

WASH in HCF Community of Practice Event

Core Elements of Operations and Maintenance for WASH in HCF: A Discussion on Sustainability

Wednesday, April 20 | 8:30AM – 10:00 AM ET (NYC)

Ensuring the sustainability of WASH services in healthcare facilities will require strong operation & maintenance systems. Join us for a Community of Practice discussion on the core elements of O&M, including planning, personnel, and budgeting.

Simultaneous interpretation available in French and Spanish

Connect. Share. Act.





WASH in **Health**care
Facilities Initiative

This Community of Practice is an action-oriented learning platform that brings together the WASH and health communities to focus on policy, evidence, and practice in WASH in HCF.



CONNECT partners



SHARE experiences



Encourage groups to **ACT**

WASH in HCF Community of Practice Basic Principles

1. WASH is a **fundamental prerequisite for quality care** within a healthcare facility and **there cannot be effective infection prevention and control** without adequate WASH.
2. WASH in healthcare facilities is a **solvable issue** and will require multiple systems, sectors, and stakeholders to work together to see sustainable improvements.
3. The Community of Practice is **open to all who seek to learn and share** about WASH in healthcare facilities. We welcome all and **respect the diversity** of perspectives who participate.

Success Corner

The Vatican's WASH in Healthcare Facilities Initiative

The Dicastery for Promoting Integral Human Development organized an assessment of 150 HCF in 23 countries last year, calling together Catholic and non-Catholic partners alike to support improvements.

Daughters of Charity, CMMB, CRS, Caritas, CHA, WEFTAA, Providence Health and more have identified facilities where they can help address gaps.



New Publication Alert

PDF [54]

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

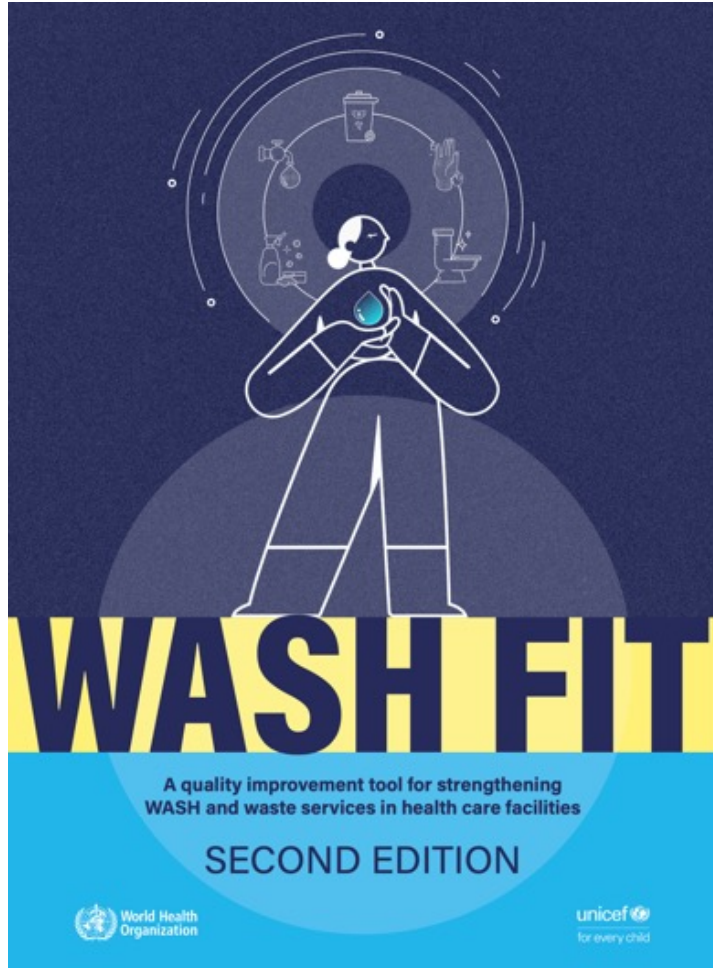
[Michael Chaitkin, MPH](#) • [Samantha McCormick, BA](#) • [Jorge Alvarez-Sala Torreano, MSc](#) • [Irene Amongin, MSc](#) • [Silvia Gaya, MA](#) • [Odd N Hanssen, MSc](#) • et al. [Show all authors](#) • [Show footnotes](#)

New Study in Lancet Global Health from WHO and UNICEF:

An **estimated US\$6.5 - \$9.6 billion** from 2021 to 2030 is needed to achieve full coverage of basic WASH and waste services in public healthcare facilities in the 46 Least Developed Countries (inclusive of capital investment and O&M)



WASH FIT 2.0



The 2nd Edition of the WASH FIT Tool (WASH FIT 2.0) will be published next week.

