> <li>• Cost per Service by SDP</li> <li>• Cost per Service (All SDPs)</li> <li>• Total Services Breakdown per SDP</li> <li>• Cost of One Service Across SDPs</li> <li>• Cost per Service at One SDP</li> </ul> <p>Reports and graphics are available to illustrate and summarize these comparisons.</p>
TYPICAL AGE OF DATA IN METHOD/TOOL OUTPUTS (Note: T-0 = Current Year, T+ = Prospective Estimates)	 <p>Cadence refers to frequency of study or how often data is collected.</p>
RELATIONSHIP WITH OTHER TOOLS	Costs obtained from other tools such as such Step-down Cost Accounting Model could be used as inputs for the RHCRS tool. Time spent on services and micro level costs could be obtained from activity-based costing studies and process mapping. The outputs (e.g., cost per service for all SDPs) from this tool can provide input for the PHC Costing Tool, the Resource Needs Model and the OneHealth tool to generate more accurate resource needs estimates.
MAIN ADVANTAGES	Most available tools assist organizations with forecasting costs, estimating scale-up, or planning supplies. These tools are unable to estimate an organization’s actual cost per service, as the RHCRS does. Most cost analysis studies are highly specific to the organization and the services being studied. Often, cost elements in one study are not available in another, similar study. The RHCRS offers a standardized platform for cost analysis.

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<p>MAIN ADVANTAGES (CONT.)</p>	<p>This tool also allows organizations to make comparisons across multiple service delivery sites and regions.</p> <p>This system is designed to capture existing data on a regular basis, potentially over the course of multiple years. Most costing exercises are one-time occurrences that rarely capture trends over time.</p> <p>The system is designed as a general cost analysis system that can be completely customized for any health delivery system.</p>
<p>CAVEATS</p>	<p>Information on cost per service and cost drivers should be balanced with a variety of other program data, including quality of the services delivered and consumer demand and choice.</p>
<p>REFERENCE TO TOOLS &amp; GUIDELINES</p>	<p> Reproductive Health Cost Reporting System: A User Guide</p>
<p>REFERENCE TO DETAILED REVIEW (IF AVAILABLE)</p>	<p>N/A</p>

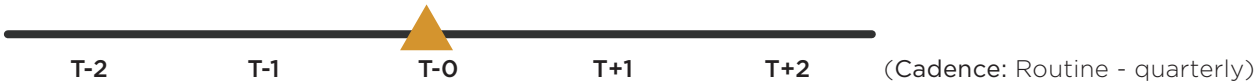
**Annexure Ends:** Navigate to [Where to from here?](#) if selected tool meets study requirements OR return to [Step 4](#) to view other methodologies and tools.



NAME OF TOOL	A1.12   ROUTINE EFFICIENCY MONITORING SYSTEM (REMS)
DEVELOPER/CUSTODIAN/ OWNER OF TOOL	FHI360/Avencion Ltd. The owner of the system is the Government of Zambia.
CATEGORY OF TOOL	Data exchanges and meta data analysis platforms
OVERVIEW	In Zambia Program district and facility managers lack routine information on unit expenditures at points of care, and higher-level planners are unable to accurately assess resource use in the health system and therefore cannot assess technical efficiency. REMS was developed specifically for the government of Zambia in 2016/17 and is a relational database which leverages existing budget, expenditure and output data to produce quarterly site-level estimates of unit expenditure per HIV service.
SOFTWARE PLATFORM	<ul style="list-style-type: none"> <li>• Microsoft SQL version 13.0 and the annotated source code is available through Zenodo15.</li> <li>• REMS uses C# for the user interface</li> </ul>
DESCRIPTION	REMS was developed to provide district, facility and other managers with facility level unit costs for HIV services to facilitate expenditure monitoring and efficiency analysis. The Zambia REMS relational database creates an electronic linkage between IFMIS and DHIS2 data in two steps: <b>(1)</b> by stepping-down quarterly IFMIS expenditures (reported at above facility levels) to the facility level and allocating expenditures at the facility level to specific HIV services, and <b>(2)</b> by dividing allocated expenditures by the number of units of output. Allocation algorithms are developed through facility assessments, and key informant interviews. Unit costing was restricted to HIV services at facility level.
USE CASES	<p>REMS for high-priority districts in Zambia</p> <p>In Zambia REMS<sup>23</sup> was developed and implemented to ultimately include quarterly, site-level estimates of unit expenditure per service for 326 facilities in 17 high-priority districts. REMS enabled Zambian officials at district and provincial levels to carry out routine monitoring of technical efficiency. Analysis focused on identification of “outliers”, facilities or districts when compared to each other or a standard. Managers investigated potential reasons for the differences and designed responding actions.</p>
KEY USER GROUPS	District and facility managers for efficiency analysis. Planners and national and provincial levels seeking to manage resource allocations and resource flows. Planners and costing experts supporting the implementation of health insurance schemes.
LEVEL OF EFFORT	The initial level of effort required to establish the system including the research and development of allocation matrices is high. Once established the system must be maintained and level of effort declines.
USER SUPPORT	User support previously funded by the BMGF has been terminated. It is not clear whether the GRZ has established an internal user support function within the ministry.

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<sup>23</sup> Homan R, Bratt J, Marchand G and Kansembe H; Leveraging existing program data for routine efficiency measurement in Zambia, Gates Open Research 2018, 2:40

GEOGRAPHICAL USE	REMS has only been developed and used in Zambia
INPUT DATA REQUIREMENTS	Existing IFMIS and DHIS-2 data streams provide recurring flows of expenditure and output data needed to estimate service-specific unit expenditures.
COST CALCULATIONS & OUTPUT	Expenditure is manipulated in the first instance through a process of step-down allocations using allocation algorithms and facility level allocation matrices. Allocated expenditures are then divided by the output data for specific services to calculate unit costs. Output comprises comprehensive, facility-level unit costs for HIV services for each facility and district included in REMS.
TYPICAL AGE OF DATA IN METHOD/TOOL OUTPUTS  (Note: T-0 = Current Year, T+ = Prospective Estimates)	 <p>Cadence refers to frequency of study or how often data is collected.</p>
RELATIONSHIP WITH OTHER TOOLS	<p>REMS makes use of existing IFMIS and DHIS-2 data streams to provide recurring expenditure and output data needed to estimate service-specific unit costs. DHIS2 is used to capture statistical data on health activities throughout the country. IFMIS provides budget and expenditure data for government ministries. Unit costs and other analysis informs responsive management at district and facility levels to improved efficiency and decision making.</p> <p>Tools such as the Resource Needs Model and the OneHealth Tool, which estimate resource needs for different services can use facility/district level unit costs generated by the REMS. Similarly, the costs can provide accurate input for other primary health care costing studies (use of the PHC Costing Tool methodology and tool is one example).</p>
MAIN ADVANTAGES	<ul style="list-style-type: none"> <li>• REMS uses financial and output data which is generated routinely by in-country systems</li> <li>• Routine generation of service-level unit costs by facility facilitates efficiency analysis by district managers</li> <li>• There is no need to make any changes to the existing routine systems</li> </ul>
CAVEATS	<ul style="list-style-type: none"> <li>• Significant effort is required to establish the relational database and the allocation factors.</li> <li>• It is not clear how much effort and external support is required to maintain REMS and whether government continued with the analysis after the grant ended. It is possible that good, in-house IT capacity is required to maintain the system and generate the quarterly reports and dashboards.</li> </ul>
REFERENCE TO TOOLS & GUIDELINES	N/A
REFERENCE TO DETAILED REVIEW (IF AVAILABLE)	Homan R, Bratt J, Marchand G and Kansembe H; Leveraging existing program data for routine efficiency measurement in Zambia, Gates Open Research 2018, 2:40 <a href="#">↗</a>

**Annexure Ends:** Navigate to [Where to from here?](#) if selected tool meets study requirements OR return to [Step 4](#) to view other methodologies and tools. 


NAME OF TOOL	A1.13   RESOURCE MAPPING EXPENDITURE TRACKING (RMET)
DEVELOPER/CUSTODIAN/ OWNER OF TOOL	<p><b>Partners:</b> BMGF, Global Fund, Global Financing Facility, WHO, GAVI</p> <p><b>Developer:</b> Abt Associates/CHAI</p>
CATEGORY OF TOOL	Expenditure tracking and resource mapping
OVERVIEW	<p>The development and deployment of RMET tools and related support is part of a broader initiative by development partners to support governments to improve resource mapping in countries including the eventual institutionalization of improved processes and systems.</p> <p>With the current health financing landscape of decreasing donor funding, information from the RMET is crucial to generate timely, reliable, and comparable financial data that is essential to assess if the allocated resources are aligned with health sector strategies.</p> <p>The RMET methodology and tools have been used in several countries since 2010. Discussions with implementers of the RMET initiative have highlighted that there is a need to improve the underlying design and programming of the tool. It nevertheless provides a good example of the type of tool/system that is required to routinely collect and report on funding resources from multiple sources of funding in a standardized format.</p>
SOFTWARE PLATFORM	In Rwanda: Web-based not open source. In countries where CHAI is working the prototype tool is Excel based and open source. However, tools are tailored to fit country needs and context and access restricted once populated with country data.
DESCRIPTION	<p>The system aims to provide a complete picture of health financing, expenditure and budget if fully implemented. In some settings implementation is limited to resource mapping only. In many countries resource mapping is forward looking and includes limited expenditure tracking where efforts are complemented by the NHA.</p> <p>The RMET reporting system gathers financial resources for the health sector and collects expenditure and budget data from public and private health sector institutions and development partners (multilateral institutions, bilateral institutions, international NGOs and local NGOs) active in the health sector. It seeks to improve evidence-based decision-making, effective planning, resource mobilization and allocation, priority setting, advocacy and overall management performance. It also introduces improved transparency and accountability. In Rwanda, stakeholders register as users and self-report financial data using the web-based system which is not used in any other country.</p>

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USE CASES	<p><b>RMET for the National Health Sector Strategic Plan 2019-2023</b></p> <p>The Ministry of Health in Sierra Leone’s health financing unit lead the resource mapping and expenditure tracking (RMET) exercise to improve coordination and resource allocation across the Ministry and its donor partners. The total NHSSP 2019-2023 financing gap was estimated at 15% of the total cost (730m US\$). It was found that financing for PHC is growing, largely thanks to donor partners, but that disparities remain significant between districts<sup>24</sup>.</p>
KEY USER GROUPS	Government officials and development partners responsible for planning, resource mobilization and allocation, and monitoring.
LEVEL OF EFFORT	<p>A significant level of effort is required to fully implement the RMET (or similar) tool/system given the need to adapt the tool to local government systems and data formats and developing a coding format which can be used by all participating stakeholder.</p> <p>Most stakeholders are required to self-report data into the system and considerable effort is required to encourage reporting by stakeholders.</p>
USER SUPPORT	RMET is an ongoing project to improve resource tracking in countries and Cooper/Smith currently provide support through the related grant. CHAI is providing technical assistance to support RMET with support from Sida (Malawi, Zimbabwe) and the World Bank (Ethiopia, Senegal) and the Gates Foundation (Burkina Faso).
GEOGRAPHICAL USE	CHAI supported the roll-out of resource mapping across countries including Rwanda, Ethiopia, Malawi, Zimbabwe, Cameroon, South Africa, Zambia, Liberia, Lesotho, Burkina Faso and Senegal, as well as with the East African Community in many member states.
INPUT DATA REQUIREMENTS	Resource mapping generally draws on available budget data and is used for joint annual planning. In some settings, participating organizations self-report budget data and actual expenditure by intervention areas aligned to government programs and sub-programs/NSP and other categorization.
COST CALCULATIONS & OUTPUT	<p>The tool does not calculate costs but provides a consolidation of reported data and structured reporting aligned to existing reporting formats.</p> <p><b>More specifically it provides a:</b></p> <ul style="list-style-type: none"> <li>• Comprehensive picture of health sector interventions and funds flow</li> <li>• Financial data linked to national policies, targets and progress</li> <li>• Provides work-plans and summary data for each reporting organization</li> <li>• Can inform re-allocation decisions, forecasts, trend analysis and more</li> </ul>

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<sup>24</sup> Government of Sierra Leone: Ministry of Health and Sanitation Health financing unit. (2023). Sierra Leone: Resource Mapping and Expenditure Tracking (RMET) for the National Health Sector Strategic Plan (NHSSP). Global Financing Facility, World Bank. [↗](#)

<p><b>TYPICAL AGE OF DATA IN METHOD/TOOL OUTPUTS</b></p> <p>(Note: T-0 = Current Year, T+ = Prospective Estimates)</p>	<p>Resource mapping retrospective or prospective</p>  <p>Cadence refers to frequency of study or how often data is collected.</p>
<p><b>RELATIONSHIP WITH OTHER TOOLS &amp; PLANNING STEPS</b></p>	<p>The RMET uses budget and expenditure data from implementers and routine government budgeting, accounting and reporting systems.</p> <p>The RMET process may use data collected and reported by the NHA and NASA processes and may report information similar to that contained in the NHA and the NASA. It is possible that in some settings the processes support each other leading to a more streamlined and combined process of resource mapping and expenditure tracking. For example, resource mapping, usually an annual exercise for planning, and NHAs, which may occur more frequently (as often as every other year in some countries), both seek data from governments, donors and partners. With NHAs occurring more frequently, it has become feasible for governments to harmonize Resource Mapping and the NHA. CHAI and WHO developed a combined tool for collecting donor and partner resource mapping data in a structure that accommodates both NHAs and Resource Mapping. Similar efforts are under way to harmonize data collection between RMET, NHA and with the National AIDS Spending Assessment (NASA) for HIV/AIDS.</p>
<p><b>MAIN ADVANTAGES</b></p>	<p>RMET reports up-to-date resources mapping and expenditure across the health sector (partners and government) and comprehensively shows available funding and facilitates gap analysis.</p>
<p><b>CAVEATS</b></p>	<p>Accurate reporting requires the participation of all partners and timeous submission/capture of financing and expenditure data. This requires considerable effort.</p> <p>For government budgets and expenditure data, IFMIS is required which generates data in the required format and with accuracy.</p>
<p><b>LINK TO TOOL &amp; GUIDELINE</b></p>	<p>The support provided to countries in terms of the RMET methodology results in the development of a tailored, country-specific tool kit. CHAI has developed a prototype tool kit which may be released in the public domain.</p>
<p><b>REFERENCE FOR THIS REVIEW</b></p>	<p>Case Study, Improving efficiency and effectiveness of HIV spending through resource mapping in Malawi, Clinton Health Access Initiative, 2014 <a href="#">↗</a></p>

**Annexure Ends:** Navigate to [Where to from here?](#) if selected tool meets study requirements OR return to [Step 4](#) to view other methodologies and tools.




NAME OF TOOL	A1.14   NATIONAL AIDS SPENDING ASSESSMENT (NASA)
DEVELOPER/CUSTODIAN/ OWNER OF TOOL	UNAIDS
CATEGORY OF TOOL	Resource Mapping and Expenditure Tracking
OVERVIEW	<p>The National AIDS Spending Assessment has been implemented in many countries for more than 20 years. The approach and tools were developed by UNAIDS to address the need for a comprehensive mapping of available resources for the HIV response, the flow of funding from source to implementers and to understand what that funding was expended on. Unlike the National Health Accounts, NASA includes funding/expenditure from non-health sectors and requires analysis and reporting are at a more detailed level than do the NHA. One of the key challenges, which remains, is the harmonization of data collection between the NHA and NASA processes. The NASA guides and tools have been revised from time to time and are currently subject to a revision process.</p>
SOFTWARE PLATFORM	MS Excel
DESCRIPTION	<p>NASA describes the flow of resources spent in the HIV response from their origin (source of financing) to the beneficiary populations. It aims to reconcile the expenditure incurred at implementation level with financing provided. Each step (transaction) in the flow of funding and ultimate expenditure is categorized in terms of a comprehensive coding system which identifies the source of funding, intermediaries, implementers, program activities and expenditure line items. Data is captured from a multiple of sources including, disbursement records for financing, expenditure records for implementing partners and government, key informant interviews and costing calculations. All transactions are classified and captured into a database which is used to support reporting. The allocation of shared costs to HIV and services is achieved by defining and applying Allocation keys.</p>
USE CASES	<p><b>Mozambique NASA 2017-2018</b></p> <p>The results from a NASA are used by a wide range of users. Specific examples include the preparation of the funding landscape analysis in Global Fund funding requests, HIV investment cases, prioritization of interventions and scenario modelling, monitoring of the HIV response and development of NSPs to insure alignment of resources allocated and response priorities. Results are frequently used for international reporting purposes, e.g. for Global AIDS Monitoring reporting. A comprehensive NASA was completed in Mozambique for 2017-2018 and published in 2021.</p> <p>In Mozambique the requirement for a NASA came from several sources but included the need to report, as a country, to the UN Assembly on financial and expenditure indicators for HIV. Since then, the results have been used extensively by the COP and GF application processes to complete the funding landscape analysis. A key informant highlighted the fact that many stakeholders in country did not understand the full extent of the data available from a NASA but once shared, international NGOs and other development partners indicted their intent to use the underlying data for planning<sup>25</sup>.</p>



<sup>25</sup> UNAIDS (2021). *Mozambique National Aids Spending Assessment: 2017 and 2018*. [↗](#)

