Costing & Budgeting for WASH in Health Care Facilities

“How do we leverage the data on costs to make the case to decision makers to finance WASH in HCF?”

Global Webinar: Thursday 1 February 2024
Overview of costing and budgeting

WHO/UNICEF technical webinar series
1 February 2024

Darcy Anderson, MPH PhD
The Water Institute at UNC
University of North Carolina at Chapel Hill
Key terms

<table>
<thead>
<tr>
<th>Costing</th>
<th>Budgeting</th>
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<tbody>
<tr>
<td>• Determine how much money is required to deliver WASH services</td>
<td>• Determine how much money will be allocated over what timeframe</td>
</tr>
<tr>
<td>• Identify the activities/inputs and associated costs</td>
<td>• Identify funders / funding sources</td>
</tr>
<tr>
<td>Total cost = quantities * unit costs</td>
<td>• Create a plan for how to pay</td>
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<tr>
<td>• More technical process</td>
<td>• More political process</td>
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*How much money is needed to achieve and sustain WASH services?*

*Who will pay how much, for what, and when?*
Why do budgeting and costing?

• Understand the true costs of service provision
  • Certain expenses are often overlooked (maintenance, training)

• Plan programs
  • Evaluate and compare different intervention types (cost-effectiveness)
  • Ensure sufficient funding to reach targets / do activities

• Inform sustainable investments
  • Reach agreements among stakeholders to fund necessary inputs
  • Avoid investments with unaffordable operations and maintenance
Scenario 1 – Costing first

• Funders commission a costing study to estimate the costs of basic WASH

• Consultants conduct a costing study using a representative sample

• Funders use costs data to develop budgets

Advantages
• Accurately plan for true costs
• Avoids upfront investments with unaffordable O&M
• Fewer surprises

Disadvantages
• Slow
• Expensive primary data
• Limited secondary data
Scenario 2 – Budgeting first

- Funders allocate a fixed amount for WASH in HCFs
- Implementers conduct costing to understand what they can afford, to compare options
- Implementers develop a plan that falls within allocated funding

Advantages
- Faster
- More realistic?

Disadvantages
- Surprise expenses
- More trade-offs / constraints
Scenario 3 – Costing and budgeting together

- Some budget for WASH in HCFs already exists
- Costing studies demonstrate gaps between available versus needed budget
- Champions use data to advocate for increased budgets
Data inputs for costing & budgeting

Lifecycle costs

1. Installation
   • Hardware (infrastructure, supplies)
   • Software (trainings, setup)

2. Operations and maintenance
   • Infrastructure repairs
   • Trainings
   • Personnel
   • Consumable supplies
   • Supervision and support

3. Decommissioning and disposal
   • Removal of defunct infrastructure
   • Preparing to restart the cycle
Costing tools

UNC toolkit

• Budgeting guidance note
• Costing toolkit
• Case study
  (pre-print, contact darcy.anderson@unc.edu)

Key features

• Designed for lay users / practitioners
• Data collection at facility-level
• Designed for primary healthcare, smaller clinics
Costing tools

Upcoming tools
WaterAid: participatory assessment of the costs for municipality-wide WASH in healthcare facilities in Timor Leste

Non-HCF settings
• WHO/UNICEF cost of domestic hand hygiene interventions
• School WASH operation and maintenance calculator
• WASH SDGs costing tools (country-level)
• IRC WASH Costs tool (household settings)
Costing studies and secondary data

- **Global / systematic review**
  - *Estimating the cost of achieving basic water, sanitation, hygiene, and waste management services in public health-care facilities in the 46 UN designated least-developed countries: a modelling study*
  - *Safe Healthcare Facilities: A Systematic Review on the Costs of Establishing and Maintaining Environmental Health in Facilities in Low- and Middle-Income Countries*

- **South-East Asian Region**
  - *How much does it cost to meet the standards for making healthcare facilities water, sanitation, and hygiene (WASH) compliant?: analysis from Assam, India*
  - *Estimating the cost of interventions to improve water, sanitation and hygiene in healthcare facilities across India*

