**Health Care Waste Management Budget Planning — Guidance**

**Document Number: 401**

*Note: This guidance document is provided as a template and must be customized to accommodate facility specific procedures and terminology.*

# Purpose

This document provides guidance to help develop a health care facility budget for and allocate resources to the facility’s health care waste management (HCWM) plan. It describes the steps required to develop a budget for the facility’s HCWM plan, highlights key principles to consider, and describes costing tools.

# Scope

A budget is a plan that outlines an organization's financial and operational goals. A comprehensive budget will allow the actual financial operation of the HCWM plan to be measured against forecast, and will identify any cost constraints that the HCWM plan may face.

The budgeting process can help to integrate and coordinate the various HCWM activities by prompting department leaders to plan and budget for them; provide a forum to communicate facility-wide HCWM plans; motivate department leaders to achieve budget goals and establish benchmarks for evaluating the performance of their departments; and finally, can provide visibility into the HCWM system’s performance.

# Definitions

**Budget** — a systematic method of allocating financial, physical, and human resources to achieve strategic goals.

**Capital allocation** is a facility's decision where to place resources so they deliver on the facility’s objectives. Capital allocation decisions represent attempts to operate in the most efficient way possible and may involve preference to certain technologies and remuneration for different staff groups.

**Capital costs** have a life time of above one year. Capital costs could include all equipment to be used in the treatment process, transportation, and installation at the site like an incinerator and autoclaves, as well as vehicle and ventilators.

**Capital planning** is the process of budgeting resources for the future of the long-term plans for the facility, and the long-term objectives of the HCWM plan.

**Capital expenditures** are payments made over a period of more than one year and are used to acquire assets or improve the useful life of existing assets. This includes planning for new and or replacement machinery and other major capital expenditures such as a new autoclave, incinerator, construction of a waste storage facility, etc.

**Green procurement** — the procurement of products and services that have less impact on the environment than their traditional counterparts. This also minimizes waste by specifying packaging requirements, take-back policies, just-in-time buying to avoid waste from expired products, and substitution of hazardous items/constituents.

**Recurrent costs** are for items used on a regular basis that have a life time of less than one year generally. These include fuel, safety boxes, waste bags, disinfectants, transport and staff salaries. Indirect costs and institutional overhead must be included.

**Waste** — any useless, unwanted or discarded substance or material, whether or not such substance or material has any other or future use and includes any substance or material that is spilled, leaked, pumped, poured, emitted, emptied or dumped onto the land or into the water or ambient air.

**Waste management** — the collection, transport, processing or disposal of waste materials, usually ones produced by human activity, in an effort to reduce their effect on human health or local environment. A sub-focus in recent decades has been to reduce waste materials' effect on the environment and to recover resources from them.

**Waste minimization** — the reduction, to the extent feasible, of waste that is generated or subsequently treated, stored, or disposed of. It includes any source reduction or recycling activity undertaken by a generator or facility operator that results in either (i) the reduction of total volume or quantity of waste, or (ii) the reduction of toxicity or other characteristics of hazardous waste, or both, so long as the reduction is consistent with the goal of minimizing present and future threats to human health and the environment.

# Responsibilities

* 1. Facility director — responsible for reviewing and approving submitted budget
  2. Department heads, purchasing and maintenance/facilities — responsible for setting budget for their areas and monitoring spend against budgeted
  3. Accounting — responsible for monitoring spend against budgeting, liaising with department heads regarding budget, and providing periodic reports as well as responding to reporting requests as needed.
  4. HCWM committee and coordinator – responsible for leading the budgeting process and liaising with all involved parties.

# Materials and Equipment

* Current facility HCWM plan
* Results of waste stream assessment

# Hazards and Safety Concerns

None

# Procedures

* 1. Strategic and financial planning
     1. Review the objectives of the HCWM plan and make decisions on allocating resources to pursue these objectives. This process should rely largely on the existing facility HCWM plan (refer to Doc 102: Facility Health Care Waste Management Plan — Guidance for information on developing a HCWM plan).
     2. Gather relevant information about the HCWM system to include the qualitative and quantitative aspects of the facility's financial and relevant nonfinancial situation, including regulatory and legal requirements, existing contract arrangements with vendors, results of HCWM waste assessments, number of waste collection bins, operator and waste receipt logs, personnel costs, training costs, and potential income streams.
     3. Analyze the information so that the facility's situation is properly understood. This includes determining whether there are sufficient resources to reach the facility's goals and what those resources are.
     4. Construct a financial plan based on the facility’s current financial status and the established goals and objectives of the HCWM plan. The financial plan is a roadmap to the achievement of those facility goals. Identify both recurrent and capital costs.
  2. Develop HCWM budget
     1. Consider the following six principles during the budget development and implementation process:
     + Link to strategy: Budget development is more effective when linked to overall HCWM goals.
     + Design procedures that allocate resources strategically. Within the facility itself, there is great competition for resources. Every function and unit needs funding for both capital and operating expenses.
     + Incentives: Tie incentives to performance measures other than meeting budget targets.
     + Link to costs: By linking cost management efforts to budgeting, facilities improve the quality of information available for unit heads to use in developing their budgets. This improves both the accuracy and the speed of the budget process.
     + Reduce cycle time by controlling the numbers of budgets that are needed, standardizing budgeting methods, minimizing the amount of detail included in the reports used to develop budgets, using information technology to automate budgeting and facilitate workflow.
     + Accommodate change: Facilities need to develop budgets that accommodate change so they can respond to competitive threats or opportunities more quickly and with greater precision.
     1. Calculate an initial estimate of annual costs.