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KEY USER GROUPS	The NASA results are used by a broad spectrum of stakeholders including partners and government officials involved in strategic planning, resources allocation and mobilization and those responsible for monitoring expenditure and program implementation.
LEVEL OF EFFORT	High. Formal training of data collectors and data capture staff required.
USER SUPPORT	Most NASA assignments are implemented by a team of consultants which typically includes experienced international consultants, local consultants and data collectors. Government counterparts comprise an important part of the team. Ongoing support is provided by UNAIDS through the publication of guides, data collection templates and technical advice. Training workshops for in-country stakeholders were shown to less effective and have been scaled down.
GEOGRAPHICAL USE	Most developing countries in Africa, Latin America and Asia that have implemented HIV responses have carried out several NASA studies. Most NASA reports are available to the public on the UNAIDS website.
INPUT DATA REQUIREMENTS	<p>The input data requirements are determined by the scoping of the NASA study, which may include financing/expenditure from development partners, the private sector the public sector and households. Data collection and capture for a NASA study is typically a comprehensive and labour-intensive exercise even where good administrative records are available.</p> <p>Administrative records and other recurrent reports provide most of the information desired to track the financing flows for HIV and AIDS.</p> <p>Primary data collection may be necessary to collect data about transactions of households, non-profit organizations, private medical insurance, off-budget programs and external financing agencies.</p>
COST CALCULATIONS & OUTPUT	<p>NASA is not design or intended to carry out the calculation of costs. Rather the analysis comprises an aggregation and summation of financing flows and expenditure by the NASA categorization (coding) to facilitate standard reporting.</p> <p>Where costs are shared, allocation keys are determined to share costs to the HIV program and within the program, to interventions.</p> <p>Where the lack of expenditure data at the required level of granularity prevents meaningful reporting, costs may be calculated using any one of several possible methods, to facilitate further analysis of the results and the reconciliation of expenditure with financing flows.</p> <p>Summary and detailed reporting of financing flows and expenditure by NASA coding category. The nature of the coding and capture of data into a database (in Excel) facilitates the generation of any number of reports using pivot tables.</p>
TYPICAL AGE OF DATA IN METHOD/TOOL OUTPUTS  (Note: T-0 = Current Year, T+ = Prospective Estimates)	 <p style="text-align: center;">T-2      T-1      T-0      T+1      T+2      (Cadence: 2 - 3 years)</p>

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<p>RELATIONSHIP WITH OTHER TOOLS</p>	<p>The primary sources of data for completing the NASA are government expenditure records and IFMIS systems and HIV budgets and expenditure records from partners and implementers. It is possible that other expenditure tracking tools can provide inputs into the process such as:</p> <ul style="list-style-type: none"> <li>• The Health Resource Tracker Tool</li> <li>• Resource mapping resulting from the RMET initiatives</li> <li>• ABC/M once institutionalized.</li> </ul> <p>Input data needs to be of a sufficient level of detail to be useful to the NASA process.</p> <p>Output from the NASA can provide valuable input into the compilation of NHA and public expenditure reviews. Given that NASA's are typically only completed every three or four years, and report data that is usually a year old, the process is unlikely to provide data as input into more routinized expenditure tracking systems.</p>
<p>MAIN ADVANTAGES</p>	<p>NASA is a comprehensive, multi-sectoral mapping and reconciliation of the entire journey from sources of funding through to expenditure for the HIV program given a standard coding. Flexible reporting can provide reports with a high level of detail.</p> <p>The scope of the mapping can be defined by the user.</p>
<p>CAVEATS</p>	<p>Typically, an expensive and labour-intensive exercise that takes a long time to complete (usually a year or more).</p> <p>Source data frequently not sufficiently disaggregated to facilitate coding which requires assumptions about allocation keys.</p> <p>Access to detailed transaction level data frequently not granted.</p>
<p>REFERENCE TO TOOLS &amp; GUIDELINES</p>	<ul style="list-style-type: none"> <li> NASA Publications and Tools</li> <li> National AIDS Spending Assessment (NASA): Classification and Definitions</li> </ul>
<p>REFERENCE TO DETAILED REVIEW (IF AVAILABLE)</p>	<p>N/A</p>

**Annexure Ends:** Navigate to [Where to from here?](#) if selected tool meets study requirements OR return to [Step 4](#) to view other methodologies and tools.

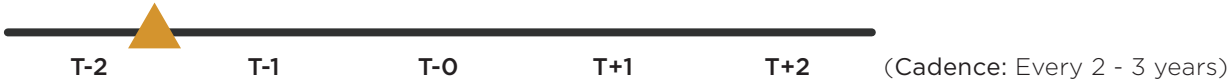


NAME OF TOOL	A1.15   NATIONAL HEALTH ACCOUNTS (NHA)
DEVELOPER/CUSTODIAN/ OWNER OF TOOL	World Health Organization
CATEGORY OF TOOL	Resource Mapping and Expenditure Tracking
OVERVIEW	<p>According to WHO, National Health Accounts (NHA) is a methodology designed to help policy makers understand their country's health system and improve that system's performance.</p> <p>NHA seek to improve health financing policy at global and country levels and provide an international framework for collecting, compiling, and analyzing data on health expenditures within the health system.</p> <p>NHA contribute to creating transparency on where money comes from and how it is spent. They are important drivers of accountability, program optimization, efficiency analysis, improving performance and for informing effective health financing policy.</p>
SOFTWARE PLATFORM	Desktop application software, that provides for inter alia, importing of data, manual data entry, validation and running queries and reports.
DESCRIPTION	<p>National Health Accounts (NHA) is an internationally standardized methodology that tracks public and private expenditures on health in a given country, illustrating the flow of funds from financing sources to agents, providers and ultimately services on which they are spent (who.int/health-accounts). NHA uses an internationally accepted accounting framework, the System of Health Accounts (SHA).</p> <p>SHA is a statistical framework for presenting NHA results in an internationally comparable manner. It provides a standard framework for producing a set of comprehensive, consistent, and internationally comparable health accounts to meet the needs of public and private sector health analysts and policy makers (Maeda et al, 2012)<sup>26</sup>. It does not provide guidance on how to collect the data or to calculate the numbers and provide the analysis. The NHA provides this approach and methodology.</p> <p>The NHA Production Tool streamlines and simplifies the NHA estimation process, through addressing data quality, efficiency, ease of use, collaboration, consistency and flexibility.</p>
USE CASES	<p><b>NHA for improved resource allocation and transparency in Burkina Faso and Serbia</b></p> <p>Burkina Faso used NHA to improve resource allocation across regions and key program areas. The 2005 NHA revealed major geographic inequities in health spending, with poorer regions receiving less total health spending than more affluent areas. This finding prompted the central government to further decentralize responsibilities in health, for example, by transferring money and staff from central to district governments. (Zida, Bertone, and Lorenzetti 2010)<sup>27</sup>.</p>

<sup>26</sup> Maeda, A., Harrit, M., Mabuchi, S., Siadat, B., and Nagpal, S. (2012). *Creating evidence for better health financing decisions: A strategic guide for the institutionalization of national health accounts*. Washington, DC: The World Bank Group.




<sup>27</sup> Zida, A., Lavis, J.N., Sewankambo, N.K. et al. *The factors affecting the institutionalization of two policy units in*


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USE CASES	In Serbia, transparency is weak. NHA data revealed that households incur high OOP payments, including under-the-table payments to providers. The findings resulted in the development of a Fiscal Bill Policy that requires providers to share fiscal invoices with patients, which promotes transparency in financial flows (Maeda et al, 2012)
KEY USER GROUPS	Government planners, program managers and policy makers. Government treasuries responsible for health financing and budget planning. Development partners.
LEVEL OF EFFORT	Significant resources are required, with external technical assistance in early years of production. External partners are required to support capacity building and institutionalization of the NHA.
USER SUPPORT	A number of international development partners support country efforts to produce NHA. The World Bank has developed a Readiness Tool to assess readiness for NHA institutionalization. The NHA production and reporting tools further support the process.
GEOGRAPHICAL USE	By 2010, 130 countries had produced NHA information at least once, with 41 countries producing it routinely through internationally accepted health accounting techniques.
INPUT DATA REQUIREMENTS	Key input data elements include: <ul style="list-style-type: none"> <li>• Expenditure (government, external, private sector, household)</li> <li>• Macro-economic data</li> <li>• Health program structure</li> <li>• Service coverage data</li> </ul>
COST CALCULATIONS & OUTPUTS	The NHA do not calculate costs but aggregate and classify private and public funding and expenditure in line with the coding system developed and referred to as the SHA. Calculations may include the allocation of shared expenditure based on allocation keys.
TYPICAL AGE OF DATA IN METHOD/TOOL OUTPUTS  (Note: T-0 = Current Year, T+ = Prospective Estimates)	 <p style="text-align: center;">T-2      T-1      T-0      T+1      T+2      (Cadence: Every 2 - 3 years)</p> <p>Cadence refers to frequency of study or how often data is collected.</p>

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Burkina Faso's health system: a case study. *Health Res Policy Sys* 15, 62 (2017). [↗](#)

<p>RELATIONSHIP WITH OTHER TOOLS</p>	<p>The primary source of data are government expenditure records and IFMIS systems. Other funding/expenditure tracking methodologies and tools can support the production of NHA; these include:</p> <ul style="list-style-type: none"> <li>• The Health Resource Tracker Tool</li> <li>• NASA</li> <li>• Resource mapping resulting from the RMET initiatives</li> <li>• ABC/M once institutionalized.</li> </ul> <p>Additional questions can be added to the demographic and household surveys for data inputs required</p> <p>Centralized routine health information repositories for planning will also feed into the NHA</p> <p>The totality of NHA information across all countries is located on the Global Health Expenditure Database.</p>
<p>MAIN ADVANTAGES</p>	<p>The NHA process has transitioned from a resource tracking tool to informing policy in low and middle-income countries.</p> <p>The NHA Production Tool (NHAPT) has streamlined and simplified the NHA estimation process, thereby reducing the need for technical assistance.</p> <p>The cost of the NHA decreases with each subsequent year of production as efficiencies in the process are realized.</p> <p>The differentiator with other financial studies is that the NHA outputs are comprehensive, recurrent, standardized and comparable and cover the whole health sector.</p>
<p>CAVEATS</p>	<p>NHA exercises have a propensity, in some countries, to become a supply driven exercise sponsored principally by donors and development partners rather than governments.</p> <p>Although a number of LMICs produce NHA, activities have often been delinked from core policy planning and budgeting processes—and from the leaders who drive those processes—at the country level.</p> <p>Requires a large team and significant level of effort to produce the accounts.</p>
<p>REFERENCE TO TOOLS &amp; GUIDELINES</p>	<ul style="list-style-type: none"> <li> WHO Health Accounts</li> <li> Global Health Expenditure Database</li> </ul>
<p>REFERENCES FOR THIS REVIEW</p>	<ul style="list-style-type: none"> <li> Creating evidence for better health financing decisions: a strategic guide for the institutionalization of national health accounts/Akiko Maeda et al. World Bank. 2012</li> </ul>

**Annexure Ends:** Navigate to [Where to from here?](#) if selected tool meets study requirements OR return to [Step 4](#) to view other methodologies and tools. 

NAME OF TOOL	A1.16   PUBLIC EXPENDITURE REVIEW (PER)
DEVELOPER/CUSTODIAN/ OWNER OF TOOL	World Bank
CATEGORY OF TOOL	Resource mapping, expenditure tracking
OVERVIEW	<p>A Public Expenditure Review (PER) analyzes the quantity and quality of public spending over time against policy goals and performance indicators (UNICEF G/01/2017). The PER may cover all government expenditure or focus on one or more priority sectors, such as health, education or water and sanitation.</p> <p>To date most PERs are implemented by the World Bank, either alone or in partnership with other development partners.</p>
SOFTWARE PLATFORM	N/A
DESCRIPTION	<p>PERs are commonly used as part of the process to develop a country strategy or to review progress against policy and plans. The PER methodology essentially compares the allocation and expenditure of government funds against national policy priorities.</p> <p>The scope of a PER is flexible and can be adjusted to meet country or sector needs. The PER typically provides (UNICEF G/01/2017):</p> <ul style="list-style-type: none"> <li>• Initial scoping: Define the scope of the PER, including time, organizations, sectors and geographical area that will be analyzed.</li> <li>• Data collection: Includes sector policy and performance data, budget allocations and expenditure estimates and broader geographic, population and economic data from relevant ministries.</li> <li>• Consultation includes government, development partners, private sector providers civil society</li> <li>• Data analysis and recommendations: Includes validating data, draft PER analysis and preparing recommendations on fiscal, policy or management reforms to improve the economy, efficiency, effectiveness or equity of the health sector.</li> </ul>
USE CASES	<p><b>Sierra Leone PER (2021)</b></p> <p>The PER tool was employed to evaluate public spending on health in Sierra Leone from 2015 to 2019. The aim was to provide policymakers with insights into the efficiency, effectiveness, and equity of health expenditures. Key findings included that high budget execution rates do not commensurate with performance in terms of health outcomes and that an imbalance exists between spending on hospitals and primary health care, in favour of hospitals<sup>28</sup>.</p>





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<sup>28</sup> World Bank (2021). *Sierra Leone Public Expenditure Review 2021. Improving Quality of Public Expenditure in Health.* World Bank. [↗](#)

USE CASES (CONT.)	<p>Many recommendations were made which have the potential to influence policy and planning; a few are reproduced below in abbreviated format for illustrative purposes:</p> <ul style="list-style-type: none"> <li>• The government budgetary allocation for non-wage recurrent expenditure as a share of the total government discretionary expenditure should be increased to improve health services</li> <li>• Low investments in capital items, drugs, vaccines, and medical supplies diminishes the effectiveness of the available human resources, quality of health care, and value for money. Financing for these items should be increased to improve effectiveness of human resources and improve quality of care</li> <li>• Health expenditures vary considerably across provinces and districts and are only marginally associated with poverty and other health needs. This exacerbates inequities in health over time. A new resource allocation formula is urgently required to ensure objective, transparent, and needs based resource allocations.</li> </ul>
KEY USER GROUPS	Parliamentarians, strategic and financial planners in Government, cooperating partners, civil society, NGOs, and academia.
LEVEL OF EFFORT	The level of effort varies based on the scope of the PER. A rapid PER can be completed in 2 to 6 months for a single sector and level of effort is relatively low while a comprehensive PER can take up to 2 years and requires a relatively high level of effort.
USER SUPPORT	A World Bank technical team usually partners on the project and supports a local team of consultants and government officials.
GEOGRAPHICAL USE	PERs have been completed in numerous low- and middle-income countries which in the last 6 years include Zambia, Mozambique, Seychelles, Ethiopia, Tanzania, Zimbabwe, Mauritius, Malawi and Madagascar.
INPUT DATA REQUIREMENTS	<p>A PER typically makes use of existing data in countries. If more detailed costing data is required, these are frequently collected using the PETS methodology and tools. Data requirements include:</p> <ul style="list-style-type: none"> <li>• Budget allocations, expenditure at program level</li> <li>• Geographical and beneficiary level breakdown of data may be required</li> <li>• Sector policies, plans and performance data</li> <li>• Economic and social policy data</li> </ul>
COST CALCULATIONS & OUTPUT	<p>PER is a methodology framework which guides expenditure reviews which are completed at a relatively high-level of reporting. Individual health service costs are not calculated but existing expenditure is analyzed and indicator values may be calculated.</p> <p>PERs typically provide an analysis of the spending on health care, related value for money and alignment to health priorities.</p>

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<p><b>COST CALCULATIONS &amp; OUTPUT (CONT.)</b></p>	<p>The PER provides an analysis of current expenditure trends and how expenditure can be improved. Examples of outputs include:</p> <ul style="list-style-type: none"> <li>• High-level information including public expenditure per capita, by region or as a proportion of GDP, with current and historical spending and discernible trends</li> <li>• Comparison of public expenditure to national and international targets</li> <li>• Expenditure by category</li> <li>• Bottlenecks or capacity constraints affecting budget execution or policy implementation.</li> </ul>
<p><b>TYPICAL AGE OF DATA IN METHOD/TOOL OUTPUTS</b></p> <p>(Note: T-0 = Current Year, T+ = Prospective Estimates)</p>	 <p>Cadence refers to frequency of study or how often data is collected.</p>
<p><b>RELATIONSHIP WITH OTHER TOOLS</b></p>	<p>PERs are commonly used to inform the development of a country health sector strategy. PERs will use the output from other resource and expenditure tracking efforts to inform the review such as the NHA, NASA and RMET.</p>
<p><b>MAIN ADVANTAGES</b></p>	<p>Public expenditure reviews can provide a comprehensive view of sector-wide expenditure and focus on the alignment of expenditure with health sector priorities. Understanding about misalignment between expenditure and priorities can be used improve planning and resource allocation between health programs to improve health outcomes.</p> <p>Improved understanding about budget execution bottlenecks and expenditure patterns when compared to for example, regional benchmarks, can lead to improved utilization (burn rate) and more effective use of funds.</p>
<p><b>CAVEATS</b></p>	<p>Conducting a good PER requires access to good quality data. Problems are frequently experienced with access to data, adequately disaggregated budget and expenditure data at the geographic and sub-program level. Poor quality data affects the quality of the analysis and findings.</p> <p>The review typically needs to be led by a World Bank expert and strong technical assistance is required.</p> <p>PERs to not address service delivery issues such as process-related bottlenecks.</p>
<p><b>REFERENCE TO TOOLS &amp; GUIDELINES</b></p>	<p> World Bank (2009). Preparing PERs for Human Development: Core Guidance, Specific Guidance for Health, Specific Guidance for Education and Specific Guidance for Social Protection</p>
<p><b>REFERENCE TO DETAILED REVIEW (IF AVAILABLE)</b></p>	<p> WASH Guidelines - Choosing Public Expenditure Analytical Tools (UNICEF, G/01/2017).</p> <p>Koziol, Margaret; Tolmie, Courtney. 2010. Using Public Expenditure Tracking Surveys to Monitor Projects and Small-Scale Programs: A Guidebook. World Bank. © World Bank.  License: CC BY 3.0 IGO.</p>

**Annexure Ends:** Navigate to [Where to from here?](#) if selected tool meets study requirements OR return to [Step 4](#) to view other methodologies and tools.