- **African region**
  - *National Strategy for Water, Sanitation and Hygiene-Infection Prevention and Control in Healthcare Facilities, Ghana*
  - *Improving water and hand-washing services in rural health care facilities in Kitui County, Kenya*
  - *Development and application of tools to cost the delivery of environmental health services in healthcare facilities: a financial analysis in urban Malawi*

- **Region of the Americas**
  - *Cost Analysis for Clean Clinic Approach Activities in Guatemala and Implications for Scale-Up*
Utilizing Cost Data to Advocate for Financing: WASH & IPC in Health Facilities

February 2024
OUTLINE

- Using costing data to make the case for funding and financing
- Madagascar Costing for Universal Access to Water and Electricity in HCF
- Deciding who pays
Greatest needs are in **rural** areas across all WASH services.

Investment needs in **non-hospitals** outweigh those in hospitals.

**Costs by rural urban***

<table>
<thead>
<tr>
<th></th>
<th>Urban</th>
<th>Rural</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>W</td>
<td>$381</td>
<td>$1,159</td>
<td>$1,540</td>
</tr>
<tr>
<td>S</td>
<td>$498</td>
<td>$1,323</td>
<td>$1,821</td>
</tr>
<tr>
<td>H</td>
<td>$273</td>
<td>$571</td>
<td>$844</td>
</tr>
<tr>
<td>WM</td>
<td>$1,392</td>
<td>$2,278</td>
<td>$3,670</td>
</tr>
</tbody>
</table>

**Costs by facility type***

<table>
<thead>
<tr>
<th></th>
<th>Hospital</th>
<th>Non-hospital</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>W</td>
<td>$53</td>
<td>$1,487</td>
<td>$1,539</td>
</tr>
<tr>
<td>S</td>
<td>$79</td>
<td>$1,742</td>
<td>$1,821</td>
</tr>
<tr>
<td>H</td>
<td>$122</td>
<td>$722</td>
<td>$844</td>
</tr>
<tr>
<td>WM</td>
<td>$244</td>
<td>$3,426</td>
<td>$3,670</td>
</tr>
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</table>
## USING COSTING ESTIMATES TO COMPARE AGAINST OTHER SPENDING

<table>
<thead>
<tr>
<th>Description</th>
<th>Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual investment needed per capita for WASH in HCFs in LDCs (2021–2030)</td>
<td>US$ 0.54–0.79</td>
</tr>
<tr>
<td>Capital health spending per capita by 23 LDC governments</td>
<td>(Cap: US$ 0.24–0.40, O&amp;M: US$ 0.30–0.39)</td>
</tr>
<tr>
<td>Recurrent health spending per capita by 44 LDC governments</td>
<td>US$ 0.80</td>
</tr>
<tr>
<td>ODA per capita for WASH in LDCs in 2018 (OECD CRS 2020)</td>
<td>(range: US$ &lt; 0.01–2.55)</td>
</tr>
<tr>
<td>Annual spending per capita on WASH by 22 LDC governments (GLAAS 2019 Report)</td>
<td>US$ 3.01–3.09</td>
</tr>
<tr>
<td>Recurrent health spending per capita by 44 LDC governments in 2018 (Global Health Expenditure Database)</td>
<td>(range: US$ 3–15.72)</td>
</tr>
<tr>
<td>Annual investment needed per capita for universal basic WASH in LDCs (2015–2029) (Hutton &amp; Varughese 2016)</td>
<td>US$ 11.59</td>
</tr>
</tbody>
</table>
USING COSTING DATA TO ESTIMATE FINANCING NEEDS: CASE OF MADAGASCAR

Objective: to enhance quality of primary health care services through critical water and energy infrastructure

Purpose of costing exercise:
- Inform budget planning, allocation and tracking at national level in collaboration with Ministry of Health and Ministry of WASH
- Assess costs for universal access to water and energy services in HCFs to meet SDGs 2030

