MTaPS TECHNICAL APPROACH BRIEF:

Using the OneHealth Tool to Allocate Pharmaceuticals Budgets in the Asia Region

CONTEXT

Policymakers are increasingly seeking evidence-based approaches for determining how a country's limited budget resources should be allocated to provide health care to the population most effectively and achieve the best possible health outcomes. Evidence-informed health policymaking requires systematic and transparent access to evidence and uses the best available data to make policy decisions.[1]

Decision-making for overall allocation of health budgets, including pharmaceuticals, is complicated for various reasons, particularly in low- and middle-income countries. In several countries, the Ministry of Health (MOH) allocates health budgets based on historical budgets rather than on program priorities or the population's need for health services. This may be because the MOH does not use distribution criteria (real needs of health units, size of the population, health indicators performance, availability of economics units such as manufacturers, jobs, and mining production in the region, etc.), relies on multiple strategies and tools for resource allocation, or lacks sufficient decision-making tools and data.

Lack of evidence from a detailed pharmaceutical expenditure (PE) analysis encourages countries that have traditionally allocated health budgets based on historical allocations to continue doing so. This can leave decision-making on allocation of pharmaceutical resources open to the influence of politics and individual preferences.[2] Promoting the use of more accurate PE data could positively disrupt the policy status quo, as it may redefine the dynamics, provide more robust evidence for pharmaceutical decision-making, and help ensure that allocation decisions are made based on equity and need.

MTaPS' Support for OneHealth Tool (OHT) Implementation

In 2021, MTaPS conducted two regional training courses on the OHT—the first for participants from Kyrgyzstan in July and the second for participants from Bangladesh, Nepal, and the Philippines in September. Following in-country OHT training with the Health Economics Unit and other selected MOH staff and partner agencies, Bangladesh, with MTaPS' support, used the OHT to cost its social health protection scheme interventions.

[1] Oxman, A.D., Lavis, J.N., Lewin, S. et al. SUPPORT Tools for Evidence-Informed Health Policymaking (STP) 1: What is evidence-informed policymaking? Health Res Policy Sys 7 (Suppl 1). 2009. https://doi.org/10.1186/1478-4505-7-S1-S1

[2] The Local Health System Sustainability Project under the USAID Integrated Health Systems IDIQ and the Medicines, Technologies, and Pharmaceutical Services Program. December 2022. Estimating Pharmaceutical Expenditure Using the System of Health Accounts 2011 Framework: Revised Draft Resource. Rockville, MD: Abt Associates.

A comprehensive cost estimation tool for pharmaceuticals and other health interventions, such as the OneHealth Tool (OHT),[3] can provide health sector policymakers with the data they need to engage in evidence-based budget negotiations and contribute to accurate budget allocation.

Countries such as Cameroon, Benin, and Bangladesh recently started using the OHT to cost universal health coverage (UHC) benefits packages, including making projections on unit and total costs of UHC interventions and on size of the target population for the intervention. OHT also enables users to estimate the cost of the drugs and related commodities (known together as the pharmaceutical package) associated with each intervention, as aligned with the relevant treatment guidelines or protocols.

The OHT software allows users to generate scenarios and see the health system implications of scaling up delivery of clinical interventions, the capital investment gap (available funds vs. the need for hospital and clinic buildings, lab and medical equipment, and IT systems), and a comparison of program implementation costs with the estimated financial resources available for implementation of that program. The results can be used to inform priority-setting processes.

APPROACH

To increase the likelihood that pharmaceutical budget allocation will contribute to desired health outcomes, developing a complete inventory of health interventions that could be covered by a benefits package and then using a comprehensive tool like the OHT to estimate the need for resources is crucial. That evidence and data can then be used to support negotiations with the executive (MOH and Ministry of Finance) and legislative (Parliament) branches of government and secure agreement on budget allocation for the pharmaceuticals package.

IMPLEMENTATION

The following steps (figure 1) describe the methodologies and information needed to use the OHT to develop a comprehensive costing process that will inform budget allocation.