NAME OF TOOL	A1.17   STEP-DOWN COST ACCOUNTING MODEL
DEVELOPER/CUSTODIAN/ OWNER OF TOOL	Joint Learning Network
CATEGORY OF TOOL	Costing, budgeting and resource needs estimations
OVERVIEW	<p>The Joint Learning Network for Universal Health Coverage (JLN) is a network of practitioners and policymakers from around the globe who collaborate with select countries to co-develop global knowledge products and tools.</p> <p>The JLN Costing Collaborative recognized the need to foster a shared understanding of how to gather, analyze, and update health services costing information within participating countries for the specific purpose of health provider payment. In response the JLN developed a comprehensive, but practical, costing manual, “Costing of Health Services for Provider Payment”.</p> <p>The manual is accompanied by a suite of JLN tools and templates that costing teams can tailor to their specific data collection and analysis needs. This toolkit includes, inter alia, data collection templates, sample costing instruments and models, simulation analyzes and training guides.</p> <p>This review will cover one of the tools in the JLN toolkit, the Step-down Cost Accounting Model (SDCAM).</p>
SOFTWARE PLATFORM	Microsoft Excel workbook (unprotected)
DESCRIPTION	<p>The SDCAM refers uses a “step-down” cost accounting methodology to apportion costs from higher-level cost centres to lower level cost centres that are closer to direct patient care, in a stepwise process. It is typically used in a hospital setting to estimate unit costs. Total costs from cost centres such the central administration department and allocated to clinical support departments, such as operating theatre, and then further assigned to clinical services, such as surgery, using allocation bases (criteria that are used to allocate both indirect costs and total costs from higher level to lower level cost centres). The tool comprises a number of input and calculation sheets that follow a logic process towards generating unit costs for selected services in the hospital setting.</p>
USE CASES	<p><b>Aarogyasri Hospital Services and Benefit Packages Costing (India, 2011/12)</b></p> <p>The Step-down Cost Accounting Tool was used to estimate and understand the unit costs of services and high-volume/high-value procedures in small, medium, and large hospital settings, and to empower the payer (Aarogyasri) in provider payment negotiation. According to the JLN Costing Manual, unit costs were used for benchmarking during provider payment negotiations. The results created awareness among policymakers about cost drivers, cost and price of services, and variances.</p>
KEY USER GROUPS	Healthcare Providers and Ministries of Health and more specifically, policymakers, policy analysts, and costing practitioners.
LEVEL OF EFFORT	The level of effort is determined by the scope of the costing study and for a hospital it is likely low to moderate. The structure of the ledger, the extent of ledger ‘cleaning’ that is required and the approach to determining the allocation factors can also impact on effort.

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USER SUPPORT	JLN Costing Collaborative Costing Manual, and other complimentary data templates in the JLN Toolkit.
GEOGRAPHICAL USE	JLN Network member countries
INPUT DATA REQUIREMENTS	<ul style="list-style-type: none"> <li>• Department and clinical service units</li> <li>• Allocation statistics</li> <li>• Direct costs captured and assignment per department</li> </ul>
COST CALCULATIONS & OUTPUT	The workbook uses various allocation keys to allocate indirect costs to departments using the indirect cost allocator functionality. A similar process is followed for the allocation of shared direct and indirect costs to services. Output data are used together with stepped-down costs to calculate intermediate and final service-level unit costs.
TYPICAL AGE OF DATA IN METHOD/TOOL OUTPUTS  (Note: T-0 = Current Year, T+ = Prospective Estimates)	 <p>Cadence refers to frequency of study or how often data is collected.</p>
RELATIONSHIP WITH OTHER TOOLS	<p>This tool makes use of and links to over 40 JLN resource tools and templates, including personnel time measurement templates, example of a capital asset inventory table, examples of terms of references for costing studies, data request examples templates, examples of costing instruments for data collection, and other tools which assist with the completion of the step-down accounting model. As this model produces unit costs at the departmental level within a hospital it can be used as input into models estimating similar health care costs at a district, provincial or national level.</p> <p>The Step-Down Cost Accounting Model would benefit from an activity-based costing and process mapping exercise for more accurate allocation of shared costs and development of allocation keys.</p>
MAIN ADVANTAGES	<p>Methodology and structured data capture templates with embedded formulas.</p> <p>Colour coded cells to show which require data entry.</p>
CAVEATS	Shared direct costs captured at the department level and assigned to services through allocation keys may not be as accurate as ingredients-based costing of these services unless the allocation keys are based on detailed activity analysis. Unprotected worksheets may cause some loss of functionality or calculation errors with inexperienced users.
LINK TO TOOL & GUIDELINE	 Costing Manual Toolkit
REFERENCES	Özaltın, A., and C. Cashin, eds. Costing of Health Services for Provider Payment: A Practical Manual Based on Country Costing Challenges, Trade-offs, and Solutions. Joint Learning Network for Universal Health Coverage, 2014. 

**Annexure Ends:** Navigate to [Where to from here?](#) if selected tool meets study requirements OR return to [Step 4](#) to view other methodologies and tools.




NAME OF TOOL	A1.18   PUBLIC EXPENDITURE TRACKING SURVEYS (PETS)
DEVELOPER/CUSTODIAN/ OWNER OF TOOL	World Bank
CATEGORY OF TOOL	Resource mapping, expenditure tracking
OVERVIEW	<p>PETS aim to shed light on public expenditure systems and their impact on the welfare of the population by providing exact and detailed information on resource allocation and potential weaknesses in the mechanisms used to allocate resources.</p> <p>Since the first PETS in Uganda in 1996, tracking exercises have now been conducted in over two dozen other countries, often as part of core analytical and advisory work related to public finance management. Most PETS have been led by the WHO in-country while others have been done by local CSOs.</p>
SOFTWARE PLATFORM	N/A
DESCRIPTION	<p>PETS is a methodology and set of tools used to identify and quantify the flow of public resources from various levels of government and can help reveal whether spending from higher levels of government meets its intended budget allocations within the administrative system and at the point of service delivery. It collects information at the central level and on a sample basis within the administration and at front-line level, to determine how much of the original allocations ultimately reach service delivery units (e.g. clinics or schools).</p> <p>There is no standard approach and the study design depends on the objectives identified but the general procedure largely remains the same:</p> <ul style="list-style-type: none"> <li>• Defining the objectives and scope, including whether to look at a specific expenditure program or program component, or specific transfers such as capitation/bursary schemes.</li> <li>• Conducting an institutional mapping of key resource flows to front-line facilities (including cash and in-kind) prior to survey implementation and prioritize these resources based on policy relevance and measurability.</li> <li>• Conduct a Rapid Data Assessment (RDA) to verify if the data required are available and ensure adequate testing of the survey instruments and close monitoring of data collection.</li> </ul>

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<p><b>USE CASES</b></p>	<p><b>Zambia Health Sector PETS 2019</b></p> <p>In 2019, a PETS was conducted alongside and Quantitative Service Delivery Survey (QSDS) in Zambia which assessed the financing and delivery of health services, and whether the previous reform objectives had been achieved. This was done by reviewing the flow of financial and other resources in the public health sector from administrative units to service delivery points at the facility level. Data were collected from administrative units, health workers, and patients to assess the various dimensions of the health system (financial flows, management of infrastructure, human resources for health, patient management).</p> <p>One key finding was that while majority of patients at rural health centres reported not paying any user fees, about 45% and 60% of the outpatients at hospitals and urban health centres reported paying user fees<sup>29</sup>.</p>
<p><b>KEY USER GROUPS</b></p>	<p>Strategic and financial planners in Government, consulting firms, academia, civil society organizations, citizenry.</p>
<p><b>LEVEL OF EFFORT</b></p>	<p>It usually takes about one year to complete a PETS but the level of effort depends on the exact scope of the survey. For example, PETS in Mozambique originally planned for six months, ultimately took 24 months to complete.</p>
<p><b>USER SUPPORT</b></p>	<p>World Bank provides support to CSOs by providing technical expertise on PETS and absenteeism methodologies, preparing training materials, reviewing research instruments and reports, and supporting workshops and courses for the researchers involved in the studies. The Bank also takes an active role in making connections between the CSOs supported and task teams to build links with operations.</p>
<p><b>GEOGRAPHICAL USE</b></p>	<p>In several developing countries across all six World Bank regions, majority in Africa and East Asia Pacific.</p>
<p><b>INPUT DATA REQUIREMENTS</b></p>	<p>PETS map existing resource flows and collects existing budget data. Research is often complemented with a facilities survey and qualitative research on the conditions at facilities and staff and patient experiences.</p> <p><b>Typical data inputs include:</b></p> <ul style="list-style-type: none"> <li>• National, Sub-national and facility level budget data</li> <li>• Data on spending and service delivery at facility level</li> </ul>
<p><b>COST CALCULATIONS &amp; OUTPUT</b></p>	<p>PETS implementers triangulate budget data by looking at records from all sources where money changes hands for particular resource flows. It typically provides an overview of delays in financial and in-kind transfers, leakage rates, and general inefficiencies in public spending.</p> <p><b>Examples of PETS outputs include:</b></p> <ul style="list-style-type: none"> <li>• Information on staff absenteeism rates, salary delays or stock-outs</li> <li>• In detail, reports on how financial management works in a particular country and sector through data that sheds light on the ways funds are budgeted, allocated and disbursed</li> <li>• Whether spending reaches facilities and is actually applied to intended uses.</li> </ul>

<sup>29</sup> Chansa, C et al. (2019). Zambia Health Sector Public Expenditure Tracking and Quantitative Service Delivery Survey. World Bank. 

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<p><b>TYPICAL AGE OF DATA IN METHOD/TOOL OUTPUTS</b></p> <p>(Note: T-0 = Current Year, T+ = Prospective Estimates)</p>	 <p>Cadence refers to frequency of study or how often data is collected.</p>
<p><b>RELATIONSHIP WITH OTHER TOOLS</b></p>	<p>Often used in combination with Quantitative Service Delivery Surveys tool to obtain a more comprehensive picture of efficiency and equity of a public allocation system, activities at provider level and the agents involved in service delivery. Is also completed to inform the WB Public Expenditure Reviews where good data is not readily available.</p>
<p><b>MAIN ADVANTAGES</b></p>	<p>It is a tried and tested methodology that has shown to be effective in identifying delays in financial and in-kind transfers, leakage rates, and general inefficiencies in public spending. It helps focus on the links between effective public financial management and actual service delivery. PETS can help civil society and policy makers alike to understand funding flows, identify areas of leakage, and make informed policy decisions based on their findings.</p>
<p><b>CAVEATS</b></p>	<p>Research teams and CSOs must be realistic about what PETS can and cannot do; PETS can e.g. tell us that pharmaceuticals are unavailable at a health facility, or that some percentage of a capitation grant is not reaching schools, but they cannot tell us conclusively why student outcomes are low or explain why health indicators are below average.</p> <p>The most successful and most frequently cited PETS studies are smaller studies that have focused on specific programs or policies. The potential lack of available and reliable records and budget data might prove to be a challenge in some settings.</p>
<p><b>REFERENCE TO TOOLS &amp; GUIDELINES</b></p>	<p>Koziol, Margaret; Tolmie, Courtney. 2010. Using Public Expenditure Tracking Surveys to Monitor Projects and Small-Scale Programs: A Guidebook. World Bank. © World Bank. <a href="#">🔗</a> License: CC BY 3.0 IGO.</p>
<p><b>REFERENCE TO DETAILED REVIEW (IF AVAILABLE)</b></p>	<p>Koziol, Margaret; Tolmie, Courtney. 2010. Using Public Expenditure Tracking Surveys to Monitor Projects and Small-Scale Programs: A Guidebook. World Bank. © World Bank.</p> <p><a href="#">🔗</a> License: CC BY 3.0 IGO.</p>

**Annexure Ends:** Navigate to [Where to from here?](#) if selected tool meets study requirements OR return to [Step 4](#) to view other methodologies and tools. [🔗](#)

<b>NAME OF TOOL</b>	<b>A1.19   PRIMARY HEALTH CARE COSTING TOOL</b>
DEVELOPER/CUSTODIAN/ OWNER OF TOOL	<b>Management Sciences for Health (MSH)</b>
CATEGORY OF TOOL	Costing, budgeting and resource needs estimation
OVERVIEW	<p>A sustainable primary health care (PHC) system is essential for achieving universal health coverage (UHC). However, due to financial resource constraints, many countries are unable to meet the PHC needs of their populations.</p> <p>To improve the allocation of resources for PHC and advocate for increased domestic funding, there is a need to determine the costs and resources requirements for providing PHC services and operating a robust PHC system. There are few dedicated costing tools for costing PHC services among networks of providers and facilities.</p> <p>Through a multi-year investment from the Bill &amp; Melinda Gates Foundation, MSH developed the PHC Costing Tool which helps decision-makers in their efforts to expand the coverage of PHC services. It allows users to quantify the gap in resources needed to achieve universal coverage of PHC services, and to identify where efforts should be focused, specifically at which geographic locations and for which services or facility levels. It can also help to identify which types of resources (e.g., human resources, specific drugs, etc.) require more investment if the goal is to achieve UHC.</p>
SOFTWARE PLATFORM	The PHC Costing tool is both a public good and open sourced provided through Microsoft Excel 2016 or higher, running on MS Windows (not compatible with Mac computers). The PHC Costing Tool is both a public good and open source, allowing users to adapt the tool to local needs to calculate the costs of PHC service delivery.
DESCRIPTION	<p>The PHC Costing Tool is designed to facilitate the costing of primary health care services among networks of service providers under different coverage scenarios from the health sector perspective.</p> <p>The tool has two main components: <b>(i)</b> an actual costing model, which estimates actual resources consumed on PHC services in health facilities, and <b>(ii)</b> a normative costing model, which estimates the cost of providing services as per prescribed standards and quality to all those in need. The comparison between the normative and actual costs allows users to estimate the gap in resources required to achieve universal coverage of quality PHC services. The model also allows for the adjustment of key variables to conduct a multi-way sensitivity analysis for scenario planning.</p>
USE CASES	<p>The PHC Costing Tool is being used to generate much-needed evidence to support decision-making on PHC planning, facilitating resource allocation and budgeting, and helping to improve PHC system performance. A pilot of the tool was completed in Kenya (April 2021) and work is underway in Ethiopia, India, and Nigeria as well as in Sierra Leone (an initiative by the Ministry of Health and Partners In Health).</p> <p>Results from the Kenya analysis (conducted in seven sub-counties) provide evidence on the costs and resource requirements for the implementation of the Kenya PHC Strategic Framework (2019-2024). Further details are provided in the project report<sup>30</sup>.</p>

<sup>30</sup> Costing Analysis of Primary Health Care in Kenya. MSH, April 2021

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KEY USER GROUPS	Strategic planners, policy makers, health program implementers, and government (MOH) and partners.
LEVEL OF EFFORT	<p>The user is responsible for populating the tool with actual and normative cost data. The actual costing model uses actual facility-level data on the current utilization of services, expenditures, and staffing, which can be obtained from existing information systems and/or surveying a sample of health facilities. The normative cost model requires users to enter standard treatment protocols (indicating the amounts of clinical labour, drugs, supplies, and time which are required for each service), unit costs, and expected service volume. This requires an up-front investment to establish an initial working version of the tool.</p> <p>To reduce the time required for data entry, the tool is pre-loaded with demographics for over 200 countries as well as standard treatment protocols for a selected set of services which can be easily tailored by the user.</p> <p>Once populated, the tool can be used for conducting scenario analysis. It can also be updated for recurrent costing analyzes (with data on service utilization, expenditures, and staffing).</p>
USER SUPPORT	The tool includes a <i>Guided Tour</i> for new users; online training modules are currently being developed. Future technical support for and hosting of the PHC Costing Tool have not been determined beyond the award period (2021).
GEOGRAPHICAL USE	The Kenya pilot was completed in April 2021 with work underway in Ethiopia, India, and Nigeria as well as in Sierra Leone (an initiative by the Ministry of Health and Partners and Health).
INPUT DATA REQUIREMENTS	<p>Actual cost/data requirements:</p> <ul style="list-style-type: none"> <li>• Utilization of PHC services in a sample of facilities at different levels (e.g., community, health post, dispensary, health centre, hospital)</li> <li>• Expenditures in a sample of facilities</li> <li>• Staffing in a sample of facilities</li> <li>• Total utilization of PHC services provided at each level (e.g., community, health post, dispensary, health centre, hospital), to expand results from the sample.</li> </ul> <p>Normative cost/data requirements:</p> <ul style="list-style-type: none"> <li>• Catchment populations for any subnational strata of interest (national level demographics are pre-loaded for over 200 countries)</li> <li>• Standard treatment protocols, including drugs, supplies, tests, and time required by provider type</li> <li>• Unit costs of the drugs, supplies, tests and labor, used in the standard treatment protocols</li> <li>• Population in need (e.g., <i>incidence</i> of acute illnesses, <i>prevalence</i> of chronic illnesses, <i>demand</i> for preventive services)</li> </ul>

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## COST CALCULATIONS & OUTPUT

Actual costs refer to the actual services (type and quantity) being offered at a primary health care facility using the actual staff compliment. Capital costs, above-service delivery costs and out-of-pocket costs are excluded. Costs collected from health facilities include human resources (clinical and non-clinical personnel), drugs and medical supplies purchased and other recurring costs. Where possible, costs are allocated to different type of services based on user-defined service weighs.