METHODOLOGY
1. Evaluate the gaps in access
2. Determine water & electricity requirements per HCF type
3. Calculate unit costs for different scenarios

FINDINGS

<table>
<thead>
<tr>
<th>Service</th>
<th>Access</th>
<th>Investment needed for universal access (USD)</th>
<th>Financing Gap (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>26%</td>
<td>57.5 M</td>
<td>85 M</td>
</tr>
<tr>
<td>Electricity</td>
<td>30%</td>
<td>41 M</td>
<td></td>
</tr>
</tbody>
</table>

Additional investments would be needed for basic sanitation, hygiene and waste management services
A NEED TO UNDERSTAND FINANCING GAPS AT COUNTRY AND REGIONAL LEVELS

Countries where in-depth costing studies of WASH in Health Facilities have been conducted by WB and UNICEF

- Democratic Republic of Congo
- Ethiopia
- Ghana
- Madagascar
- Nepal
- Tanzania
- Uganda
- Zimbabwe
DECIDING WHO PAYS: PUBLIC, PRIVATE, PARTNER

- Just 11 percent of countries report having **sufficient resources to reach national targets** on WASH in HCF (GLAAS 2019)
- Only **one-quarter of national budgets** have line items for WASH in health care facilities
- Appropriate **mix of funding sources** that considers:
  - capital and recurrent costs
  - service (water supply, sanitation, hygiene, waste management) and service chain
  - treatment and distribution system
THANK YOU
An additional **US$ 6.5–9.6 billion** is needed to achieve basic levels of service by 2030.

- **US$ 2.9–4.8B** more in capital investment, equal to **US$ 2.43–3.99** per capita.
- **US$ 3.6–4.8B** more in recurrent spending, equal to **US$ 2.99–3.89** per capita.
Advancing WASH in HCFs –
A Costing Case Study from Thakurbaba Municipality, Nepal

Speaker - Laxman Kharal Chettry,
Terre des hommes (tdh.org)

WASH in HCF, Webinar / Case study #1: Nepal / February 1, 2024
2. Context of the Costing Exercise

Connecting Costing to Policy

- An exercise within the process for the development of a model policy on “Operation and Maintenance (O&M) of WASH in HCFs”, working in the eight HCFs of Thakurba municipality, Bardiya, Nepal.

- The outcomes provided a basis for:
  (a) the municipality-level WASH in HCF O&M policy;
  (b) at national level, the 'Nepal Roadmap for WASH in HCF' developed by the Ministry of Health and Population.
3 - Services provided by the eight HCFs

1. OPD (outpatient department) services - in all the 8 HCF
   (210 to 1,418 per month per HCF)

2. Laboratory and maternity services – in 4 HCFs.
4 - Methodology and Tools

- Costing was based on the **Spreadsheet for Costing** of Environmental Health Services. (WASH in HCF CoP).

- Integration of the concept of **output** and **outcome** indicators (Coverage, Functionality, and Usage.)

- **Data Sources** - Estimation by Engineer, Records, Interview

- Net present value = \( \frac{\text{Amount}}{(1+\text{discount\_rate})^\text{years}} \)
5 - Costing Components

1- **Capital Costs** (hardware and software)

- Expressed as **Annual Capital cost** for 2023 using an 8% annual discount rate over the life (years) of WASH facility.

\[(\text{current cost} \times \text{discount rate})/(1-(1+\text{discount rate})^{\text{-years}}))\]

- *Existing* and *additional* needed for increasing Coverage and Functionality

2 - **Annual Operation and Maintenance** Costs.