This updated manual includes additional recommendations for implementing in new settings like tertiary hospitals, considerations for cross-cutting issues like gender, equity and climate, and greater emphasis on prevention.

Launch Webinar:

26 April 2022 @ 7:00AM ET/13:00 CET





Overview of Operations & Maintenance for WASH in Healthcare Facilities

What is “operations and maintenance”?

- Routine or periodic tasks required to keep a process or system functioning according to performance requirements and to prevent delays, repairs or downtime ([Sustainable Sanitation and Water Management](#))
- Includes regular maintenance, repairs, checks and adjustments, as well as related financial, human, and institutional resources

O&M for Personal Care



Teeth

- Brush Teeth Twice a day
- Flossing



Hands

- Wash hands at appropriate times



Clothes

- Replace button
- Resole shoes



Body

- Eat nutrition foods
- Exercise
- Taking medication



Mind

- Attend Webinar
- Learn to use smart art



O&M in Healthcare Facilities



Water

- Regular testing and monitoring of water quality



Hygiene

- Handwashing stations are available and functional



Sanitation

- Emptying and disposal of fecal sludge from a septic tank



Waste Management

- Cleaning and maintenance of incinerators



Cleaning

- PPE is available for cleaning and waste management



Why the emphasis on O&M?

- Without O&M, all infrastructure will eventually stop working
- Badly maintained WASH facilities often cause an even bigger health risk
- O&M commonly cited as a leading factor in the breakdown of WASH services, including in HCF settings
- An assessment of enabling environment for WASH in HCF in ESA found that institutional arrangements for O&M had the weakest score
 - 13/19 countries indicated there was no national O&M plan for HCFs
 - Study cited limited financing, human capacity, inadequate policies, and lack of coordination ([UNICEF](#))
- O&M is recognized as a cost-effective investment ([Whinnery J](#))
- New construction is prioritized over operation and maintenance

O&M by Facility Size

- Smaller Primary and secondary facilities usually have basic needs, but often less resources
 - Water, Sanitation, Hygiene, and Waste Management infrastructure
 - No dedicated O&M staff
 - Financed through local government, civil society and communities themselves
- Larger Tertiary facilities usually have more complex O&M needs and dedicated staff and resources
 - In-patient services
 - Operating room ventilation
 - Surgical equipment processing
 - Environmental health personnel
 - Financed through regional and national government