Normative costs are calculated based on standard treatment norms, expected levels of service volume and the resource requirements needed to meet those standards.

The tool can be used to estimate the:

- Cost of providing a particular package of services, such as a priority health services package
- Cost of scaling up a package of services to meet the full need or achieve target coverage of a certain population
- Cost of different service delivery models, such as community-based or facility-based
- Ideal staffing patterns for different numbers and mixes of services
- Efficiency levels of services currently provided, and
- Estimated prices for contracting services in areas where services are not currently offered

The tool includes a multiway sensitivity analysis module, where different normative cost scenarios can be compared by varying the following key input variables simultaneously:

- Population coverage (of each service independently)
- Unit costs (of each drug, supply, test and labor type, independently)
- Labor efficiency (assuming a certain proportion of staff time is devoted to non-clinical activities)
- Care-shifting (assuming a certain proportion of service delivery is shifted from one facility level to another)

## TYPICAL AGE OF DATA IN METHOD/TOOL OUTPUTS

(Note: T-0 = Current Year,  
T+ = Prospective Estimates)



Cadence refers to frequency of study or how often data is collected.

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<p><b>RELATIONSHIP WITH OTHER TOOLS</b></p>	<p>The output from PHC Costing can be used in strategic and finance planning and be used to inform other processes such as funding landscape analysis, resource mobilization, advocacy and determination of medium-term budget envelopes.</p> <p>Other costing studies and tools that produce more accurate unit costs, can also be used as input into the PHC Costing Tool in terms of more accurate allocation of actual shared costs e.g., human resource costs.</p> <p>The tool is not intended to replace or compete with the One Health Tool which is commonly used to support national strategic health planning in LMICs. Instead, it is intended to complement its use and provide additional granularity of PHC costs and resource needs at the health facility and sub-national levels.</p>
<p><b>MAIN ADVANTAGES</b></p>	<p>The PHC Costing Tool is one of few integrated costing tools for PHC services and systems, that facilitate costing at the level of detail provided for in the tool. Some other advantages include:</p> <ul style="list-style-type: none"> <li>• Allows comparison of actual against normative costs and the quantification of the resource gap</li> <li>• Can estimate the cost of different service delivery scenarios</li> <li>• Includes pre-loaded demographic data for 200+ countries and standard treatment protocols for a selected set of PHC services</li> <li>• All input parameters can be edited by the user (no black box)</li> <li>• It is dynamic, allowing the user to show the results of changing assumptions e.g., easily and quickly, adding service or introducing new test or medicines.</li> </ul>
<p><b>CAVEATS</b></p>	<p>The PHC Costing Tool was developed to inform resource-allocation decisions, resource gap analysis and strategic planning. Based on the costing methodology certain costs items are excluded and assumptions made about allocating shared costs result in service line costs which may not be as accurate or complete as might be required. Disease or service line-specific costing tools may yield more accurate and complete costs where a higher degree of granularity and accuracy is required.</p>
<p><b>REFERENCE TO TOOLS &amp; GUIDELINES</b></p>	<p>To be completed once download details known.</p>
<p><b>REFERENCE TO DETAILED REVIEW (IF AVAILABLE)</b></p>	<p>No known references.</p>

**Annexure Ends:** Navigate to [Where to from here?](#) if selected tool meets study requirements OR return to [Step 4](#) to view other methodologies and tools.



NAME OF TOOL	A1.8   HOSPICAL
DEVELOPER/CUSTODIAN/ OWNER OF TOOL	MSH
CATEGORY OF TOOL	Costing, budgeting and financial resource estimations
OVERVIEW	This tool was developed by MSH for hospital managers and is used to calculate cost projections at the hospital level. This is a practical tool developed for hospital managers to analyze current costs and revenues, comparing efficiency, and forecasting what those figures would be if hospital services are expanded or modified. The results generated by the tool can help improve a hospital's performance and enhance its financial sustainability.
SOFTWARE PLATFORM	Open source MS Excel spreadsheet files
DESCRIPTION & SCOPE	<p>The main purpose of the tool is to analyze current hospital costs and revenues, comparing efficiency, and forecasting costs and indicator values for planning.</p> <p>The tool uses step-down costing to allocate actual expenditure and revenue (including donor funded resources) in a hospital to ancillary and clinical departments that serve as cost centres. Capital, non-recurrent expenditure and costs which do not relate to hospital services are removed from the analysis. Remaining costs are then allocated to clinical and ancillary departments. All costs from support/ancillary departments are allocated to clinical departments.</p> <p>Total costs for each inpatient clinical department are then divided by the number of bed days to arrive at the average cost per bed day for that department. Outpatient department costs are divided by the number of visits to get an average cost per visit. These unit costs can then be used to conduct efficiency analysis and comparisons within and with other hospitals.</p>
USE CASES	<p><b>Re-designing insurance reimbursement mechanisms and values in Rwanda.</b></p> <p>The goal was to determine the actual cost of services at the health centre (including community services), district hospital, and referral hospital levels. At the health centre level, the tool was used to estimate the cost of each service included in the package of minimum services. At the hospital level, the tool results informed the cost of each case treated and facilitated the establishment of Diagnosis Related Groups (DRGs). The classification of cases was based on WHO codes and norms and standards for Rwanda as identified by the MOH.</p>
KEY USER GROUPS	Hospital managers, the hospital financial planning committee, government departments and regulators.
LEVEL OF EFFORT	A comprehensive allocation of total hospital costs to clinical cost centres using well-researched allocation factors is likely to require a medium to high level of effort. If activity-based methodology is used to more accurately to allocate indirect and shared costs the level of effort will increase.
USER SUPPORT	MSH

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<b>GEOGRAPHICAL USE</b>	HOSPICAL has been used in several countries, such as Rwanda, Afghanistan, Liberia, Cambodia and Burundi.
<b>INPUT DATA REQUIREMENTS</b>	<p>The tool requires the following key categories of input data:</p> <ul style="list-style-type: none"> <li>• Total hospital expenditures, broken down by resource type (e.g., staff, drugs) and the income by source.</li> <li>• The number of each type of staff employed and their remuneration</li> <li>• The distribution of staff across departments. If staff members are shared across departments estimate the time distribution.</li> <li>• Output data related to number of in-patients, average length of stay and outpatient visits.</li> </ul>
<b>COST CALCULATIONS &amp; OUTPUT</b>	Top down costing, using a step-down methodology is used to allocate actual expenditure to clinical departments. Unit costs are calculated by dividing the ‘fully loaded’ costs by output units. Output comprises total costs for running the hospital (total beds, occupied beds, with out patient visits) allocated to clinical departments and related in-patient and outpatient visit unit costs.
<b>TYPICAL AGE OF DATA IN METHOD/TOOL OUTPUTS</b> (Note: T-0 = Current Year, T+ = Prospective Estimates)	 <p>Cadence refers to frequency of study or how often data is collected.</p>
<b>RELATIONSHIP WITH OTHER TOOLS</b>	This tool was specifically designed to arrive at unit costs per service or per case treated at health centre and hospital levels respectively. Total hospital and health centre costs are fully absorbed by clinical departments and services. Unit costs may include costs for HIV services and HIV inpatient costs which might be useful in HIV cost analysis and planning. Some unit costs might be useful for estimating total HIV-related costs and resource needs.
<b>MAIN ADVANTAGES</b>	HOSPICAL is designed to be user-friendly and easily adapted. It is aimed at generating ‘fully loaded’ costs of clinical departments in hospitals which include the full costs of support and ancillary departments. The tool produces unit costs which can be used for efficiency analysis and informing the DRGs.
<b>CAVEATS</b>	Hospital does not calculate detailed service delivery costs without some adaptation but focuses on the cost of in-patient stays and out-patient visits based on the hospital clinical costs centres. Notwithstanding the above, these provide a platform for more detailed costing. The cost of drugs reflects the expenditure made in the year and not the cost of drugs issued. There can be significant differences in these figures due to factors such as large purchases near year-end that are not issued during the year and stock losses.
<b>REFERENCE TO TOOLS &amp; GUIDELINES</b>	 A Tool for Allocating Hospital Costs
<b>REFERENCE TO DETAILED REVIEW (IF AVAILABLE)</b>	 Rwanda Health Service Costing

**Annexure Ends:** Navigate to [Where to from here?](#) if selected tool meets study requirements OR return to [Step 4](#) to view other methodologies and tools. 

NAME OF TOOL	A1.10   ACTIVITY-BASED COSTING AND MANAGEMENT (ABC/M)
DEVELOPER/CUSTODIAN/ OWNER OF TOOL	PEPFAR
CATEGORY OF TOOL	Costing and Budgeting
OVERVIEW	<p>Policymakers and other partners undertaking funding and management of HIV and other health care programs need up-to-date information on the costs and efficiencies related to these programs.</p> <p>However, the reliable cost data used for budgeting and planning, efficiency analysis and for governments to better prepare for transition is not routinely available. This has further been complicated by a lack of understanding of how to allocate above facility costs. As well as wide variations and changes in service modalities, availability of HIV-related services at sub-national level, characteristics of the population of persons newly infected with HIV, new technologies, and price changes.</p> <p>Additionally, there has been a reduction of international assistance on health and competing demands for public funding have increased emphasis on transparency of expenditures, increased health spending efficiency, and performance measurement in HIV-related and health services.</p> <p>One-time cost studies, which are often outdated, do not always equip policymakers with the robust rationale for funding HIV and health responses, nor do they (naturally) lead to improved performance, efficiency and transparency of expenditure.</p> <p>A wide group of experts from S/GAC, USAID, CDC, UNAIDS, Global Fund, US Treasury and BMGF are supporting the implementation of routine activity-based costing and management (ABC/M) in select countries where there is strong evidence that it could significantly improve the efficiency, effectiveness, and quality of HIV services as well as support governments with transition planning.</p>
SOFTWARE PLATFORM	MS Excel
DESCRIPTION	<p>The main objective for ABC/M is to routinely generate cost information for HIV and health services at facility, in the community, and above site level, and use the information to effectively allocate resources, improve monitoring efforts, and increase efficiency.</p> <p>The first phase of implementing ABC/M requires the accurate measurement of the full cost of health service costs to provide a baseline costing and to determine tracing factors for shared and above-site costs. Direct and indirect facility costs, above-site costs and costs incurred during community service provision are consolidated to get the 'fully loaded' cost per recipient of each selected service. This phase may also include an analysis of out-of-pocket expenditure on consultation, medicine, transport, accommodation, food and supplements together with the opportunity costs associated with loss of work time by patients receiving health care services. Data is collected through client exit interviews.</p> <p>To support data collection and subsequent routinization efforts, country data systems and the related ecosystem are mapped.</p>

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DESCRIPTION (CONT.)	<p>Data is collected from a sample of health facilities and the time-driven ABC methodology is deployed to collect accurate costs of resources consumed. This requires the detailed mapping of service delivery processes and steps in facilities and ‘tracking’ patients to observe the rate at which human and other resources are consumed and the time patients wait to receive care. Data is also collected from implementing partners providing community-based services.</p> <p>Local institutions are capacitated to support ABC/M from the start to assist with data collection and to support a process of institutionalization in-country.</p> <p>A second phase of ABC/M implementation explores how required data can be collected on a routine basis to facilitate the re-costing of services, who the data users are and how capacity can be strengthened to capture additional cost data routinely and to ensure its use for more effective budgeting and planning.</p>
USE CASES	<p>ABC/M has been implemented and tested in Tanzania, Kenya, Uganda, Mozambique and Namibia with the intention is to launch similar studies in eSwatini and Lesotho. Results from these studies have been used to inform country PEPFAR COPs and are likely to have informed national level strategic planning and funding requests. However, specific examples of how the output has been used to influence policy and management decisions do not currently exist.</p>
KEY USER GROUPS	<p>Potential users of the output from ABC/M comprises a wide range of possible user groups because the output comprises both costing data for HIV services but also provides insights into the operational patient flow processes. Users therefore comprise policy makers and planners in government and development partners, district and facility managers, budgeting staff and program coordinators.</p>
LEVEL OF EFFORT	<p>The initial investment to conduct the baseline study to collect representative data from a sample of health facilities and the subsequent analysis thereof is relatively high. It is also likely that the process of institutionalizing and routinizing the methodology will require a significant investment. It is however probable that the ongoing effort to maintain ABC/M will diminish over time.</p>
USER SUPPORT	<p>The methodology is being piloted in above mentioned countries and the result comprises a refined, country-specific methodology and tools which are country-owned. The methodology is not publicly available, and the initial point of contact is with S/GAC and USAID, as the technical, lead will provide user support.</p>
GEOGRAPHICAL USE	<p>Tanzania, Kenya, Uganda, Namibia, Mozambique and planned expansion to eSwatini, India and Lesotho.</p>
INPUT DATA REQUIREMENTS	<p>The implementation of ABC/M requires the following key categories of input data:</p> <ul style="list-style-type: none"> <li>• Recorded costs and budgets values from routine financial reporting systems.</li> <li>• Human resources consumed in delivering services based on the implementation of identified steps. The steps are identified through a detailed process mapping exercise for each selected service.</li> </ul>

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INPUT DATA  
REQUIREMENTS  
(CONT.)

The direct and indirect costs of resources consumed during service provision including, for example:

Direct

- Drugs/medications
- Laboratory reagents
- Test kits
- Consumables and supplies
- Human resources
- Medical equipment
- Furniture
- Transportation

Indirect

- Office supplies
- Operational equipment
- Utilities
- Rent
- Training
- Maintenance
- Travel
- Sundry materials and supplies

For community level service provision costs: secondary data on one fiscal year of service delivery and non-service delivery expenditure and the number of clients reached is used to do a top-down assessment.

Program output and outcomes data to facilitate the calculation and analysis of efficiency indicators such as unit costs.

COST CALCULATIONS  
& OUTPUT

The first phase in implementing ABC/M requires the accurate measurement of HIV service costs to provide a baseline costing and for determining tracing factors for shared and above-site costs. To do this, ABC/M blends three costing methods, namely:

- 1. Above site costs:** Top-down allocation by program area (health administration, governance) to clinical cascade; information is collected from the country-specific Resource Alignment expenditure reports.
- 2. Site-level costs:** Time-driven activity-based costing for HIV interventions at the facility level. An important element of this method is the mapping of service delivery processes and identification of related steps but also bottlenecks and inefficiencies. This information is validated by tracking patients and resource consumption recorded for each step in the process. Additional information is collected from records as well as interviews with patients and staff.
- 3. Community services costs:** Expenditure and output analysis for HIV outreach programs targeting key population groups.

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## COST CALCULATIONS & OUTPUT (CONT.)

These costs are summed up to get the fully loaded cost per recipient of an HIV service. The calculation and analysis of direct and indirect costs incurred by patients to access HIV services is carried out and presented as a separate output.

The expected output from implementing ABC/M includes<sup>1</sup>:

- The cost of providing each (HIV) service per recipient of intervention
- Overall costs per patient disaggregated by above-site, facility, community and client level
- Unit costs for HIV care and treatment classified by new, stable and unstable patient
- Variation in costs drivers by facility
- Effects on cost due to variation in service delivery
- Recommendations to produce routine HIV cost data based on identified gaps in current data systems

If included in the study scope, client out-of-pocket expenditure and opportunity costs associated with loss of work time are collected through client exit interviews. The calculation and analysis of direct and indirect out-of-pocket costs is carried out and presented as a separate output.

## TYPICAL AGE OF DATA IN METHOD/TOOL OUTPUTS

(Note: T-0 = Current Year,  
T+ = Prospective Estimates)



Cadence refers to frequency of study or how often data is collected.

## RELATIONSHIP WITH OTHER TOOLS

The successful implementation of ABC/M will yield accurate fully loaded costs which can be used by several other costing methodologies and tools. For example, the service unit costs can inform the unit costs used by the Resource Needs Model and the OneHealth tool to generate more accurate resource needs estimates.

Similarly, the costs can provide a more accurate input for the PHC Costing Tool. All of these subsequent processes can support the more efficient allocation of resources at the strategic planning stage. The generation of routine costs can also assist district and facility manager to better allocate resources at that level and improve the day-to-day management and implementation of programs.

A by-product of the baseline costing, the detailed service delivery mapping, may present valuable opportunities for managers to streamline services and further improving efficiencies.

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<sup>1</sup> Health Policy ABC/M Training Slides, 2020.

<p>MAIN ADVANTAGES</p>	<p>The implementation of ABC/M has several advantages when compared to conventional, routine reporting systems and when compared to some once-off costing studies<sup>2</sup>.</p> <ul style="list-style-type: none"> <li>• Provides more accurate estimates of ‘fully-loaded’ service costs</li> <li>• Generates cost estimates of wide range of intermediate health products (i.e. products used in delivering health care services), providing more information to examine efficiencies</li> <li>• Supports more efficient and effective resource allocation within organization or programs</li> <li>• Informs decisions to maximize investments and encourages sustainability beyond epidemic control</li> <li>• Provides operational process data.</li> </ul>
<p>CAVEATS</p>	<p>Implementing ABC/M requires a significant investment by all parties involved but may not exceed the cost of traditional once-off studies. Although this investment is concentrated at the start of the implementation, ongoing systems support will be required to ensure routine data collection and analysis.</p> <p>ABC/M is implemented in countries where it is deemed to be feasible to institutionalize and routinise the methodology</p>
<p>REFERENCE TO TOOLS &amp; GUIDELINES</p>	<p>Methodological Framework for Activity-Based Costing and Management (ABC/M), 23 January 2020, Internal PEPFAR document)</p>
<p>REFERENCE TO DETAILED REVIEW (IF AVAILABLE)</p>	<p>N/A</p>

**Annexure Ends:** Navigate to [Where to from here?](#) if selected tool meets study requirements OR return to [Step 4](#) to view other methodologies and tools. 