The following is excerpted from WHO’s HCWM costing estimation/calculation methods:

*If no budget or financial information is available, getting a first rough estimation of the total annual costs of an appropriate HCWM system can be obtained quite simply.*

*To do so, multiply (x) one of the four different indicators listed below by its related factor, depending on what data is available:*

*•Total amount of HCW produced/ year x 1*

*•Total number of medical staff x 750*

*•Total number of beds x 150*

*The totals you will obtain (USD/ year) take into account both annualized capital and recurrent costs.*

*Costing information obtained from the field shows important variations; however, as a first approach an average value of 1 USD/ kg of HCW treated has been used to estimate annual costs. This figure also has the advantage of being easy to memorize and use in calculations.*

*On average the cost allocation is typically approx. 30-40% for containerization and storage; 10-20% for transport; 5-10% for cleaning and disinfection and 40-50% for treatment.*

* + 1. Develop a more specific budget

There are several useful HCWM costing analysis tools developed by the WHO that can be helpful when developing a facility-level HCWM budget. These tools are in Excel and can be accessed at <http://www.healthcarewaste.org/resources/costing-calculations/>

There are two WHO HCWM costing tools: The Costing Analysis Tool (CAT) and the Expanded Costing Analysis Tool (ECAT). The ECAT is more detailed and requires that you first select the appropriate model: low-income, middle-income or high-income country. For both the CAT and the ECAT, there are separate costing sheets for small (~4 bed), medium (~40 bed) and large (~400 bed) health care facilities. Costs are divided into annual capital costs and annual recurrent costs(see Attachment 11.2).

HCWM costs are dependent on many aspects of the HCWM plan such as the treatment methods chosen, capacity of the facility and waste quantity and quality. For example, the amount of waste generated, annually and monthly, must be measured or estimated to inform the budgeting process. The Assumptions page of the WHO costing tools sets parameters for some of these aspects (see Attachment 11.1). Refer to Doc 203: Health Care Waste Management Audit Procedures — Guidance for information on conducting a waste stream assessment.

One limitation of both the CAT and the ECAT is that they do not include expenses necessary for **HCWM trainings, external vendors** and **committees**. Trainings can be either long term or short term and are necessary to enable staff to properly and safely handle infectious waste, treatment equipment, chemicals for decontamination and to manage the HCWM system in general. External vendors are often a critical part of an effective HCWM system. The HCWM committee is the planning and oversight body for the HCWM plan, and therefore is critical to its success. Your HCWM budget should include the costs associated with these activities.

* 1. Develop a summary budget that summarizes costs in the manner required by facility management. For example, summarize costs into categories such as commodities, personnel, consumables/supplies and training.
  2. Administer and monitor budget

Ensure that you understand who holds the budget and how budgetary decisions are made by senior management. Ensure that you have a procedure for contingency requests, for example how to request funds for unbudgeted items such as a piece of equipment that unexpectedly needs to be replaced.

Routinely monitor budget implementation to ensure that the budget stays in alignment with the facility’s and HCWM plan’s goals. Periodically check for misalignment and adjust to changes in the facility's situation. If the situation changes significantly, revise the strategies and goals in the financial plan accordingly.

# Reporting and Recordkeeping

To be most effective, it is important that the HCWM program’s budget, current status and forecast can be accurately and promptly reported. This enables quick identification of problems and development of solutions. Computer software is available that can handle basic reporting to reporting of cost variance explanations and creation of management reports.

# References

* 1. CAT and ECAT tools: <http://www.healthcarewaste.org/resources/costing-calculations/>
  2. Sussman JH. Strategic budgeting: a healthcare imperative. Northfield (IL): Kaufman Hall & Associates; 2003. 19 p.

[http://www.healthleadersmedia.com/content/128519.pdf](http://www.healthleadersmedia.com/content/128519.pdf%20)

* 1. Angola’s National Health Care Waste Management Plan, Prepared under the HAMSET project, updated under the MHSS project, ADÉRITO DE CASTRO VIDE, LUANDA –NOVEMBER 2004 – Updated March 2009

<http://siteresources.worldbank.org/INTANGOLA/Resources/HCWMP-Plan_09.pdf>

* 1. Costs Related To Healthcare Waste Management <http://www.who.int/water_sanitation_health/medicalwaste/135to139.pdf>

# Related Documents

* Doc 203: Health Care Waste Management Audit Procedures — Guidance
* Doc 102: Facility Health Care Waste Management Plan — Guidance

# Attachments

* 1. WHO HCWM Costing Analysis Tool (CAT) Assumptions page (for low-income country)
  2. WHO HCWM CAT calculations for a large health care facility (for low-income country)

**Attachment 11.1: Example - WHO HCWM Costing Analysis Tool (CAT): assumptions page (for low-income country)** Note: The assumptions on this page can be changed.



**Attachment 11.2: Example - WHO HCWM CAT: calculations for a large health care facility (for low-income country)** 