Stakeholder Involvement in O&M



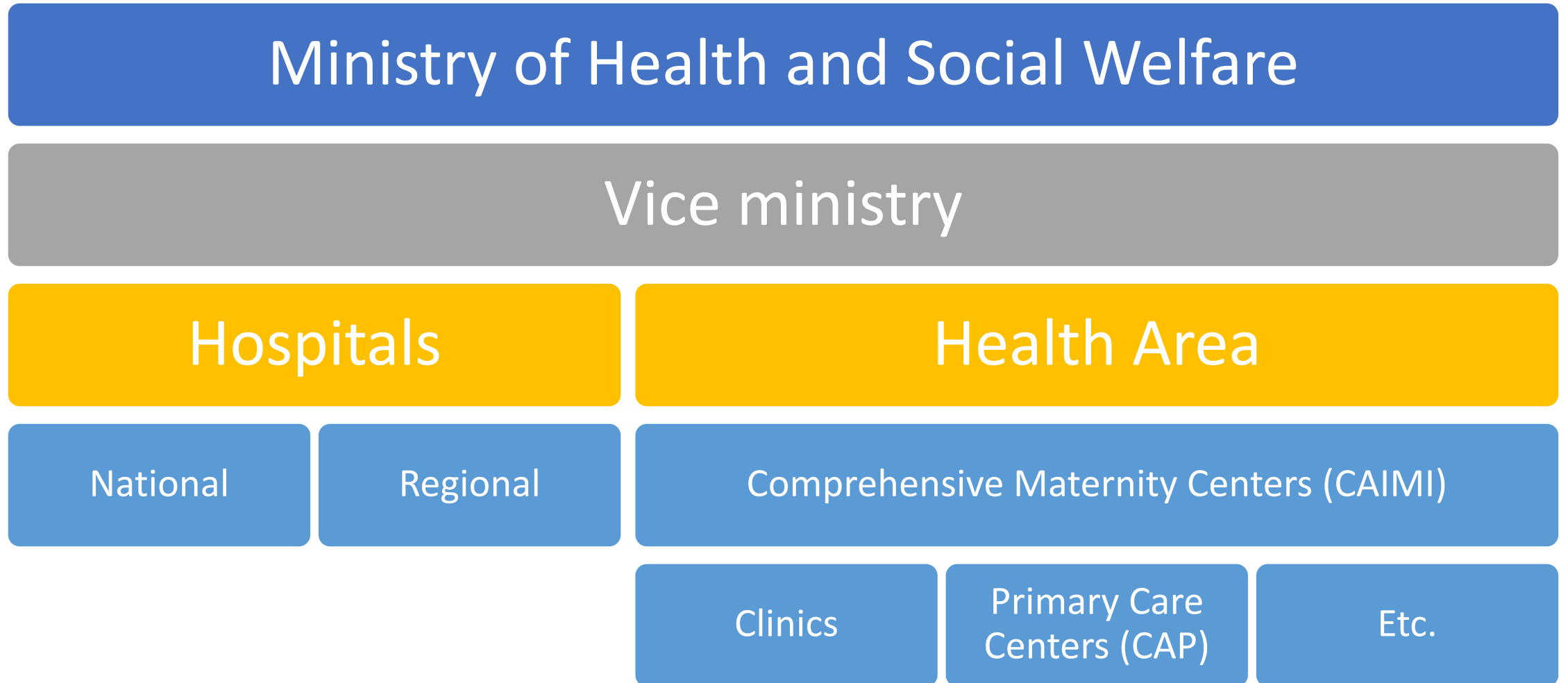
O&M Throughout the Health System

- National (ex. National Ministry of Health)
 - Budget allocation
 - Oversight
- Subnational (ex. District)
 - Budget requests/allocations
 - Staff training
 - Oversight
 - May have expert teams for repairs
- Facility level
 - Budget requests
 - Staff training
 - Routine and preventative maintenance