<sup>2</sup> PEPFAR Presentation: Improving Efficiency and Resource Allocation: Activity Based Costing and Management, 2020.

NAME OF TOOL	A1.10   ACTIVITY-BASED COSTING AND MANAGEMENT (ABC/M)
DEVELOPER/CUSTODIAN/ OWNER OF TOOL	PEPFAR
CATEGORY OF TOOL	Costing and Budgeting
OVERVIEW	<p>Policymakers and other partners undertaking funding and management of HIV and other health care programs need up-to-date information on the costs and efficiencies related to these programs.</p> <p>However, the reliable cost data used for budgeting and planning, efficiency analysis and for governments to better prepare for transition is not routinely available. This has further been complicated by a lack of understanding of how to allocate above facility costs. As well as wide variations and changes in service modalities, availability of HIV-related services at sub-national level, characteristics of the population of persons newly infected with HIV, new technologies, and price changes.</p> <p>Additionally, there has been a reduction of international assistance on health and competing demands for public funding have increased emphasis on transparency of expenditures, increased health spending efficiency, and performance measurement in HIV-related and health services.</p> <p>One-time cost studies, which are often outdated, do not always equip policymakers with the robust rationale for funding HIV and health responses, nor do they (naturally) lead to improved performance, efficiency and transparency of expenditure.</p> <p>A wide group of experts from S/GAC, USAID, CDC, UNAIDS, Global Fund, US Treasury and BMGF are supporting the implementation of routine activity-based costing and management (ABC/M) in select countries where there is strong evidence that it could significantly improve the efficiency, effectiveness, and quality of HIV services as well as support governments with transition planning.</p>
SOFTWARE PLATFORM	MS Excel
DESCRIPTION	<p>The main objective for ABC/M is to routinely generate cost information for HIV and health services at facility, in the community, and above site level, and use the information to effectively allocate resources, improve monitoring efforts, and increase efficiency.</p> <p>The first phase of implementing ABC/M requires the accurate measurement of the full cost of health service costs to provide a baseline costing and to determine tracing factors for shared and above-site costs. Direct and indirect facility costs, above-site costs and costs incurred during community service provision are consolidated to get the 'fully loaded' cost per recipient of each selected service. This phase may also include an analysis of out-of-pocket expenditure on consultation, medicine, transport, accommodation, food and supplements together with the opportunity costs associated with loss of work time by patients receiving health care services. Data is collected through client exit interviews.</p> <p>To support data collection and subsequent routinization efforts, country data systems and the related ecosystem are mapped.</p>

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DESCRIPTION (CONT.)	<p>Data is collected from a sample of health facilities and the time-driven ABC methodology is deployed to collect accurate costs of resources consumed. This requires the detailed mapping of service delivery processes and steps in facilities and 'tracking' patients to observe the rate at which human and other resources are consumed and the time patients wait to receive care. Data is also collected from implementing partners providing community-based services.</p> <p>Local institutions are capacitated to support ABC/M from the start to assist with data collection and to support a process of institutionalization in-country.</p> <p>A second phase of ABC/M implementation explores how required data can be collected on a routine basis to facilitate the re-costing of services, who the data users are and how capacity can be strengthened to capture additional cost data routinely and to ensure its use for more effective budgeting and planning.</p>
USE CASES	<p>ABC/M has been implemented and tested in Tanzania, Kenya, Uganda, Mozambique and Namibia with the intention is to launch similar studies in eSwatini and Lesotho. Results from these studies have been used to inform country PEPFAR COPs and are likely to have informed national level strategic planning and funding requests. However, specific examples of how the output has been used to influence policy and management decisions do not currently exist.</p>
KEY USER GROUPS	<p>Potential users of the output from ABC/M comprises a wide range of possible user groups because the output comprises both costing data for HIV services but also provides insights into the operational patient flow processes. Users therefore comprise policy makers and planners in government and development partners, district and facility managers, budgeting staff and program coordinators.</p>
LEVEL OF EFFORT	<p>The initial investment to conduct the baseline study to collect representative data from a sample of health facilities and the subsequent analysis thereof is relatively high. It is also likely that the process of institutionalizing and routinizing the methodology will require a significant investment. It is however probable that the ongoing effort to maintain ABC/M will diminish over time.</p>
USER SUPPORT	<p>The methodology is being piloted in above mentioned countries and the result comprises a refined, country-specific methodology and tools which are country-owned. The methodology is not publicly available, and the initial point of contact is with S/GAC and USAID, as the technical, lead will provide user support.</p>
GEOGRAPHICAL USE	<p>Tanzania, Kenya, Uganda, Namibia, Mozambique and planned expansion to eSwatini, India and Lesotho.</p>
INPUT DATA REQUIREMENTS	<p>The implementation of ABC/M requires the following key categories of input data:</p> <ul style="list-style-type: none"> <li>• Recorded costs and budgets values from routine financial reporting systems.</li> <li>• Human resources consumed in delivering services based on the implementation of identified steps. The steps are identified through a detailed process mapping exercise for each selected service.</li> </ul>

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INPUT DATA  
REQUIREMENTS  
(CONT.)

The direct and indirect costs of resources consumed during service provision including, for example:

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For community level service provision costs: secondary data on one fiscal year of service delivery and non-service delivery expenditure and the number of clients reached is used to do a top-down assessment.

Program output and outcomes data to facilitate the calculation and analysis of efficiency indicators such as unit costs.

COST CALCULATIONS  
& OUTPUT

The first phase in implementing ABC/M requires the accurate measurement of HIV service costs to provide a baseline costing and for determining tracing factors for shared and above-site costs. To do this, ABC/M blends three costing methods, namely:

- 1. Above site costs:** Top-down allocation by program area (health administration, governance) to clinical cascade; information is collected from the country-specific Resource Alignment expenditure reports.
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- 3. Community services costs:** Expenditure and output analysis for HIV outreach programs targeting key population groups.

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## COST CALCULATIONS & OUTPUT (CONT.)

These costs are summed up to get the fully loaded cost per recipient of an HIV service. The calculation and analysis of direct and indirect costs incurred by patients to access HIV services is carried out and presented as a separate output.

The expected output from implementing ABC/M includes<sup>1</sup>:

- The cost of providing each (HIV) service per recipient of intervention
- Overall costs per patient disaggregated by above-site, facility, community and client level
- Unit costs for HIV care and treatment classified by new, stable and unstable patient
- Variation in costs drivers by facility
- Effects on cost due to variation in service delivery
- Recommendations to produce routine HIV cost data based on identified gaps in current data systems

If included in the study scope, client out-of-pocket expenditure and opportunity costs associated with loss of work time are collected through client exit interviews. The calculation and analysis of direct and indirect out-of-pocket costs is carried out and presented as a separate output.

## TYPICAL AGE OF DATA IN METHOD/TOOL OUTPUTS

(Note: T-0 = Current Year,  
T+ = Prospective Estimates)



Cadence refers to frequency of study or how often data is collected.

## RELATIONSHIP WITH OTHER TOOLS

The successful implementation of ABC/M will yield accurate fully loaded costs which can be used by several other costing methodologies and tools. For example, the service unit costs can inform the unit costs used by the Resource Needs Model and the OneHealth tool to generate more accurate resource needs estimates.

Similarly, the costs can provide a more accurate input for the PHC Costing Tool. All of these subsequent processes can support the more efficient allocation of resources at the strategic planning stage. The generation of routine costs can also assist district and facility manager to better allocate resources at that level and improve the day-to-day management and implementation of programs.

A by-product of the baseline costing, the detailed service delivery mapping, may present valuable opportunities for managers to streamline services and further improving efficiencies.

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<sup>1</sup> Health Policy ABC/M Training Slides, 2020.



<p>MAIN ADVANTAGES</p>	<p>The implementation of ABC/M has several advantages when compared to conventional, routine reporting systems and when compared to some once-off costing studies<sup>2</sup>.</p> <ul style="list-style-type: none"> <li>• Provides more accurate estimates of ‘fully-loaded’ service costs</li> <li>• Generates cost estimates of wide range of intermediate health products (i.e. products used in delivering health care services), providing more information to examine efficiencies</li> <li>• Supports more efficient and effective resource allocation within organization or programs</li> <li>• Informs decisions to maximize investments and encourages sustainability beyond epidemic control</li> <li>• Provides operational process data.</li> </ul>
<p>CAVEATS</p>	<p>Implementing ABC/M requires a significant investment by all parties involved but may not exceed the cost of traditional once-off studies. Although this investment is concentrated at the start of the implementation, ongoing systems support will be required to ensure routine data collection and analysis.</p> <p>ABC/M is implemented in countries where it is deemed to be feasible to institutionalize and routinise the methodology</p>
<p>REFERENCE TO TOOLS &amp; GUIDELINES</p>	<p>Methodological Framework for Activity-Based Costing and Management (ABC/M), 23 January 2020, Internal PEPFAR document)</p>
<p>REFERENCE TO DETAILED REVIEW (IF AVAILABLE)</p>	<p>N/A</p>

**Annexure Ends:** Navigate to [Where to from here?](#) if selected tool meets study requirements OR return to [Step 4](#) to view other methodologies and tools. 

<sup>2</sup> PEPFAR Presentation: Improving Efficiency and Resource Allocation: Activity Based Costing and Management, 2020.


NAME OF TOOL	A1.13   RESOURCE MAPPING EXPENDITURE TRACKING (RMET)
DEVELOPER/CUSTODIAN/ OWNER OF TOOL	<p><b>Partners:</b> BMGF, Global Fund, Global Financing Facility, WHO, GAVI</p> <p><b>Developer:</b> Abt Associates/CHAI</p>
CATEGORY OF TOOL	Expenditure tracking and resource mapping
OVERVIEW	<p>The development and deployment of RMET tools and related support is part of a broader initiative by development partners to support governments to improve resource mapping in countries including the eventual institutionalization of improved processes and systems.</p> <p>With the current health financing landscape of decreasing donor funding, information from the RMET is crucial to generate timely, reliable, and comparable financial data that is essential to assess if the allocated resources are aligned with health sector strategies.</p> <p>The RMET methodology and tools have been used in several countries since 2010. Discussions with implementers of the RMET initiative have highlighted that there is a need to improve the underlying design and programming of the tool. It nevertheless provides a good example of the type of tool/system that is required to routinely collect and report on funding resources from multiple sources of funding in a standardized format.</p>
SOFTWARE PLATFORM	In Rwanda: Web-based not open source. In countries where CHAI is working the prototype tool is Excel based and open source. However, tools are tailored to fit country needs and context and access restricted once populated with country data.
DESCRIPTION	<p>The system aims to provide a complete picture of health financing, expenditure and budget if fully implemented. In some settings implementation is limited to resource mapping only. In many countries resource mapping is forward looking and includes limited expenditure tracking where efforts are complemented by the NHA.</p> <p>The RMET reporting system gathers financial resources for the health sector and collects expenditure and budget data from public and private health sector institutions and development partners (multilateral institutions, bilateral institutions, international NGOs and local NGOs) active in the health sector. It seeks to improve evidence-based decision-making, effective planning, resource mobilization and allocation, priority setting, advocacy and overall management performance. It also introduces improved transparency and accountability. In Rwanda, stakeholders register as users and self-report financial data using the web-based system which is not used in any other country.</p>

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USE CASES	<p><b>RMET for the National Health Sector Strategic Plan 2019-2023</b></p> <p>The Ministry of Health in Sierra Leone’s health financing unit lead the resource mapping and expenditure tracking (RMET) exercise to improve coordination and resource allocation across the Ministry and its donor partners. The total NHSSP 2019-2023 financing gap was estimated at 15% of the total cost (730m US\$). It was found that financing for PHC is growing, largely thanks to donor partners, but that disparities remain significant between districts<sup>1</sup>.</p>
KEY USER GROUPS	Government officials and development partners responsible for planning, resource mobilization and allocation, and monitoring.
LEVEL OF EFFORT	<p>A significant level of effort is required to fully implement the RMET (or similar) tool/system given the need to adapt the tool to local government systems and data formats and developing a coding format which can be used by all participating stakeholder.</p> <p>Most stakeholders are required to self-report data into the system and considerable effort is required to encourage reporting by stakeholders.</p>
USER SUPPORT	RMET is an ongoing project to improve resource tracking in countries and Cooper/Smith currently provide support through the related grant. CHAI is providing technical assistance to support RMET with support from Sida (Malawi, Zimbabwe) and the World Bank (Ethiopia, Senegal) and the Gates Foundation (Burkina Faso).
GEOGRAPHICAL USE	CHAI supported the roll-out of resource mapping across countries including Rwanda, Ethiopia, Malawi, Zimbabwe, Cameroon, South Africa, Zambia, Liberia, Lesotho, Burkina Faso and Senegal, as well as with the East African Community in many member states.
INPUT DATA REQUIREMENTS	Resource mapping generally draws on available budget data and is used for joint annual planning. In some settings, participating organizations self-report budget data and actual expenditure by intervention areas aligned to government programs and sub-programs/NSP and other categorization.
COST CALCULATIONS & OUTPUT	<p>The tool does not calculate costs but provides a consolidation of reported data and structured reporting aligned to existing reporting formats.</p> <p><b>More specifically it provides a:</b></p> <ul style="list-style-type: none"> <li>• Comprehensive picture of health sector interventions and funds flow</li> <li>• Financial data linked to national policies, targets and progress</li> <li>• Provides work-plans and summary data for each reporting organization</li> <li>• Can inform re-allocation decisions, forecasts, trend analysis and more</li> </ul>

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<sup>1</sup> Government of Sierra Leone: Ministry of Health and Sanitation Health financing unit. (2023). *Sierra Leone: Resource Mapping and Expenditure Tracking (RMET) for the National Health Sector Strategic Plan (NHSSP)*. Global Financing Facility, World Bank. [↗](#)

<p><b>TYPICAL AGE OF DATA IN METHOD/TOOL OUTPUTS</b></p> <p>(Note: T-0 = Current Year, T+ = Prospective Estimates)</p>	<p>Resource mapping retrospective or prospective</p>  <p>Cadence refers to frequency of study or how often data is collected.</p>
<p><b>RELATIONSHIP WITH OTHER TOOLS &amp; PLANNING STEPS</b></p>	<p>The RMET uses budget and expenditure data from implementers and routine government budgeting, accounting and reporting systems.</p> <p>The RMET process may use data collected and reported by the NHA and NASA processes and may report information similar to that contained in the NHA and the NASA. It is possible that in some settings the processes support each other leading to a more streamlined and combined process of resource mapping and expenditure tracking. For example, resource mapping, usually an annual exercise for planning, and NHAs, which may occur more frequently (as often as every other year in some countries), both seek data from governments, donors and partners. With NHAs occurring more frequently, it has become feasible for governments to harmonize Resource Mapping and the NHA. CHAI and WHO developed a combined tool for collecting donor and partner resource mapping data in a structure that accommodates both NHAs and Resource Mapping. Similar efforts are under way to harmonize data collection between RMET, NHA and with the National AIDS Spending Assessment (NASA) for HIV/AIDS.</p>
<p><b>MAIN ADVANTAGES</b></p>	<p>RMET reports up-to-date resources mapping and expenditure across the health sector (partners and government) and comprehensively shows available funding and facilitates gap analysis.</p>
<p><b>CAVEATS</b></p>	<p>Accurate reporting requires the participation of all partners and timeous submission/capture of financing and expenditure data. This requires considerable effort.</p> <p>For government budgets and expenditure data, IFMIS is required which generates data in the required format and with accuracy.</p>
<p><b>LINK TO TOOL &amp; GUIDELINE</b></p>	<p>The support provided to countries in terms of the RMET methodology results in the development of a tailored, country-specific tool kit. CHAI has developed a prototype tool kit which may be released in the public domain.</p>
<p><b>REFERENCE FOR THIS REVIEW</b></p>	<p>Case Study, Improving efficiency and effectiveness of HIV spending through resource mapping in Malawi, Clinton Health Access Initiative, 2014 <a href="#">↗</a></p>

**Annexure Ends:** Navigate to [Where to from here?](#) if selected tool meets study requirements OR return to [Step 4](#) to view other methodologies and tools.




