Healthcare Waste Management Cost Assessment

Launch of the Waste Cost Assessment Framework (WCAF) Tool for COP Planning

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CDC and Roche intend to focus on the following key objectives in alignment with mutual areas of interest and expertise, with the goal of substantially contributing to HIV and TB epidemic control.

- Increase laboratory human resource capacity building and training including laboratory quality management systems and continuous quality improvement programs
- Improve local and regional capacity for appropriate and cost-effective laboratory waste management and related biosafety approaches
- Optimize laboratory workflows for enhanced within-laboratory operational efficiency to support multi-pathogen integration of testing efforts
- Optimize integrated diagnostic network structure, capacity, and linkages for increased access, decreased result turnaround time, and improved responsiveness and adaptability

Memorandum of Understanding to be signed upon approval by CDC and Roche (2022-2027)
Tools created under the PPP

HIV Viral Load Laboratory: Waste Cost Assessment Framework (WCAF)

- Supports laboratories to develop a budget for waste disposal (across all platforms) for COP planning
- Functional assessment completed in 8 countries (Ethiopia, Kenya, Uganda, Eswatini, Malawi, Nigeria, Zambia, Zimbabwe)
- Excel based tool* to be launched via ASLM platform

Assay Verification Tool

- Streamlines the verification of new molecular assays for laboratories
- Web-based tool to be launched on ASLM platform
- Updated for use through collaboration with ILB’s Viral Load team.

Press Enter to check your progress.

*Developed with the support of Roche Healthcare Consulting

*ASLM: African Society for Laboratory Medicine
Background – Waste Management

As a consequence of Viral load (VL) scale-up, volumes of associated Healthcare and Laboratory Waste have grown exponentially

By 2030, more than 30m HIV VL tests will be performed globally¹

Improper management of waste from HIV VL testing poses a significant threat to Public Health & the environment including GTC², other chemicals, plastics/consumable

Countries require assistance to quantify & sustainably address waste resulting from VL programs


² Guanidinium Thiocyanate
Our goals from this collaboration¹

CDC, ASLM and Roche

Assessing the waste generated across all manufacturers for centralized diagnostics platforms in VL & EID Laboratories²

Developing a new tool to support VL & EID Laboratories in budgeting for appropriate waste management as part of COP submissions

Collaboration with ASLM for monitoring and evaluation of the impact of the tool for program waste management

¹ This initiative is contained under the CDC-Roche Public Private Partnership Memorandum of Understanding and the workplan for 2020

² Phase 1 Wave 1 work focused on VL & EID Laboratories in Kenya to deliver an initial fact base. Wave 2 (initiated in Feb 2021) validated this fact base through the inclusion of VL & EID Laboratories in Zambia and Nigeria.

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Creation of a Tool for Waste Management

*Will deliver a tool to support country VL & EID waste management programs*

**HIV Laboratory Waste Cost Assessment Framework (WCAF)**

An easy to use tool to support laboratories in communicating waste disposal costs (across all platforms) to country level program managers for COP planning.

**WCAF Tool**

- considers all key variables in the disposal of waste from a VL & EID instrument
- including but not limited to Roche platforms
- supports laboratories to accurately forecast liquid & solid waste volumes
- thereby enabling the true cost of waste disposal to be aggregated across country program labs for COP planning in a robust and standardized manner

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HIV Laboratory Waste Cost Assessment Framework (WCAF)

Overview of tool and key attributes

**HIGHLIGHTS**

- Excel based tool
- Comprehensive instructions for use
- Care taken in design to use base data that labs have or can access and calculate the rest
- Expectation is that lab manager/director would complete the tool (with help form their operational teams)
**HIV Laboratory Waste Cost Assessment Framework (WCAF) Overview of tool and key attributes**

### 6 Sections:

1. **Key information regarding the laboratory and testing volumes, which will be used to generate the budget figure**

2. **Automatically estimates the combined quantities of liquid waste created based upon the key inputs into Section One**

3. **Enables you to estimate the combined quantities of solid waste created based upon the key information & testing volumes input into Section One**

4. **Enables you to input data in relation to your local HWM practices and costs**

5. **Contains the information generated by this Waste Cost Assessment Framework, for countries’ next COP Cycle submission (in USD)**

6. **Blank for you to add any notes in relation to your completion of the WCAF**

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**Section One**
- Key information regarding the laboratory and testing volumes, which will be used to generate the budget figure
- Automatically estimates the combined quantities of liquid waste created based upon the key inputs into Section One
- Enables you to estimate the combined quantities of solid waste created based upon the key information & testing volumes input into Section One
- Enables you to input data in relation to your local HWM practices and costs
- Contains the information generated by this Waste Cost Assessment Framework, for countries’ next COP Cycle submission (in USD)
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HIV Laboratory Waste Cost Assessment Framework (WCAF)

Overview of tool and key attributes

**HIGHLIGHTS**

- Summary of background data behind the budget figure
- Aid for consolidating multi-lab data for county/region and country-level planning

<table>
<thead>
<tr>
<th>Extraction Table</th>
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</thead>
<tbody>
<tr>
<td><strong>Country</strong></td>
</tr>
<tr>
<td><strong>Facility</strong></td>
</tr>
<tr>
<td># of HIV EID Tests Forecast (per year)</td>
</tr>
<tr>
<td># of HIV VL Tests Forecast (per year)</td>
</tr>
<tr>
<td>Total Liquid Waste for Treatment &amp; Disposal (per year in litres)</td>
</tr>
<tr>
<td>Total Solid Waste for Disposal (per year in kilograms)</td>
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<tr>
<td>% of all Solid Waste Recycled (per year in kilograms)</td>
</tr>
<tr>
<td>Waste Management option selected for Liquid Waste Disposal &amp; Treatment</td>
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<tr>
<td>Waste Management option selected for Solid Waste Disposal &amp; Treatment</td>
</tr>
<tr>
<td>Budget Requested (per year in US Dollar)</td>
</tr>
</tbody>
</table>

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Functional Assessment Feedback

We asked to 19 sites* about the draft version of the tool

*Countries included: Kenya, Uganda, Eswatini, Nigeria, Zambia, Zimbabwe

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What did you like about the WCAF Tool?

• Easy to follow and implement
• Covers both solid and liquid waste
• Easy to understand and with required inputs, it is also easy to use
• It is user friendly and saves time by automatically calculating some parameters
• It captures key concepts in waste management
• Helps in budget preparation
• STEP TO STEP APPROACH

How would you describe your overall experience with the WCAF Tool?

• Great! Good for HWM cost assessment and forecasting.
• Relatively easy but data should be as reliable as possible
• Generally it is reminder of good practice in waste management in relation to workload
• It is not easy to capture expenses as all payments and budgets are done by hospital administration
• It’s a good tool that will help local government and labs to do their budgets on waste management so it’s excellent

*Countries included: Kenya, Uganda, Eswatini, Nigeria, Zambia, Zimbabwe
Accessing the WCAF Tool

Located on the ASLM website in the Resource Centre

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Thank you to the many contributors to the creation of this tool

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