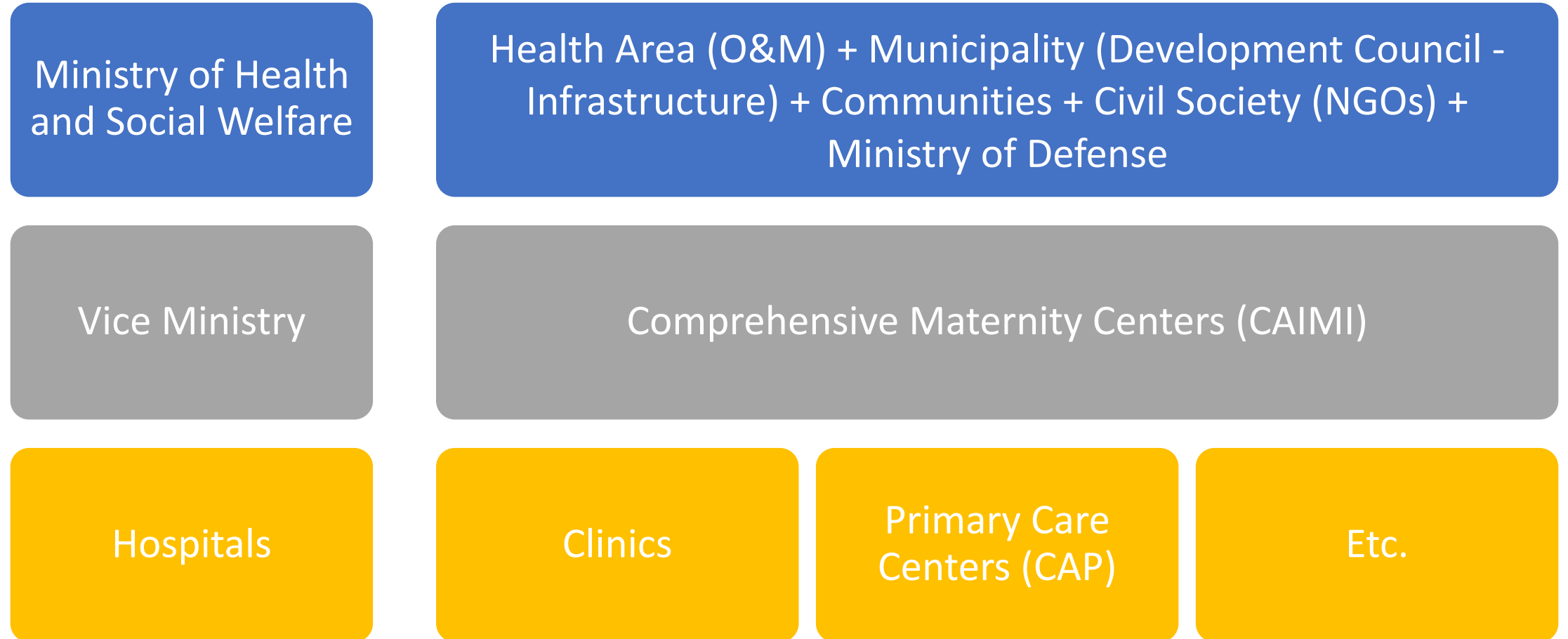
O&M Financing

- The financing of O&M is often overlooked in budget allocation
- Cost-sharing of O&M and the mechanisms by which money is allocated is an important discussion among the WASH and health sector partners
- Each subnational team/sector has their own priorities
- One example of a mechanism to support long term O&M through existing health system monitoring systems is **results-based financing**, which has been used in countries like Uganda to strengthen WASH systems in HCF and pay for ongoing costs

Example: Guatemala HCF Management Structure



Example: Guatemala HCF O&M Financing Structure



Key O&M Considerations

What is required to plan and execute O&M at the facility level?

- Development of an O&M plan with stakeholders
- Routine preventative maintenance
- Spare parts
- Innovations (how to we make HCF staff lives easier)
- Life cycle costs
- Inclusive O&M

What Human resources are needed to execute O&M?

- Technical skill-building Ex. Changing a faucet gasket
- Soft skill-building Ex. Procuring a faucet gasket
- Outsourcing Ex. Cleaning contractor
- Communication and engagement Ex. Budget requests and Advocacy

Budgeting

- Developing a budget
- Budget requests
- Advocating for budget allocations

Example: Guatemala HCF Management Structure

Guidance

- Frameworks for O&M
- Policies and guidelines
- Inclusive O&M

Monitoring

- MOH assessments
- Community scorecards

Community engagement

- Feedback
- Awareness raising on use of systems



O&M Planning for WASH in Healthcare Facilities



How is O&M for HCF different from communities or schools?

- Technology/Infrastructure: Varies among HCF's as well as communities or schools – not usually determined by whether we are dealing with school, community or healthcare facility
- Exception – HCF's have to deal with infectious disease, especially in solid waste management but also in other aspects of sanitation and hygiene
- Institutional Context/Stakeholders: The main differentiating factor

Planning is different in different types of facilities

- Different levels of infrastructure
- Different levels of staffing – medical, admin, O&M
- Different institutional context
- Public facilities, non-profit/church facilities, private for-profit facilities



Guatemala Health System

Ministry of Health

Health Areas or Districts

Municipal-level Health Centers
(CAIMI's, CAP's, etc)

Community-level Health Centers
(Centros de Convergencia)

Vice-Ministry of Hospitals

Hospitals (Regional, National, etc)

Including Planning for O&M in the Intervention

- Most interventions are repairs or upgrades, not construction of new facilities
- Start with analysis of how things got where they are
 - Why did the infrastructure fail?
 - Poor equipment?
 - Insufficient capacity?
 - Age?
 - Lack of maintenance knowledge?
 - Lack of maintenance budget?
 - Other?
- Work with stakeholders to develop a plan for how to avoid repeating this and commitment for following through

Operations

Regularly scheduled activities that are required to keep infrastructure running

- Turning water pump on and off
- Filling up chlorinator
- Filling up soap or paper towels



Preventive Maintenance

Regularly scheduled maintenance activities that help prevent unexpected failures in the future.