NAME OF TOOL	A1.13   RESOURCE MAPPING EXPENDITURE TRACKING (RMET)
DEVELOPER/CUSTODIAN/ OWNER OF TOOL	<p><b>Partners:</b> BMGF, Global Fund, Global Financing Facility, WHO, GAVI</p> <p><b>Developer:</b> Abt Associates/CHAI</p>
CATEGORY OF TOOL	Expenditure tracking and resource mapping
OVERVIEW	<p>The development and deployment of RMET tools and related support is part of a broader initiative by development partners to support governments to improve resource mapping in countries including the eventual institutionalization of improved processes and systems.</p> <p>With the current health financing landscape of decreasing donor funding, information from the RMET is crucial to generate timely, reliable, and comparable financial data that is essential to assess if the allocated resources are aligned with health sector strategies.</p> <p>The RMET methodology and tools have been used in several countries since 2010. Discussions with implementers of the RMET initiative have highlighted that there is a need to improve the underlying design and programming of the tool. It nevertheless provides a good example of the type of tool/system that is required to routinely collect and report on funding resources from multiple sources of funding in a standardized format.</p>
SOFTWARE PLATFORM	In Rwanda: Web-based not open source. In countries where CHAI is working the prototype tool is Excel based and open source. However, tools are tailored to fit country needs and context and access restricted once populated with country data.
DESCRIPTION	<p>The system aims to provide a complete picture of health financing, expenditure and budget if fully implemented. In some settings implementation is limited to resource mapping only. In many countries resource mapping is forward looking and includes limited expenditure tracking where efforts are complemented by the NHA.</p> <p>The RMET reporting system gathers financial resources for the health sector and collects expenditure and budget data from public and private health sector institutions and development partners (multilateral institutions, bilateral institutions, international NGOs and local NGOs) active in the health sector. It seeks to improve evidence-based decision-making, effective planning, resource mobilization and allocation, priority setting, advocacy and overall management performance. It also introduces improved transparency and accountability. In Rwanda, stakeholders register as users and self-report financial data using the web-based system which is not used in any other country.</p>

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USE CASES	<p><b>RMET for the National Health Sector Strategic Plan 2019-2023</b></p> <p>The Ministry of Health in Sierra Leone’s health financing unit lead the resource mapping and expenditure tracking (RMET) exercise to improve coordination and resource allocation across the Ministry and its donor partners. The total NHSSP 2019-2023 financing gap was estimated at 15% of the total cost (730m US\$). It was found that financing for PHC is growing, largely thanks to donor partners, but that disparities remain significant between districts<sup>1</sup>.</p>
KEY USER GROUPS	Government officials and development partners responsible for planning, resource mobilization and allocation, and monitoring.
LEVEL OF EFFORT	<p>A significant level of effort is required to fully implement the RMET (or similar) tool/system given the need to adapt the tool to local government systems and data formats and developing a coding format which can be used by all participating stakeholder.</p> <p>Most stakeholders are required to self-report data into the system and considerable effort is required to encourage reporting by stakeholders.</p>
USER SUPPORT	RMET is an ongoing project to improve resource tracking in countries and Cooper/Smith currently provide support through the related grant. CHAI is providing technical assistance to support RMET with support from Sida (Malawi, Zimbabwe) and the World Bank (Ethiopia, Senegal) and the Gates Foundation (Burkina Faso).
GEOGRAPHICAL USE	CHAI supported the roll-out of resource mapping across countries including Rwanda, Ethiopia, Malawi, Zimbabwe, Cameroon, South Africa, Zambia, Liberia, Lesotho, Burkina Faso and Senegal, as well as with the East African Community in many member states.
INPUT DATA REQUIREMENTS	Resource mapping generally draws on available budget data and is used for joint annual planning. In some settings, participating organizations self-report budget data and actual expenditure by intervention areas aligned to government programs and sub-programs/NSP and other categorization.
COST CALCULATIONS & OUTPUT	<p>The tool does not calculate costs but provides a consolidation of reported data and structured reporting aligned to existing reporting formats.</p> <p><b>More specifically it provides a:</b></p> <ul style="list-style-type: none"> <li>• Comprehensive picture of health sector interventions and funds flow</li> <li>• Financial data linked to national policies, targets and progress</li> <li>• Provides work-plans and summary data for each reporting organization</li> <li>• Can inform re-allocation decisions, forecasts, trend analysis and more</li> </ul>

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<sup>1</sup> Government of Sierra Leone: Ministry of Health and Sanitation Health financing unit. (2023). *Sierra Leone: Resource Mapping and Expenditure Tracking (RMET) for the National Health Sector Strategic Plan (NHSSP)*. Global Financing Facility, World Bank. [↗](#)

<p><b>TYPICAL AGE OF DATA IN METHOD/TOOL OUTPUTS</b></p> <p>(Note: T-0 = Current Year, T+ = Prospective Estimates)</p>	<p>Resource mapping retrospective or prospective</p>  <p>Cadence refers to frequency of study or how often data is collected.</p>
<p><b>RELATIONSHIP WITH OTHER TOOLS &amp; PLANNING STEPS</b></p>	<p>The RMET uses budget and expenditure data from implementers and routine government budgeting, accounting and reporting systems.</p> <p>The RMET process may use data collected and reported by the NHA and NASA processes and may report information similar to that contained in the NHA and the NASA. It is possible that in some settings the processes support each other leading to a more streamlined and combined process of resource mapping and expenditure tracking. For example, resource mapping, usually an annual exercise for planning, and NHAs, which may occur more frequently (as often as every other year in some countries), both seek data from governments, donors and partners. With NHAs occurring more frequently, it has become feasible for governments to harmonize Resource Mapping and the NHA. CHAI and WHO developed a combined tool for collecting donor and partner resource mapping data in a structure that accommodates both NHAs and Resource Mapping. Similar efforts are under way to harmonize data collection between RMET, NHA and with the National AIDS Spending Assessment (NASA) for HIV/AIDS.</p>
<p><b>MAIN ADVANTAGES</b></p>	<p>RMET reports up-to-date resources mapping and expenditure across the health sector (partners and government) and comprehensively shows available funding and facilitates gap analysis.</p>
<p><b>CAVEATS</b></p>	<p>Accurate reporting requires the participation of all partners and timeous submission/capture of financing and expenditure data. This requires considerable effort.</p> <p>For government budgets and expenditure data, IFMIS is required which generates data in the required format and with accuracy.</p>
<p><b>LINK TO TOOL &amp; GUIDELINE</b></p>	<p>The support provided to countries in terms of the RMET methodology results in the development of a tailored, country-specific tool kit. CHAI has developed a prototype tool kit which may be released in the public domain.</p>
<p><b>REFERENCE FOR THIS REVIEW</b></p>	<p>Case Study, Improving efficiency and effectiveness of HIV spending through resource mapping in Malawi, Clinton Health Access Initiative, 2014 <a href="#">↗</a></p>

**Annexure Ends:** Navigate to [Where to from here?](#) if selected tool meets study requirements OR return to [Step 4](#) to view other methodologies and tools.




<b>NAME OF TOOL</b>	<b>A1.14   NATIONAL AIDS SPENDING ASSESSMENT (NASA)</b>
DEVELOPER/CUSTODIAN/ OWNER OF TOOL	UNAIDS
CATEGORY OF TOOL	Resource Mapping and Expenditure Tracking
OVERVIEW	<p>The National AIDS Spending Assessment has been implemented in many countries for more than 20 years. The approach and tools were developed by UNAIDS to address the need for a comprehensive mapping of available resources for the HIV response, the flow of funding from source to implementers and to understand what that funding was expended on. Unlike the National Health Accounts, NASA includes funding/expenditure from non-health sectors and requires analysis and reporting are at a more detailed level than do the NHA. One of the key challenges, which remains, is the harmonization of data collection between the NHA and NASA processes. The NASA guides and tools have been revised from time to time and are currently subject to a revision process.</p>
SOFTWARE PLATFORM	MS Excel
DESCRIPTION	<p>NASA describes the flow of resources spent in the HIV response from their origin (source of financing) to the beneficiary populations. It aims to reconcile the expenditure incurred at implementation level with financing provided. Each step (transaction) in the flow of funding and ultimate expenditure is categorized in terms of a comprehensive coding system which identifies the source of funding, intermediaries, implementers, program activities and expenditure line items. Data is captured from a multiple of sources including, disbursement records for financing, expenditure records for implementing partners and government, key informant interviews and costing calculations. All transactions are classified and captured into a database which is used to support reporting. The allocation of shared costs to HIV and services is achieved by defining and applying Allocation keys.</p>
USE CASES	<p><b>Mozambique NASA 2017-2018</b></p> <p>The results from a NASA are used by a wide range of users. Specific examples include the preparation of the funding landscape analysis in Global Fund funding requests, HIV investment cases, prioritization of interventions and scenario modelling, monitoring of the HIV response and development of NSPs to insure alignment of resources allocated and response priorities. Results are frequently used for international reporting purposes, e.g. for Global AIDS Monitoring reporting. A comprehensive NASA was completed in Mozambique for 2017-2018 and published in 2021.</p> <p>In Mozambique the requirement for a NASA came from several sources but included the need to report, as a country, to the UN Assembly on financial and expenditure indicators for HIV. Since then, the results have been used extensively by the COP and GF application processes to complete the funding landscape analysis. A key informant highlighted the fact that many stakeholders in country did not understand the full extent of the data available from a NASA but once shared, international NGOs and other development partners indicted their intent to use the underlying data for planning<sup>1</sup>.</p>



<sup>1</sup> UNAIDS (2021). Mozambique National Aids Spending Assessment: 2017 and 2018. [↗](#)

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KEY USER GROUPS	The NASA results are used by a broad spectrum of stakeholders including partners and government officials involved in strategic planning, resources allocation and mobilization and those responsible for monitoring expenditure and program implementation.
LEVEL OF EFFORT	High. Formal training of data collectors and data capture staff required.
USER SUPPORT	Most NASA assignments are implemented by a team of consultants which typically includes experienced international consultants, local consultants and data collectors. Government counterparts comprise an important part of the team. Ongoing support is provided by UNAIDS through the publication of guides, data collection templates and technical advice. Training workshops for in-country stakeholders were shown to less effective and have been scaled down.
GEOGRAPHICAL USE	Most developing countries in Africa, Latin America and Asia that have implemented HIV responses have carried out several NASA studies. Most NASA reports are available to the public on the UNAIDS website.
INPUT DATA REQUIREMENTS	<p>The input data requirements are determined by the scoping of the NASA study, which may include financing/expenditure from development partners, the private sector the public sector and households. Data collection and capture for a NASA study is typically a comprehensive and labour-intensive exercise even where good administrative records are available.</p> <p>Administrative records and other recurrent reports provide most of the information desired to track the financing flows for HIV and AIDS.</p> <p>Primary data collection may be necessary to collect data about transactions of households, non-profit organizations, private medical insurance, off-budget programs and external financing agencies.</p>
COST CALCULATIONS & OUTPUT	<p>NASA is not design or intended to carry out the calculation of costs. Rather the analysis comprises an aggregation and summation of financing flows and expenditure by the NASA categorization (coding) to facilitate standard reporting.</p> <p>Where costs are shared, allocation keys are determined to share costs to the HIV program and within the program, to interventions.</p> <p>Where the lack of expenditure data at the required level of granularity prevents meaningful reporting, costs may be calculated using any one of several possible methods, to facilitate further analysis of the results and the reconciliation of expenditure with financing flows.</p> <p>Summary and detailed reporting of financing flows and expenditure by NASA coding category. The nature of the coding and capture of data into a database (in Excel) facilitates the generation of any number of reports using pivot tables.</p>
<p>TYPICAL AGE OF DATA IN METHOD/TOOL OUTPUTS</p> <p>(Note: T-0 = Current Year, T+ = Prospective Estimates)</p>	 <p style="text-align: center;">T-2      T-1      T-0      T+1      T+2      (Cadence: 2 - 3 years)</p>

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<p>RELATIONSHIP WITH OTHER TOOLS</p>	<p>The primary sources of data for completing the NASA are government expenditure records and IFMIS systems and HIV budgets and expenditure records from partners and implementers. It is possible that other expenditure tracking tools can provide inputs into the process such as:</p> <ul style="list-style-type: none"> <li>• The Health Resource Tracker Tool</li> <li>• Resource mapping resulting from the RMET initiatives</li> <li>• ABC/M once institutionalized.</li> </ul> <p>Input data needs to be of a sufficient level of detail to be useful to the NASA process.</p> <p>Output from the NASA can provide valuable input into the compilation of NHA and public expenditure reviews. Given that NASA's are typically only completed every three or four years, and report data that is usually a year old, the process is unlikely to provide data as input into more routinized expenditure tracking systems.</p>
<p>MAIN ADVANTAGES</p>	<p>NASA is a comprehensive, multi-sectoral mapping and reconciliation of the entire journey from sources of funding through to expenditure for the HIV program given a standard coding. Flexible reporting can provide reports with a high level of detail.</p> <p>The scope of the mapping can be defined by the user.</p>
<p>CAVEATS</p>	<p>Typically, an expensive and labour-intensive exercise that takes a long time to complete (usually a year or more).</p> <p>Source data frequently not sufficiently disaggregated to facilitate coding which requires assumptions about allocation keys.</p> <p>Access to detailed transaction level data frequently not granted.</p>
<p>REFERENCE TO TOOLS &amp; GUIDELINES</p>	<ul style="list-style-type: none"> <li> NASA Publications and Tools</li> <li> National AIDS Spending Assessment (NASA): Classification and Definitions</li> </ul>
<p>REFERENCE TO DETAILED REVIEW (IF AVAILABLE)</p>	<p>N/A</p>

**Annexure Ends:** Navigate to ***Where to from here?*** if selected tool meets study requirements OR return to ***Step 4*** to view other methodologies and tools.

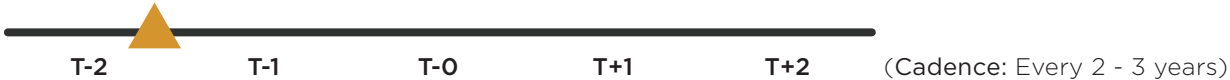


NAME OF TOOL	A1.15   NATIONAL HEALTH ACCOUNTS (NHA)
DEVELOPER/CUSTODIAN/ OWNER OF TOOL	World Health Organization
CATEGORY OF TOOL	Resource Mapping and Expenditure Tracking
OVERVIEW	<p>According to WHO, National Health Accounts (NHA) is a methodology designed to help policy makers understand their country's health system and improve that system's performance.</p> <p>NHA seek to improve health financing policy at global and country levels and provide an international framework for collecting, compiling, and analyzing data on health expenditures within the health system.</p> <p>NHA contribute to creating transparency on where money comes from and how it is spent. They are important drivers of accountability, program optimization, efficiency analysis, improving performance and for informing effective health financing policy.</p>
SOFTWARE PLATFORM	Desktop application software, that provides for inter alia, importing of data, manual data entry, validation and running queries and reports.
DESCRIPTION	<p>National Health Accounts (NHA) is an internationally standardized methodology that tracks public and private expenditures on health in a given country, illustrating the flow of funds from financing sources to agents, providers and ultimately services on which they are spent (who.int/health-accounts). NHA uses an internationally accepted accounting framework, the System of Health Accounts (SHA).</p> <p>SHA is a statistical framework for presenting NHA results in an internationally comparable manner. It provides a standard framework for producing a set of comprehensive, consistent, and internationally comparable health accounts to meet the needs of public and private sector health analysts and policy makers (Maeda et al, 2012)<sup>1</sup>. It does not provide guidance on how to collect the data or to calculate the numbers and provide the analysis. The NHA provides this approach and methodology.</p> <p>The NHA Production Tool streamlines and simplifies the NHA estimation process, through addressing data quality, efficiency, ease of use, collaboration, consistency and flexibility.</p>
USE CASES	<p><b>NHA for improved resource allocation and transparency in Burkina Faso and Serbia</b></p> <p>Burkina Faso used NHA to improve resource allocation across regions and key program areas. The 2005 NHA revealed major geographic inequities in health spending, with poorer regions receiving less total health spending than more affluent areas. This finding prompted the central government to further decentralize responsibilities in health, for example, by transferring money and staff from central to district governments. (Zida, Bertone, and Lorenzetti 2010)<sup>2</sup>.</p>




<sup>1</sup> Maeda, A., Harrit, M., Mabuchi, S., Siadat, B., and Nagpal, S. (2012). *Creating evidence for better health financing decisions: A strategic guide for the institutionalization of national health accounts*. Washington, DC: The World Bank Group.

<sup>2</sup> Zida, A., Lavis, J.N., Sewankambo, N.K. et al. *The factors affecting the institutionalization of two policy units in*

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USE CASES	In Serbia, transparency is weak. NHA data revealed that households incur high OOP payments, including under-the-table payments to providers. The findings resulted in the development of a Fiscal Bill Policy that requires providers to share fiscal invoices with patients, which promotes transparency in financial flows (Maeda et al, 2012)
KEY USER GROUPS	Government planners, program managers and policy makers. Government treasuries responsible for health financing and budget planning. Development partners
LEVEL OF EFFORT	Significant resources are required, with external technical assistance in early years of production. External partners are required to support capacity building and institutionalization of the NHA.
USER SUPPORT	A number of international development partners support country efforts to produce NHA. The World Bank has developed a Readiness Tool to assess readiness for NHA institutionalization. The NHA production and reporting tools further support the process.
GEOGRAPHICAL USE	By 2010, 130 countries had produced NHA information at least once, with 41 countries producing it routinely through internationally accepted health accounting techniques.
INPUT DATA REQUIREMENTS	Key input data elements include: <ul style="list-style-type: none"> <li>• Expenditure (government, external, private sector, household)</li> <li>• Macro-economic data</li> <li>• Health program structure</li> <li>• Service coverage data</li> </ul>
COST CALCULATIONS & OUTPUTS	The NHA do not calculate costs but aggregate and classify private and public funding and expenditure in line with the coding system developed and referred to as the SHA. Calculations may include the allocation of shared expenditure based on allocation keys.
TYPICAL AGE OF DATA IN METHOD/TOOL OUTPUTS  (Note: T-0 = Current Year, T+ = Prospective Estimates)	 <p style="text-align: center;">T-2      T-1      T-0      T+1      T+2      (Cadence: Every 2 - 3 years)</p> <p>Cadence refers to frequency of study or how often data is collected.</p>

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<p>RELATIONSHIP WITH OTHER TOOLS</p>	<p>The primary source of data are government expenditure records and IFMIS systems. Other funding/expenditure tracking methodologies and tools can support the production of NHA; these include:</p> <ul style="list-style-type: none"> <li>• The Health Resource Tracker Tool</li> <li>• NASA</li> <li>• Resource mapping resulting from the RMET initiatives</li> <li>• ABC/M once institutionalized.</li> </ul> <p>Additional questions can be added to the demographic and household surveys for data inputs required</p> <p>Centralized routine health information repositories for planning will also feed into the NHA</p> <p>The totality of NHA information across all countries is located on the Global Health Expenditure Database.</p>
<p>MAIN ADVANTAGES</p>	<p>The NHA process has transitioned from a resource tracking tool to informing policy in low and middle-income countries.</p> <p>The NHA Production Tool (NHAPT) has streamlined and simplified the NHA estimation process, thereby reducing the need for technical assistance.</p> <p>The cost of the NHA decreases with each subsequent year of production as efficiencies in the process are realized.</p> <p>The differentiator with other financial studies is that the NHA outputs are comprehensive, recurrent, standardized and comparable and cover the whole health sector.</p>
<p>CAVEATS</p>	<p>NHA exercises have a propensity, in some countries, to become a supply driven exercise sponsored principally by donors and development partners rather than governments.</p> <p>Although a number of LMICs produce NHA, activities have often been delinked from core policy planning and budgeting processes—and from the leaders who drive those processes—at the country level.</p> <p>Requires a large team and significant level of effort to produce the accounts.</p>
<p>REFERENCE TO TOOLS &amp; GUIDELINES</p>	<ul style="list-style-type: none"> <li> WHO Health Accounts</li> <li> Global Health Expenditure Database</li> </ul>
<p>REFERENCES FOR THIS REVIEW</p>	<ul style="list-style-type: none"> <li> Creating evidence for better health financing decisions: a strategic guide for the institutionalization of national health accounts/Akiko Maeda et al. World Bank. 2012</li> </ul>

**Annexure Ends:** Navigate to [Where to from here?](#) if selected tool meets study requirements OR return to [Step 4](#) to view other methodologies and tools. 