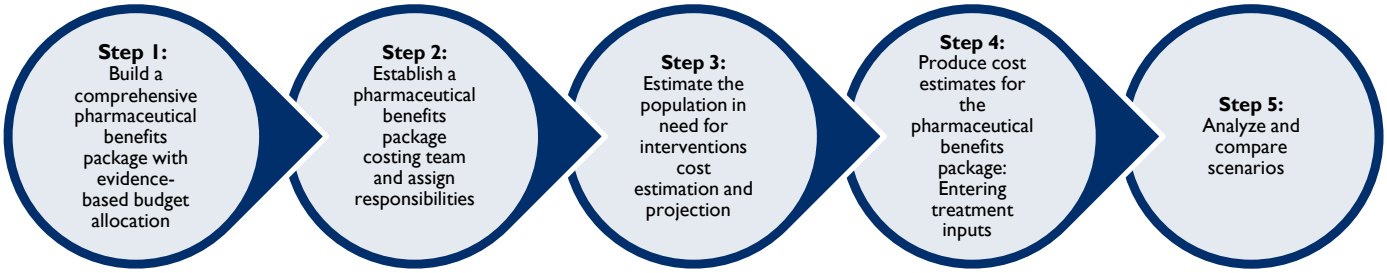


Figure 1. Implementation steps: using the OneHealth Tool to allocate pharmaceuticals budgets

[3] Avenir Health created the OneHealth Tool, an open-source software that is available free of charge. It can be used by any country to develop strategic national health planning and costing. First released in May 2012, it has been utilized in over 55 countries, a majority of which are in sub-Saharan Africa. Oversight of the OneHealth Tool is provided by the UN InterAgency Working Group on Costing, and technical oversight is provided by the World Health Organization (WHO). For more information, see https://www.mtapsprogram.org/our-resources/the-onehealth-tool/.

STEP 1: BUILD A COMPREHENSIVE PHARMACEUTICAL BENEFITS PACKAGE WITH EVIDENCE-BASED BUDGET ALLOCATION

The Ministry of Health and other relevant partners should first define the pharmaceutical benefits they want to provide to the population. Pharmaceutical benefits packages are managed to maximize the efficiency, effectiveness, and oversight of pharmaceutical programs. Explicitly defining the pharmaceutical benefits package is an important step for policymakers in ensuring the population's access to health care. The priority benefits package should be defined based on the frequency of service utilization, the leading reasons for medical consultation, the country's national and international engagement with respect to specific diseases and conditions, and other relevant indicators.

> A pharmaceutical benefits package is a list of medicines and related commodities eligible for prescribing and dispensing for the treatment of listed health conditions for eligible beneficiaries. The costs of the medicines and commodities included in the benefits package can be reimbursed and paid for using pooled health system funds. The pharmaceutical benefits package is usually a subset of the health benefits package.

Pharmaceuticals should be considered a component of a holistic treatment and prevention benefits package and not analyzed in isolation. In some countries, developing the full services package may not be a feasible first step, however, and the pharmaceutical package itself therefore could be the entry point for priority setting. Nonetheless, accurate cost projections will still require estimates of the population in need and disease incidence for the conditions being treated with pharmaceutical interventions.

Because the cost of medicines included in the pharmaceuticals package must be consistent with the funds available, the package will not be fully defined until the costing exercise is complete. Adjustments to the package will take place during the costing process.

STEP 2: ESTABLISH A PHARMACEUTICAL BENEFITS PACKAGE COSTING TEAM AND ASSIGN RESPONSIBILITIES

Once the overall benefits package has been preliminarily defined, documented, and categorized, the next step is to invite stakeholders to become part of the costing team. Stakeholder engagement is important for building trust, confidence, visibility, and transparency during the costing process. Costing results are essential for informing policy discussions around UHC, and engaging the right stakeholders during the costing process will facilitate UHC policy implementation.

The costing team should bring expertise on the targeted interventions in the benefits package; it may include content experts, such as medical personnel, health economists, and epidemiologists, as well as other interested stakeholders. Often headed by the MOH planning department or a consultant, the costing team can help bridge broader planning discussions and the cost estimation process.

Before initiating the costing exercise, the costing team lead should develop a timeline that includes key responsibilities for each person involved in the process. Stakeholders should agree on the main steps.

STEP 3: ESTIMATE THE POPULATION IN NEED FOR INTERVENTION COST ESTIMATION AND PROJECTION

Key documents—such as the national strategic plan (to inform the targets); documentation of national and international political commitment to implement specific interventions; health programs' strategic plans; and health statistics reports (e.g., baseline indicators and baseline coverages, target population, the population in need)—should be in hand before starting the costing process.