- Testing and monitoring: water quality, pump performance, etc
- Cleaning: mechanisms, pipes, tanks, filters, etc
- Changing: Filter cartridges, etc



Corrective Maintenance

Maintenance activities that are performed once a piece of equipment or infrastructure has failed

- Fixing leaks: pipes, gaskets, seals
- Repairing or replacing pumps, controls
- Changing fixtures or tiles



Planning Questions

- Identify the infrastructure or technology in the facility. Be specific. How many toilets, handwashing stations, how much piping, etc?
- Schedule operations and preventive maintenance activities.
- Project corrective maintenance needs
- Identify materials required
- Identify skills required (In-house? Contract? Institutional?)
- Feeds into staffing plan and budget as well as schedule and overall plan

How Does Institutional Context Influence O&M

- Who pays for O&M?
- Who does O&M?
- Who authorizes O&M?
- Who supports O&M?
- Answers to these questions will be different for each type of healthcare facility



Monitoring and Evaluation for O&M

- O&M logs for regularly scheduled activities
- Identify people responsible for identifying problems when they arise
- Reports on repairs and replacements
- Inventory of supplies
- Should also include someone outside of maintenance department

Activity	Date Planned	Date Carried Out	Responsible Party	Notes, materials used, parameters tested, etc.

Personnel for O&M



Human Resources for O&M

- Roles and Responsibilities
 - Who on the staff responsible for the various O&M activities?
 - Is there a dedicated O&M staff/team?
- Skill Building
 - How are the skills to perform O&M developed?
- Communication and Engagement
 - What system is in place to communicate O&M needs?
- Outsourcing
 - What O&M activities (preventative and corrective) need to be outsourced?
 - Can this outsourcing come from the surrounding community?

Costing for sustainable Operation and Maintenance (O&M) of WASH services in HCFs

Laxman Kharal

Asia WASH Adviser, based in Nepal

Terre des hommes



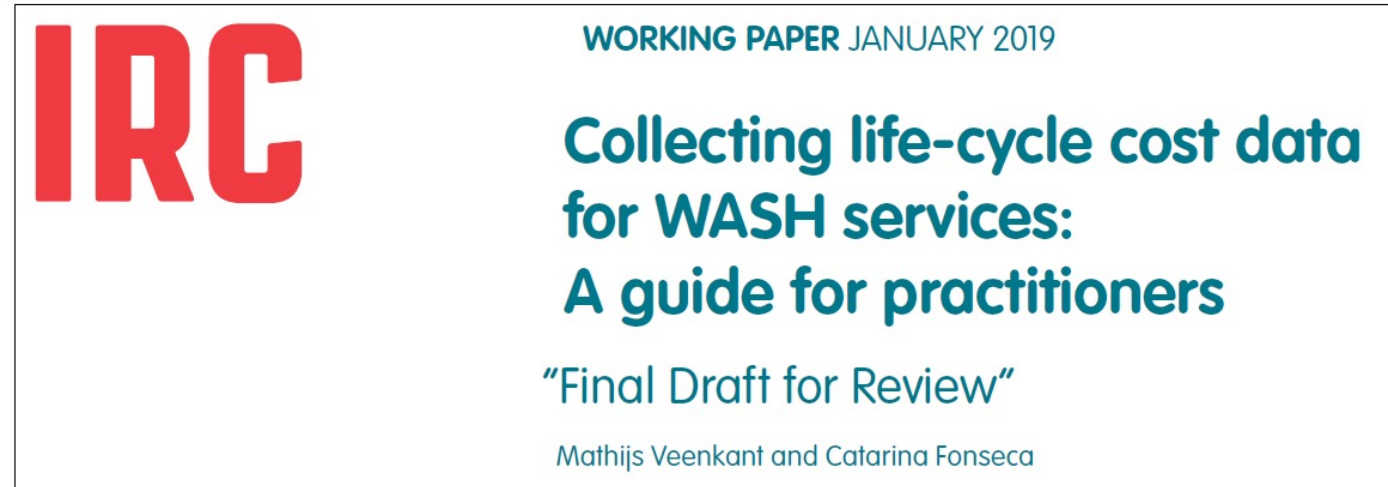
Costing for sustainable O&M of WASH services in HCFs

- This is an exercise under an **Advocacy Project** for sustainable Operation and Maintenance (O&M) of WASH services in HCFs.
- The project is being carried out in **Bardiya**, Nepal under **Swiss Water and Sanitation Consortium Program**.
- The project aims to develop **WASH O&M policy** for HCFs in Thakurbaba Municipality, in Bardiya district and use the outcomes and the experiences **for advocacy**.



References used in the costing exercise

1. Life cycle costing (IRC) **WASH in general**



2. “Toolkit for costing environmental health **services in healthcare facilities**”, UNC Water Institute, The University of North Carolina at Chapel Hill. 2020.
- And its “Costing toolkit spreadsheet”.
 - Available at washinhcf.org

Life Cycle cost components

1. **Capital expenditure (CapEx)** – initial establishment cost (one time).
2. **O&M expenditure (OpEx)** – for operation and minor repairs (labour and material).
3. Capital maintenance expenditure (**CapManEx**) – Rehab and renewal.
4. Cost of capital (**CoC**) - accessing funds to construct (interest on loans).
5. Expenditure on **direct support (ExpDS)** - monitoring, building capacity (can be under OpEx).
6. Expenditure on **indirect support (ExpIDS)** - general capacity building, policy making, planning, regulation and contributions to sector working capacity.