- *Existing* and *additional* needed for increasing Coverage and Functionality
### 6 - Costing Results (in USD)

<table>
<thead>
<tr>
<th>Total Capital Annual Cost (from 2023)</th>
<th>18492</th>
<th>34%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td>16383</td>
<td>30%</td>
</tr>
<tr>
<td>Additional needed for upgrading</td>
<td>2109</td>
<td>4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Annual O&amp;M Cost (2023)</th>
<th>35822</th>
<th>66%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td>22675</td>
<td>42%</td>
</tr>
<tr>
<td>Additional needed for upgrading</td>
<td>13147</td>
<td>24%</td>
</tr>
</tbody>
</table>

| Total Annual Cost (Capital & O&M)    | 54314 | 100% |

Total annual costs (capital and O&M) for the eight HCFs in 2023 - **USD 54,314**
7 - Policy Implications and Achievements

- WASH in HCF Operation & Maintenance policy for Thakurbaba Municipality.

- Municipal recovery fund to be used for O&M of WASH facilities.
8 - National level Impact

Influence on National Roadmap for WASH in HCF (2024-2030)

- Served as a reference in the 'Nepal Roadmap for WASH in HCF’.

- Demonstration of the impact of localized, data-driven approaches on national policy-making.
9 - Future Directions and Expansion

1 - Continuing our work with the municipality in implementing the O&M policy.

2 – Introducing the following into our program in other countries, including India and Bangladesh:

   (a) Costing for evidence-based planning, budgeting, and fund raising;

   (b) Enhanced Operation and Maintenance assessed through proxy impact indicators of Functionality (output) and Effective Use (outcome).
THANK YOU!
Costing and Budgeting for WASH in HCF

Tajikistan’s Case
Background

• WASH Program was initiated in 2019 and section was established in 2023
• The big picture of the WASH landscape was unclear
• Partners were mostly working in silos
• Roles were overlapping among ministries and lack of leadership
• Sectoral progress and key priorities were unclear
Key initiatives

• UNICEF carried out the first JSR which led to understanding;
  o The existing financing in the sector (0.67% of the annual GDP) against what is required
  o Institutional arrangements and capacities
  o Policy and regulatory environment
  o Country systems
  o Planning, monitoring and implementation capacities
  o UNICEF’s strategic entry points

• Updating of the National WASH standards in HCFs and its endorsement by the government

• Agreement with the government to carry out a standards compliance survey and costing as per the new standards

• Development and endorsement of the WASH in HCFs investment case
Investment case and its aim

- **Advocacy Tool**: Evidence for supporting advocacy efforts to bring greater attention to the impacts of the lack of WASH in health care facilities in Tajikistan, and among Government, partners and donors.

- **To quantify Impact and need in financial terms**: Initial estimates for the total financial needs, the funding currently available/spent and the funding gap for WASH in health care facilities in Tajikistan.

- **Prioritisation of needs**: Based on the analysis, identification of key priorities in terms of immediate investments.

- **Cost of Inaction**: An understanding of the cost of inaction in terms of social impacts related to public health.

- **Roadmap**: Development of a costed country roadmap for investing efficiently in WASH in health care facilities.
Costing approach and leveraging of data

- Starting with UNICEF’s direct assessment data – up to 1500 PHCs and over 60 secondary HCFs
- Collecting data from key partners as co-convener of the WASH in HCF coordination platform
- Accessing data from the construction department of the Ministry of Health
- Calculating Capex and Opex based on limited, basic and improved categories of WASH coverage

<table>
<thead>
<tr>
<th>Primary</th>
<th>2,670 HCFs (e.g. medical homes and medical centers)</th>
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<tbody>
<tr>
<td>Secondary</td>
<td>330 HCFs (central district hospitals, numeric hospitals, rural inpatient health hospitals/centers)</td>
</tr>
<tr>
<td>Tertiary</td>
<td>297 HCFs (national and city level level hospitals/centers, or specialised hospitals located in district centers)</td>
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</tbody>
</table>
Key opportunities and learning

• Example of the UN Water Conference and UNICEF support to on proposing commitments based on JSR – led to increased financing and actions for increased coverage (State program, National Strategy), stronger political will.

• Dushanbe Water process is upcoming as a global opportunity. UNICEF Tajikistan plans to present the case and gather commitment – Also will work with the government on the adoption of the protocol on water and health.
Thank You