Intervention costs will be determined based on the number of people receiving the intervention and the quantity and price of resources required to deliver the intervention per person. To calculate the number of people receiving the services, the OHT includes data entry fields for population, target population, population in need,

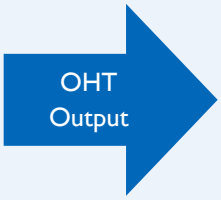
and coverage. All four of these fields must be populated with data so the OHT can estimate the number of people receiving the intervention, by year.

Population—Country-specific defaults are provided in the Demproj module (OHT's demography projection module) but usually will need adjustment by the user.

Target population—The target population is the sub-population (typically age and gender groups) that will receive the intervention (e.g., pregnant women, adolescents, or children aged <1 month).

Population in need—The population in need is the share of the target population that requires the intervention per year. For most preventive care interventions, the share will be 100% (e.g., antenatal care will be required for all pregnant women.) The population in need is determined by the incidence and prevalence of conditions and treatment guidelines. The population in need may be greater than 100% in some cases (e.g., an individual child may experience multiple episodes of diarrhea per year). Specialist and expert opinions may be necessary to estimate incidence and prevalence for some conditions/interventions.

Coverage—The coverage measure refers to how many people, out of the population in need, are actually receiving the intervention (e.g., among children who experienced a fever in a given two-week period, the number who were actually taken to a health provider for treatment). This is an indicator commonly measured in household surveys such as demographic and health surveys and multiple indicator cluster surveys. The coverage module in the tool allows the costing team to build scenarios, such as 100% coverage or 5% coverage in Year 1 with a step-by-step scale-up.

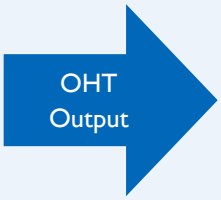


Once the population, target population, population in need, and coverage fields are completed, **OHT will show the number of services that will be offered through the benefits package per year per intervention**.

The number of services will inform policymakers on the number of people per intervention and the population projection over the intervention's implementation time period.

STEP 4: PRODUCE COST ESTIMATES FOR THE PHARMACEUTICAL BENEFITS PACKAGE: ENTERING TREATMENT INPUTS

For the OHT to generate an estimate of the cost of the pharmaceutical benefits package, the costing team needs to enter data in the "treatment input" field. This field includes required inputs with their costs (types and quantities of drugs, unit cost per pill based on market price [for non-program-based drugs] or program unit costs [for health program drugs like family planning products]) for each intervention. Specialists and pharmacists will need to be engaged to review the treatment guidelines, drugs lists, and unit prices to provide this information to the costing team.

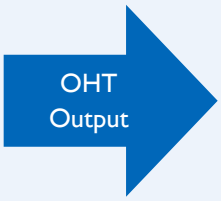


Once this step is complete, **users will be able to export a treatment protocol table from the OHT that includes costs for the drugs/treatment regimen associated with each condition, the percentage of patients receiving the treatment, and other relevant information**. The table will provide the total estimated cost for the pharmaceuticals benefits package.

STEP 5: ANALYZE AND COMPARE SCENARIOS

The costing team can then use the compiled data to produce a variety of scenarios projecting estimated pharmaceutical package costs. These estimated package costs can inform discussions on priority setting and budget availability. Constructing these scenarios should involve a sequence of consultations, including data validation with technical counterparts.

The OneHealth Tool is equipped with intervention and coverage defaults that can be used to simulate rough cost and impact estimates for different scale-up strategies.[4] Based on the policy decisions made, the tool can provide selected scale-up scenarios for the health system modules, and updated coverage estimates can be sent to the impact- and intervention-focused costing modules.



Counterfactual vs. Scale-up modeling: Users can use the OHT to model and compare two scenarios over a specified future timeline to assess the impact of health system interventions. The first scenario is the counterfactual, which is defined as the current trend or baseline service coverage rates. In most cases, the counterfactual scenario relies on baseline data and data from country demographic and health surveys. The second scenario is scale-up, in which there is an increase in service coverage rates and anticipated country outputs (improved health system performance). Table 1 shows an example of modeling scale-up and counterfactual scenarios.