‘Repair cost’ and ‘Functionality’ Calculation

WASH FACILITIES	qty	Break-down/year	Repair time	Repair Cost		working days/year (X)	Functionality (X/365)
				Rate	Amount		
Water system	3	24	2	300	7,200	317	0.87
Toilet (seats)	19	52	1	250	13,000	313	0.86
Water treatment system	1	12	1	500	6,000	353	0.97
Hand washing station (PoC)	19	5	2	200	1,095	354	0.97
Hand washing station (Toilets)	15	7	2	200	1,387	351	0.96
Placenta pit	1	6	1	1000	6000	359	0.98
		Total/Average			34,681		0.93

Linking costing with ‘Coverage’, ‘Functionality’ and ‘Use’

EXISTING WASH FACILITIES	COVERAGE			FUNCTIONALITY				USE	
				Breakdown		Functionality			
	reqd	actual	%	/year	Repair-time (d)	working days/y (X)	Functionality (X/365)		
Water system	4	3	0.75	24	2	317	0.87	x	x
Toilet (seats)	20	19	0.95	52	1	313	0.86	x	x
Water treatment	2	1	0.5	12	1	353	0.97	x	x
HWS (PoC)	23	19	0.83	5	2	354	0.97	x	x
HWS (Toilets)	15	15	1	7	2	351	0.96	x	x
Placenta pit	2	1	0.5	6	1	359	0.98	x	x
Waste pit									
Waste room									
Cleaning Service A.									
			0.75				0.93		x

We will share our outcomes in future and welcome remarks and suggestions that can be emailed to me at lkharal@tdh.ch

Thank You

Operation and Maintenance of WASH in Health Care Facilities

A case of Amuru district , Uganda



National initiatives

- Allocation of 30% of the Primary Health care (PHC) budget to health promotion and disease prevention.
- Health Unit management Committees (HUMC).
- Result based financing.

Deliberate efforts for O&M of our WASH in HCF in Amuru District

- Lobbied to have O&M plans and budgets.
- Oriented HUMC to monitor and enforce O&M.
- Advocated for enforcement of 30% PHC contribution to WASH.
- Infection Prevention and control hold 30% of the weight for RBF.



Key Outcomes

- Sustainability of installed systems; Key to performance under RBF.
- Innovations to maintain functionality.
- Health Facilities are able to do minor repairs using M&E funds.
- Improvement in utilization of MNCH services in the HFs due functional WASH systems – contribution to RBF.



Key ingredients

- Efforts are more deliberate when WASH is part of a felt need for the Health worker (RBF).
- WASH systems that are appealing and make work easier for the health workers are most likely to be cared for.
- Governance: When HUMC are given oversight authority over the WASH system, accountability is enhanced.





CONNECT

Amref Health Africa

Langata Road | PO Box 27691-00506

Nairobi, Kenya | Tel: +254 20 699 3000

www.amref.org

Resources on O&M

Guidelines and SOPs:

[Technical Guide for WASH in Primary Health Care Centres, Nigeria](#). MOH Nigeria 2016.

[National Guidelines for WASH Services in Health Care Facilities](#). MOH Tanzania 2017.

[Standard Operating Procedures \(SOPs\) for WASH in Health Care Facilities \(HCFs\)](#). SNV 2021. |

[Guidelines for Environmental Health Practices at Village Health Clinics](#). Alaska Native Tribal Health Consortium (ANTHC) 2021.

Toolkits:

[Development and application of tools to cost the delivery of environmental health services in healthcare facilities: a financial analysis in urban Malawi](#). BMC Health Services Research, Volume 21, Article number: 329 (2021). Darcy M. Anderson, Ryan Cronk, ... Jamie Bartram

Research:

[Safe Healthcare Facilities: A Systematic Review on the Costs of Establishing and Maintaining Environmental Health in Facilities in Low- and Middle-Income Countries](#). Int. J. Environ. Res. Public Health 2021, 18(2), 817. Darcy M. Anderson, Ryan Cronk, ... Jamie Bartram