<b>NAME OF TOOL</b>	<b>A1.19   PRIMARY HEALTH CARE COSTING TOOL</b>
DEVELOPER/CUSTODIAN/ OWNER OF TOOL	<b>Management Sciences for Health (MSH)</b>
CATEGORY OF TOOL	Costing, budgeting and resource needs estimation
OVERVIEW	<p>A sustainable primary health care (PHC) system is essential for achieving universal health coverage (UHC). However, due to financial resource constraints, many countries are unable to meet the PHC needs of their populations.</p> <p>To improve the allocation of resources for PHC and advocate for increased domestic funding, there is a need to determine the costs and resources requirements for providing PHC services and operating a robust PHC system. There are few dedicated costing tools for costing PHC services among networks of providers and facilities.</p> <p>Through a multi-year investment from the Bill &amp; Melinda Gates Foundation, MSH developed the PHC Costing Tool which helps decision-makers in their efforts to expand the coverage of PHC services. It allows users to quantify the gap in resources needed to achieve universal coverage of PHC services, and to identify where efforts should be focused, specifically at which geographic locations and for which services or facility levels. It can also help to identify which types of resources (e.g., human resources, specific drugs, etc.) require more investment if the goal is to achieve UHC.</p>
SOFTWARE PLATFORM	The PHC Costing tool is both a public good and open sourced provided through Microsoft Excel 2016 or higher, running on MS Windows (not compatible with Mac computers). The PHC Costing Tool is both a public good and open source, allowing users to adapt the tool to local needs to calculate the costs of PHC service delivery.
DESCRIPTION	<p>The PHC Costing Tool is designed to facilitate the costing of primary health care services among networks of service providers under different coverage scenarios from the health sector perspective.</p> <p>The tool has two main components: <b>(i)</b> an actual costing model, which estimates actual resources consumed on PHC services in health facilities, and <b>(ii)</b> a normative costing model, which estimates the cost of providing services as per prescribed standards and quality to all those in need. The comparison between the normative and actual costs allows users to estimate the gap in resources required to achieve universal coverage of quality PHC services. The model also allows for the adjustment of key variables to conduct a multi-way sensitivity analysis for scenario planning.</p>
USE CASES	<p>The PHC Costing Tool is being used to generate much-needed evidence to support decision-making on PHC planning, facilitating resource allocation and budgeting, and helping to improve PHC system performance. A pilot of the tool was completed in Kenya (April 2021) and work is underway in Ethiopia, India, and Nigeria as well as in Sierra Leone (an initiative by the Ministry of Health and Partners In Health).</p> <p>Results from the Kenya analysis (conducted in seven sub-counties) provide evidence on the costs and resource requirements for the implementation of the Kenya PHC Strategic Framework (2019-2024). Further details are provided in the project report<sup>1</sup>.</p>

<sup>1</sup> Costing Analysis of Primary Health Care in Kenya. MSH, April 2021

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KEY USER GROUPS	Strategic planners, policy makers, health program implementers, and government (MOH) and partners.
LEVEL OF EFFORT	<p>The user is responsible for populating the tool with actual and normative cost data. The actual costing model uses actual facility-level data on the current utilization of services, expenditures, and staffing, which can be obtained from existing information systems and/or surveying a sample of health facilities. The normative cost model requires users to enter standard treatment protocols (indicating the amounts of clinical labour, drugs, supplies, and time which are required for each service), unit costs, and expected service volume. This requires an up-front investment to establish an initial working version of the tool.</p> <p>To reduce the time required for data entry, the tool is pre-loaded with demographics for over 200 countries as well as standard treatment protocols for a selected set of services which can be easily tailored by the user.</p> <p>Once populated, the tool can be used for conducting scenario analysis. It can also be updated for recurrent costing analyzes (with data on service utilization, expenditures, and staffing).</p>
USER SUPPORT	The tool includes a <i>Guided Tour</i> for new users; online training modules are currently being developed. Future technical support for and hosting of the PHC Costing Tool have not been determined beyond the award period (2021).
GEOGRAPHICAL USE	The Kenya pilot was completed in April 2021 with work underway in Ethiopia, India, and Nigeria as well as in Sierra Leone (an initiative by the Ministry of Health and Partners and Health).
INPUT DATA REQUIREMENTS	<p>Actual cost/data requirements:</p> <ul style="list-style-type: none"> <li>• Utilization of PHC services in a sample of facilities at different levels (e.g., community, health post, dispensary, health centre, hospital)</li> <li>• Expenditures in a sample of facilities</li> <li>• Staffing in a sample of facilities</li> <li>• Total utilization of PHC services provided at each level (e.g., community, health post, dispensary, health centre, hospital), to expand results from the sample.</li> </ul> <p>Normative cost/data requirements:</p> <ul style="list-style-type: none"> <li>• Catchment populations for any subnational strata of interest (national level demographics are pre-loaded for over 200 countries)</li> <li>• Standard treatment protocols, including drugs, supplies, tests, and time required by provider type</li> <li>• Unit costs of the drugs, supplies, tests and labor, used in the standard treatment protocols</li> <li>• Population in need (e.g., <i>incidence</i> of acute illnesses, <i>prevalence</i> of chronic illnesses, <i>demand</i> for preventive services)</li> </ul>

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## COST CALCULATIONS & OUTPUT

Actual costs refer to the actual services (type and quantity) being offered at a primary health care facility using the actual staff compliment. Capital costs, above-service delivery costs and out-of-pocket costs are excluded. Costs collected from health facilities include human resources (clinical and non-clinical personnel), drugs and medical supplies purchased and other recurring costs. Where possible, costs are allocated to different type of services based on user-defined service weighs.

Normative costs are calculated based on standard treatment norms, expected levels of service volume and the resource requirements needed to meet those standards.

The tool can be used to estimate the:

- Cost of providing a particular package of services, such as a priority health services package
- Cost of scaling up a package of services to meet the full need or achieve target coverage of a certain population
- Cost of different service delivery models, such as community-based or facility-based
- Ideal staffing patterns for different numbers and mixes of services
- Efficiency levels of services currently provided, and
- Estimated prices for contracting services in areas where services are not currently offered

The tool includes a multiway sensitivity analysis module, where different normative cost scenarios can be compared by varying the following key input variables simultaneously:

- Population coverage (of each service independently)
- Unit costs (of each drug, supply, test and labor type, independently)
- Labor efficiency (assuming a certain proportion of staff time is devoted to non-clinical activities)
- Care-shifting (assuming a certain proportion of service delivery is shifted from one facility level to another)

## TYPICAL AGE OF DATA IN METHOD/TOOL OUTPUTS

(Note: T-0 = Current Year,  
T+ = Prospective Estimates)



Cadence refers to frequency of study or how often data is collected.

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<p><b>RELATIONSHIP WITH OTHER TOOLS</b></p>	<p>The output from PHC Costing can be used in strategic and finance planning and be used to inform other processes such as funding landscape analysis, resource mobilization, advocacy and determination of medium-term budget envelopes.</p> <p>Other costing studies and tools that produce more accurate unit costs, can also be used as input into the PHC Costing Tool in terms of more accurate allocation of actual shared costs e.g., human resource costs.</p> <p>The tool is not intended to replace or compete with the One Health Tool which is commonly used to support national strategic health planning in LMICs. Instead, it is intended to complement its use and provide additional granularity of PHC costs and resource needs at the health facility and sub-national levels.</p>
<p><b>MAIN ADVANTAGES</b></p>	<p>The PHC Costing Tool is one of few integrated costing tools for PHC services and systems, that facilitate costing at the level of detail provided for in the tool. Some other advantages include:</p> <ul style="list-style-type: none"> <li>• Allows comparison of actual against normative costs and the quantification of the resource gap</li> <li>• Can estimate the cost of different service delivery scenarios</li> <li>• Includes pre-loaded demographic data for 200+ countries and standard treatment protocols for a selected set of PHC services</li> <li>• All input parameters can be edited by the user (no black box)</li> <li>• It is dynamic, allowing the user to show the results of changing assumptions e.g., easily and quickly, adding service or introducing new test or medicines.</li> </ul>
<p><b>CAVEATS</b></p>	<p>The PHC Costing Tool was developed to inform resource-allocation decisions, resource gap analysis and strategic planning. Based on the costing methodology certain costs items are excluded and assumptions made about allocating shared costs result in service line costs which may not be as accurate or complete as might be required. Disease or service line-specific costing tools may yield more accurate and complete costs where a higher degree of granularity and accuracy is required.</p>
<p><b>REFERENCE TO TOOLS &amp; GUIDELINES</b></p>	<p>To be completed once download details known.</p>
<p><b>REFERENCE TO DETAILED REVIEW (IF AVAILABLE)</b></p>	<p>No known references.</p>




**Annexure Ends:** Navigate to [Where to from here?](#) if selected tool meets study requirements OR return to [Step 4](#) to view other methodologies and tools.



## ANNEXURE B: TERMINOLOGY AND DEFINITIONS

TERM	DESCRIPTION	SOURCE OF DESCRIPTION
ABOVE-SERVICE DELIVERY SITE COSTS	Costs incurred above the service delivery site, such as central management or administrative services, centralized training or education, centralized laboratory services, procurement/collection/distribution/storage of supplies, record-keeping, and surveillance. Note that above-service delivery site implies more centralized support processes at a district, regional or central level. There can be management, procurement, etc. at the site-level as well those that are conducted by the site/program.	 Guidelines for Costing of Social and Behavior Change Health Interventions
ACTIVITY BASED COSTING	An approach to the costing and monitoring of activities which involves tracing resource consumption to activities, and costed activities to cost objects based on (activity) consumption estimates. The latter utilize cost drivers to attach activity costs to outputs. (Adapted from CIMA terminology). In the health context, health services are frequently defined as activities and resources consumed are traced directly to health services.	 CIMA Activity Based Costing
ACTUAL COST	A term to describe the underlying cost to produce a good or service, carry out an activity, or achieve a goal. That cost depends on many variables including input prices and decisions made by the producers (e.g. health care providers). The cost of delivering health services is not a single point that can be measured—rather, it is a function of decisions made by providers, which may include inefficiencies. Also referred to as “real cost”.	 Costing of Health Services for Provider Payment: A practical manual based on country costing challenges, trade offs and solutions
ALLOCATIVE EFFICIENCY ANALYSIS	The concept of allocative efficiency refers to the maximization of health outcomes using the least costly mix of health interventions. HIV allocative efficiency analysis addresses the question “How can HIV funding be optimally allocated to the combination of HIV response interventions that will yield the highest impact?”	 UNODC Science Addressing Drugs and HIV: State of the Art Scientific Consensus for High Level Segment of the Commission on Narcotic Drugs
AVERAGE COST	The total cost of producing a service divided by a given level of unit of intervention, output or service.	 GHCC reference case
BUDGET IMPACT ANALYSIS	Budget impact analyses are used to forecast the likely change in expenditure for a specific budget holder following a decision to implement a novel healthcare intervention or enact policy changes on a broader population scale. These analyses typically employ a budget impact model, projecting financial changes over a span of 3 to 5 years, applicable at either a national or local level for healthcare payers and providers.	 Budget Impact Analysis [online]. (2016). York; York Health Economics Consortium; 2016.









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TERM	DESCRIPTION	SOURCE OF DESCRIPTION
BUDGET IMPACT ANALYSIS (CONT.)	In contrast to cost-effectiveness analyses, which focus on assessing value for money, budget impact analyses prioritize evaluating affordability. Typically, these analyses involve comparing two scenarios: one where the new intervention or policy is implemented, and another where it is not (a counterfactual). Each scenario factors in elements such as population size, patient eligibility, adoption/uptake rate, and market share as well as the cost of the intervention. Decision-makers at local or national levels commonly utilize budget impact models for strategic planning, particularly in scenarios where increased expenditure in one area is offset by savings in another.	
COMPREHENSIVE (FULL) COST	Full cost of a service or package of services, including facility level, community activities, management, overheads and above site costs.	Own definition
COST-EFFECTIVENESS ANALYSIS	Cost effectiveness is a form of economic evaluation that assesses the health outcomes and costs of interventions designed to improve people’s health. The results are typically summarised in a series of incremental cost-effectiveness ratios (ICERs) that show, for one intervention compared with another, the cost of achieving an additional unit of health outcome.	Neumann, P. J., Sanders, G. D., Russell, L. B., Siegel, J. E., & Ganiats, T. G. (Eds.). (2016). Cost-effectiveness in health and medicine. Oxford University Press.
COSTING	Costing at the most basic level assesses the cost or value of a product or service. Health costing is the process of estimating the monetary representation of the totality of resources consumed within the health system.	<p> Andersson, E. R. and Book, E. (2011) 'Health Care Cost Ergonomics Guidelines and Problem Solving The Intensivist in the New Hospital Environment Pharmacy Practice in Nepal'</p> <p> Syntellis (2022) Cost Accounting in Healthcare</p>
ECONOMIC COSTS	Economic costs (aka opportunity costs) reflect the full value of all resources utilized in producing a good or service. Economic costs reflect “opportunity costs” since they represent resources consumed, that thus forgoes the opportunity to devote those resources to another purpose.	 GHCC Reference Case








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TERM	DESCRIPTION	SOURCE OF DESCRIPTION										
<p><b>EPIDEMIC AND DISEASE MODEL</b></p>	<p>Uses mathematics to describe the dynamics of disease acquisition or progression within individuals.</p>	<p><a href="#">Major Infectious Diseases 4<sup>th</sup> edition. Ch 9 Improving the efficiency of the HIV/AIDS response: A guide to resource allocation modelling</a></p>										
<p><b>EXPENDITURE</b></p>	<p>Expenditures reflect the financial outlay that an agent (e.g., government, donor or individual) spends during a period of time for goods and services. Expenditures can refer to the entire sum required by specified health services, or it may pertain only to those outlays incurred by a subset of the organizations involved in delivering the service. Note that expenditure data are usually reported using the cash basis method of accounting, that is, no amortization to capital goods is applied; all capital goods expenditures are recorded in full as they are incurred.</p>	<p><a href="#">Reference Case for Estimating the Costs of Global Health Services and Interventions</a></p>										
<p><b>EXPENDITURE TRACKING</b></p>	<p>National and sub-national expenditure tracking surveys seek to compile a complete ‘picture’ of how and where implementers and budget holders have spent available resources. Expenditure tracking is therefore a retrospective task. Depending on the specific objectives of the survey, tracked expenditure can be presented by program areas, cost categories and by health system levels at different levels of granularity. Expenditure tracking can also be carried out together with resource mapping to facilitate an analysis of how funds flow from source to beneficiary. Public expenditure tracking involves tracing expenditure from source expenditure documents to public services, programs, geographies and sometimes beneficiary groups.</p> <div data-bbox="439 975 1800 1369" data-label="Diagram"> <p><b>Flow of funding</b></p> <pre> graph LR     A[Sources of finance] --&gt; B[Funding agents/ intermediary institutions]     B --&gt; C[Service providers (Allocation to budgets)]     C --&gt; D[Budget execution]   </pre> <p><b>Resource mapping</b> is a retrospective or prospective exercise to map the flow of funding from source through the health system to government and non-government intermediaries and implementers.</p> <p><b>Expenditure tracking</b> establishes how and where available funds have been spent and may consider if expenditure is aligned to budget priorities.</p> <p><b>Examples</b></p> <table border="1"> <tr> <td>PEPFAR/COP</td> <td>→</td> <td>USAID</td> <td>→</td> <td>INGO</td> </tr> <tr> <td>Treasury</td> <td>→</td> <td>MoH</td> <td>→</td> <td>District Hospitals</td> </tr> </table> <p><b>\$50 budget</b> → \$43m spent on HIV expenditure in a particular country</p> </div>	PEPFAR/COP	→	USAID	→	INGO	Treasury	→	MoH	→	District Hospitals	<p><a href="#">Public Expenditure Tracking</a></p> <p><a href="#">Reinikka, R. and Bank, T. W. (2002) ‘Public Expenditure Tracking’, pp. 1-11.</a></p> <p><a href="#">Sundet, G. (2008) ‘Following the money: do Public Expenditure Tracking Surveys matter?’, U4 Issue 2008:8, p. 28.</a></p>
PEPFAR/COP	→	USAID	→	INGO								
Treasury	→	MoH	→	District Hospitals								