Table 1. Example of inputs for modeling scale-up and counterfactual scenarios

Counterfactual scenario *Description:* Coverage remains unchanged from the current value or the average country-specific historical trends in coverage continue. Types and sources of data: ■ Data on the number of people currently receiving services, as provided in country statistics ■ Data on the number of people needing specified services, based on country epidemiological profiles
Scale-up scenario *Description:* Coverage projected to increase due to the health system intervention initiated and/or scaled up. *Types and sources of data:* ■ Population enrollment targets set by the government ■ Historical trends of population coverage changes in cases where the health system intervention already existed on a smaller scale ■ By type of health system improvement: ○ Domestic Resource Mobilization: Data on the amount of additional funds mobilized and how they have been used or are intended to be used ○ Essential Service Package (ESP): Targets for the number of people expected to benefit from the package; services included in the package ○ Improved Health Workforce: Targets for the number of new health workers deployed or trained; number of existing health workers trained with a new skill; time allocated to specific services; observed changes in service coverage after implementation of the project activity ○ Improved Quality: Number of health facilities that are applying facility infrastructure improvements; number of people served by the health facility that would benefit from the improvements; effect of sizes established in literature review on reduction of unmet need

[4] Kenya Datari, Rachel Sanders, Shamima Akhter, and Catherine Connor. 2018. Modeling Impact of the Health Finance and Governance Project. Rockville, MD: Abt Associates Inc. https://www.hfgproject.org/modeling-impact-of-the-health-finance-and-governance-project/

OHT Output

Counterfactual vs. Scale-up example: Impact analysis and modeling data provide useful information for players to conduct policy dialogue for budget negotiation at the Parliament and Ministry of Finance level and for budget allocation at the MOH level. Figure 2 illustrates one such modeling exercise, which looks at the impact of a health intervention on AIDS deaths.

The model generated by the OHT indicates that achieving 100% coverage of HIV/AIDS-related services would avert more than 7,500 AIDS deaths. The OHT modeling methodology for this type of analysis demonstrates the feasibility and utility of the counterfactual vs. scale-up impact analysis approach and, importantly, provides evidence on the health impact that investing in health systems strengthening (HSS) yields on the ground. This modeling exercise adds to the global understanding of how the impact of HSS can be measured. It provides powerful evidence of why investment and effort in strengthening health systems must continue and offers arguments for budget increase negotiations.

Such models can be used for budget impact analyses, which are essential to a comprehensive economic assessment of a health care intervention and are increasingly required by reimbursement authorities as part of budget negotiations.[5]

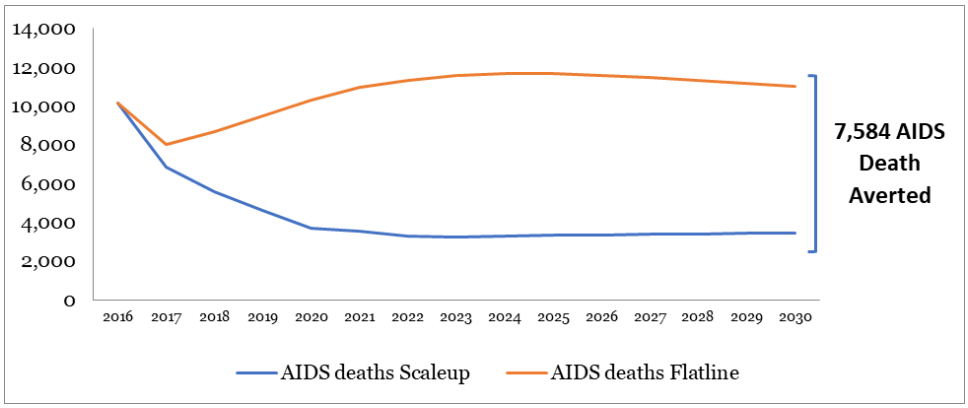


Figure 2. OHT-generated counterfactual vs. scale-up impact analysis

CONSIDERATIONS

- Cost estimation for pharmaceutical benefits underscores the need to set priorities in developing a pharmaceutical benefits package. Using the OHT for pharmaceutical benefits package costing provides an opportunity to strengthen actuarial studies to support decision-making and policy implementation. Results from such a costing exercise could be an essential component of the decision-making dialogue at all levels.
- Evidence-informed policymaking could also consider the results of cost-effectiveness analyses and health interventions impact modeling from the OHT to support priority-setting for interventions costing and later for evidence-based budget negotiations and allocation.

[5] Sullivan SD, Mauskopf JA, Augustovski F, Jaime Caro J, Lee KM, Minchin M, Orlewska E, Penna P, Rodriguez Barrios JM, Shau WY. Budget impact analysis-principles of good practice: report of the ISPOR 2012 Budget Impact Analysis Good Practice II Task Force. Value Health. Jan-Feb, 2014;17(1):5-14. doi: 10.1016/j.jval.2013.08.2291. Epub Dec. 13, 2013. PMID: 24438712.

RECOMMENDATIONS

In costing pharmaceutical benefits packages using the OHT, policymakers should consider several key approaches:

- **Make a plan.** Identify the costing scope and the expected outputs, the targeted user of the costing data, the audience (primary users of the cost estimates), and the timeframe (in relation to the overall UHC planning process). The timeframe for the costing process and the resources needed will depend on three things: the scope and chosen methodology/tools; the availability of data to inform the costing; and the political will and participation of knowledgeable planners to provide inputs into the process.
- **Get buy-in.** Conduct an initial briefing to explain the process to various policy actors and planners at the MOH and the Ministry of Finance, district managers, parliamentarians, donors, and other relevant stakeholders, to gain their buy-in. Present findings of the costing budget and scenarios and the impact results and discuss the importance of health system investments. Engage stakeholders in the costing and planning process; the process of estimating resource needs through a participatory approach can reinforce buy-in among national stakeholders and donors.
- **Take a bottom-up approach.** Linking costs with the target population, population in need, treatment guidelines, and intervention coverage supports accountability and transparent information-sharing.
- **For impact modeling, collaborate closely with country implementation teams to plan and discuss the data requirements.** This is critical to ensure that adequate data and evidence are available to support converting interventions into sound coverage estimations. The costing team could also use secondary data for baseline assumptions and government plans for targets under the scale-up scenarios.[6]

CONCLUSION

Although previous efforts to reform countries' budget allocation processes have met with limited success, the growing availability of rigorous evidence on successful budget allocation approaches promises to help governments design more effective budget processes and make rational investment choices based on data. A comprehensive planning and costing tool like the OHT can enable countries to use rigorous data analysis to determine the cost of interventions and support evidence-based budget allocation.

Pharmaceutical benefits package costing using the OHT provides critical information to support policy dialogue on the feasibility of pharmaceutical benefits package implementation, efficiency, affordability, and financial sustainability:

- OHT costing data can inform discussions on the selection of target population, coverage, and interventions for inclusion in the benefits package.
- The costing provides information that can shape discussions and decisions to ensure that costs are aligned with expected financial resources available.
- Use of the tool gives social health insurance agencies evidence with which to negotiate with pharmaceuticals manufacturers for lower prices.
- OHT provides the data needed to generate clear and transparent information to inform the health budget formulation process.

The OHT can also be used to inform advocacy efforts to increase a country's health commitments and budget allocation; for example, OHT analysis can demonstrate to governments the need to expand the financial resources allocated for the health sector.

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[6] Sullivan SD, Mauskopf JA, Augustovski F, Jaime Caro J, Lee KM, Minchin M, Orlewska E, Penna P, Rodriguez Barrios JM, Shau WY. Budget impact analysis-principles of good practice: report of the ISPOR 2012 Budget Impact Analysis Good Practice II Task Force. Value Health. Jan-Feb, 2014;17(1):5-14. doi: 10.1016/j.jval.2013.08.2291. Epub Dec 13, 2013. PMID: 24438712.

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Authors

This publication was written by Andre Zida.

For more information, please contact memory@msh.org

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The USAID Medicines, Technologies, and Pharmaceutical Services (MTaPS) Program (2018–2024) enables low- and middle-income countries to strengthen their pharmaceutical systems, which is pivotal to better health outcomes and higher-performing health systems. The program is implemented by a consortium of global and local partners, led by Management Sciences for Health (MSH), a global health nonprofit.