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TERM	DESCRIPTION	SOURCE OF DESCRIPTION
FINANCIAL COST	Financial outlays for goods and services needed to carry out a public health or medical intervention (in the context of global health), and as such are similar to expenditures. However, in contrast to expenditure data, financial costs depreciate capital expenditures over time.	 GHCC reference case
FINANCIAL MANAGEMENT SYSTEM	An information system that tracks financial events and summarizes information and supports adequate management reporting, policy decisions, fiduciary responsibilities, and preparation of auditable financial statements.	 The World Bank Annual Report 2003: Volume 2. Financial Statements and Appendixes
HEALTH BUDGETING	Health budgeting is an annual planning exercise that forecasts revenue and allocates resources to programs and interventions, to give effect to the budget holders financial objectives and commitments to implementing its health policies and strategies.	 Strategizing national health in the 21 <sup>st</sup> century: A handbook
HEALTH ECONOMIC MODELLING	Modelling can be broadly defined as the reproduction of events and possible consequences due to alternative policy options at the cohort or individual levels using mathematical and statistical frameworks.	 A systematic review of modelling approaches in economic evaluations of health interventions for drug and alcohol problems
HEALTH FINANCING SYSTEM	Set of policies and supporting arrangements that govern the resources and economic incentives of the health system. Includes revenues raising, pooling risk, strategic purchasing, governance and design of benefit policies.	 Strategic purchasing for Universal Health Coverage: key policy issues and questions. A summary from expert and practitioners' discussions
HISTORICAL COST	A historical cost is a measure of value used in accounting in which the value of an asset on the balance sheet is recorded at its original cost when acquired by the company. The historical cost method is typically used for fixed assets.	 Investopedia: Corporate Finance and Accounting
INCREMENTAL COST	The difference in cost between two or more interventions or programs, or the cost of changing the scale or approach to an intervention from the current service provision. <i>(Refer to <a href="#">Annexure 4 on incremental costing</a>)</i>	 GHCC reference case
INDIRECT COSTS	Costs that are not directly related to patient care. Examples of indirect costs include: general administration, health records, information technology, physical plant and maintenance, non-service delivery human resources and volunteer services, capital expenses, and other regional services.	 Costing Methods: An Overview of Costing Health Services in Manitoba







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TERM	DESCRIPTION	SOURCE OF DESCRIPTION
INGREDIENTS BASED COSTING	An ingredients-based costing approach measures both prices and quantities of ingredient resources consumed by an activity/service, rather than collecting aggregate expenditures.	 How to cost immunization programs: A practical guide on primary data collection and analysis
META DATA	Metadata summarizes basic information about data, making finding and working with particular instances of data easier.	 Open Data Soft
META-DATA ANALYSIS	Meta-data-analysis is the overarching analysis of the results of other scientific studies and is one of the branches of meta-studies. It is an umbrella term that refers to any secondary analysis of the findings of two or more primary research studies. Meta-data-analysis interrogates information that has resulted from other scientific research to gain a more integrative understanding of what has been discovered about some topic.	 SpringerLink: Encyclopedia of Quality of Life and Well-Being Research
MICRO COSTING	A costing method that determines the unit cost of producing a good or service, carrying out an activity, or achieving a goal by summing the cost of all inputs. In health services costing, this method is used to estimate the cost to deliver a narrowly defined service or to treat a type of patient. This method aims to determine as accurately as possible the observed cost of a service or patient through direct measurement of resource use.	 Costing of Health Services for Provider Payment: A practical manual based on country costing challenges, trade offs and solutions
NORMATIVE COST	A type of bottom-up costing that estimates unit costs from input requirements to deliver a specific health service according to standard treatment guidelines or expert opinion, and input prices derived from normatives, average market prices, and/or other sources. Also called clinical care pathway costing.	 Costing of Health Services for Provider Payment: A practical manual based on country costing challenges, trade offs and solutions
OPEN SOURCE	Open-source software is software with source code that anyone can inspect, modify, and enhance.	 Open Source Software for Building Health Economic Models
OVERHEADS	Overhead costs refer to costs that cannot be directly traced to the provision of a service, such as administration, security personnel, buildings and general equipment. These costs may be referred to in some texts as indirect costs. Due to terminology confusion, the Reference Case recommends use of the term “operational” activity cost.	 Reference Case for Estimating the Costs of Global Health Services and Interventions

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TERM	DESCRIPTION	SOURCE OF DESCRIPTION
PROSPECTIVE COSTING	A costing exercise viewpoint in which the events of interest (expenditures and utilization) have not yet taken place when the exercise begins.	<a href="#">Costing of Health Services for Provider Payment: A practical manual based on country costing challenges, trade offs and solutions</a>
PUBLIC FINANCIAL MANAGEMENT (PFM) SYSTEM	Set of rules and institutions, policies and processes that govern the use of public funds.	<a href="#">WHO, 2017. Aligning PFM. Aligning public financial management and health financing: A process guide for identifying issues and fostering dialogue</a>
PUBLICLY AVAILABLE	Any information that a licensee has a reasonable basis to believe is lawfully made available to the general public.	<a href="#">Law Insider Dictionary</a>
RELATIONAL DATABASE	A relational database is a type of database that stores and provides access to data points that are related to one another.	<a href="#">Oracle: What is a Relational Database (RDBMS)?</a>
RESOURCE ALLOCATION MODEL	Considers multiple interventions simultaneously and in various configurations to inform how effort and funding might be divided among different uses.	<a href="#">Major Infectious Diseases 4<sup>th</sup> edition. Ch 9 Improving the efficiency of the HIV/AIDS response: A guide to resource allocation modelling</a>
RESOURCE MAPPING	A retrospective or prospective exercise to map the flow of funding from source to health programs, interventions, geographies and sub-population groups, via government and non-government intermediaries and implementers. It can include resources from government and non-government sources of financing such as ODA partners, the private sector and out of pocket payments by patients, and can be on-budget or off-budget. Resource mapping can be followed by expenditure tracking, which retrospectively assess whether the allocated funds were used as intended. Mapping may use data from budgets, disbursements, commitments and expenditure from different sources.	<a href="#">Global Financing Facility (2020) 'Resource mapping and expenditure tracking for COVID-19 Response: A Design Checklist and Overview of Tools', <i>Wbg</i>, pp. 1-18.</a>
RESOURCE TRACKING	Refer to resource mapping.	PEPFAR term. Own definition

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TERM	DESCRIPTION	SOURCE OF DESCRIPTION
RETROSPECTIVE COSTING	A costing exercise viewpoint in which the events of interest (expenditures and utilization) have already taken place when the exercise begins. This requires a measurement of resources consumed and attaching actual costs to consumed resources.	 Costing of Health Services for Provider Payment: A practical manual based on country costing challenges, trade offs and solutions
ROOT-CAUSE ANALYSIS	A defined process that seeks to explore all of the possible factors associated with an incident by asking what happened, why it happened and what can be done to prevent it from happening again.	 WHO: Knowledge is the Enemy of Unsafe Care
SHARED COST	Costs that can be allocated to two or more departments or services on the basis of shared utilization or benefits.	Own definition
STANDARD TREATMENT PROTOCOLS	A systematically developed statement designed to assist practitioners and patients in making decisions about appropriate health care for specific clinical circumstances.	 WHO Drug and Therapeutics Committee Training Course—Participants' Guide
TIME DRIVEN ACTIVITY-BASED COSTING	Time-driven activity-based costing (TDABC) is a methodology that allows providers and staff to observe resource costs at the patient-level in order to inform delivery of care.	 Rethinking the cost of healthcare in low resource-settings: the value of time driven activity-based costing
TOP-DOWN COSTING	A costing method that first documents the total expenditure of an entity (e.g., health facility) and distributes it among the cost centres and then to units of output (e.g., bed-days, discharged patients, outpatient visits) to arrive at the average cost of resources used to produce a good or service, carry out an activity, or achieve a goal.	 Costing of Health Services for Provider Payment: A practical manual based on country costing challenges, trade offs and solutions
TRACING FACTORS	The allocation of shared resources to the health program is based on some 'allocation key' or 'tracing factor'. These tracing factors can also be used to allocate cost of inputs within programs to different program activities.	 How to cost immunization: A practical guide on primary data collection and analysis



## ANNEXURE C: DETAILED COSTING APPROACH TEMPLATE

<b>Perspective</b>	Patient	Provider	
Select the study perspective			
<b>Time Period</b>	Prospective	Retrospective	
Should the study estimate actual or future values?			
<b>Level of Detail</b>	Detailed	Not Detailed	
Do estimates need to be detailed or high-level?			
<b>Funding Source</b>	Government	Donors	In Kind
Will the costing of the intervention include costs from all funding sources?			
<b>Health System Levels</b>	Above Facility Costs	Indirect Costs - Facility	
Will above-facility costs be included?			
<b>Type of Costing</b>	Financial	Economic	Fiscal (Resource Flow)
Is the costing a financial or economic costing? Will financial flows be estimated?			
<b>Full or Incremental</b>	Full	Incremental	
Does the study estimate full or incremental costs?			
<b>Actual or Normative Values</b>	Normative	Actual	
Is the costing study approach estimating normative costs or actual implementation costs?			
<b>Cost Reporting</b>	By Activity	By Line Item	By Intervention
Does the costing of the intervention need to report costs by activity, line item or by the intervention itself as a whole?			
	Cost Category	Health System Level	
Does the costing of the intervention need to report costs by category and level of health systems?			

# ANNEXURE D: COMPARING UNIT COSTS WHEN USING DIFFERENT COSTING APPROACHES

Different approaches to estimating unit costs can lead to significant differences in the value of estimated unit costs for the same service - it is important to choose the correct costing approach to accurately inform specific planning and decision-making processes. This annex offers an example to illustrate the effect of different costing approaches on the magnitude of total economic financial and/or incremental unit costs.

## Definitions (abbreviated)

- **Total economic costs:**<sup>1</sup> Economic costs reflect the full value of all resources utilized in producing a good or service. Also known as “opportunity costs” associated with not being able to devote those resources to another purpose.
- **Total financial costs:** Financial outlays for goods and services needed to carry out a public health or medical intervention and include the depreciate capital expenditures over time.
- **Incremental costs:** The difference in cost between two or more interventions or programs, or the cost of changing the scale or approach to an intervention from the current service provision.
- **Recurrent costs:** In the example below refers to ongoing, routine costs incurred in delivering and supporting services.

## Real-world example<sup>2</sup>

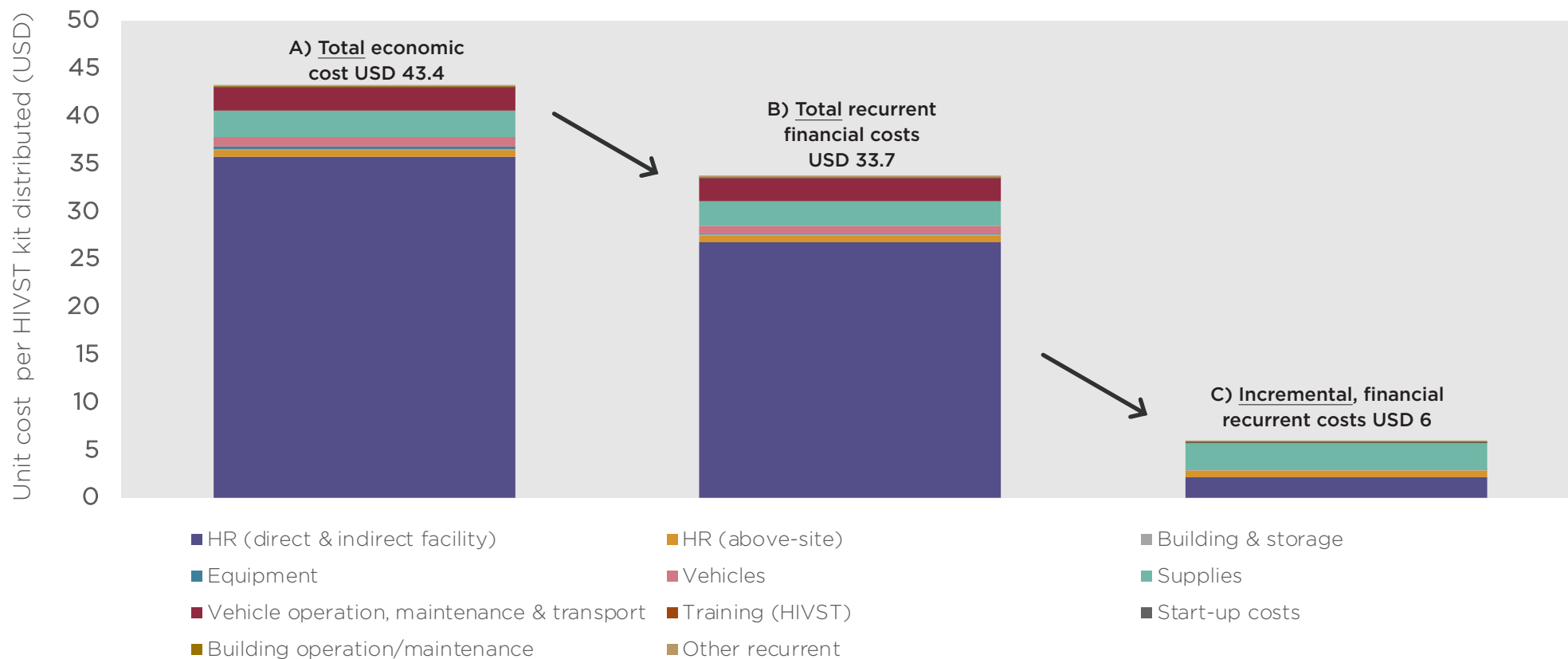
A study conducted in Lesotho estimated the cost of a mobile HIV testing and screening (HTS) program in Lesotho as well as the cost of adding a HIV self-testing (HIVST) intervention to the program. The additional intervention is implemented alongside the existing HTS program intervention and as a result, some resources are shared.

Figure 1 below shows the different unit costs of distributing one HIVST kit when using three different costing approaches.

<sup>1</sup> Costing definitions adapted from: *Vassall\_etal\_2018\_reference\_case\_for\_estimating\_costs\_global\_health\_services.pdf*; Global Health Cost Consortium

<sup>2</sup> Adapted from: *F. Terris-Prestholt & M. d'Elbée, Projecting costs at scale: from theory to practice. Lessons From HIV Self Testing, 11<sup>th</sup> IAEN, July 2020; d'Elbée et al. (2020). Using HIV self-testing to increase the affordability of community-based HIV testing services. AIDS (London, England), 34(14), 2115. The total recurrent unit of expenditure is not provided in the referenced study and a hypothetical unit cost was created for illustrative purposes.*

**Figure 1:** Different unit costs of distributing HIVST kits



### The difference explained:

#### Moving from A to B: Remove donated or volunteer costs

- Removed: Donated equipment and vehicles, volunteer HR time, annualized and discounted start-up and capital costs.

#### Moving from B to C: Remove shared costs – only include costs incurred by adding HIVST

- Removed: Existing HTS staff, all existing vehicles, capital and unaffected recurrent costs (no new vehicles purchased for HIVST and all HIVST activities are carried out alongside HTS activities), all building costs except for additional storage of HIVST kits, and all equipment except for additional maintenance of HIVST-specific equipment purchased.

Table form of Figure 1

<i>Cost line items</i>	<i>Total economic costs</i>	<i>Total recurrent financial cost</i>	<i>Incremental recurrent financial cost</i>
<b>Recurrent costs</b>			
Supplies - donated	X		
Supplies - paid in that period	X	X	X
HR - New paid staff hired for service	X	X	X
HR - Existing paid staff supporting new service	X	X	
HR - Volunteer staff	X		
HR - Training for new service	X		
Equipment - maintenance for new equipment	X	X	X
<b>Capital costs</b>			
Equipment - existing (discounted, annualized)	X		
Start-up, new equipment, initial training, and other capital	Discounted, annualized (over the life of the item)	Total and incremental recurrent expenditure exclude start-up and new capital items. These can be shown in a separate summary as once-off investments to inform planning	
HIV ST unit cost example	\$43.40	\$33.70	\$6.00

## Appropriate use of unit costs and related costing approach

The example above highlights the significant difference between different types of unit costs for the same intervention. These differences result entirely from the costing approach chosen. It is therefore important to choose the correct costing approach given a particular information need or research question.

If program managers want to know what *additional resources* will be required to scale up services, then the incremental costs of \$6/unit would be the most relevant. Using the economic or the total recurrent financial cost would overstate the additional resources required. However, if managers want to know the *total ongoing* financial resources required to introduce a new service, then using incremental costs would significantly understate the total required resources. Similarly, if strategic planners want to understand the total economic (opportunity) cost of investing in the new service, then the total economic cost per unit would be the correct value to use. Using the total or incremental financial costs would understate the total opportunity costs and may result in a poor planning decision.

## DOCUMENT REFERENCE

Guidance for Selecting Methods and Tools for HIV Economic Studies

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