

**ENGINEERING WASH & IPC IN HEALTH FACILITIES FOR EFFECTIVE
HUMANITARIAN HEALTH & NUTRITION INTERVENTIONS IN
ETHIOPIA (Case of Ethiopia)**

Solicited by	KALU Institute - Humanitarian Aid Studies Centre
Date	June 20, 2020
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This work is composed of my original work, and contains no material previously published or written by another person except where due reference has been made in the text. I have clearly stated the contribution by others to my document, including statistical assistance, survey design, data analysis, significant technical procedures, and any other original research work used or reported.

The content of my work is the result of effort I have carried out and does not include a substantial part of work that has been submitted to qualify for the award of any other degree or diploma in any students centre, neither has been developed for my daily work. I have clearly stated which parts of my work, if any, have been submitted to qualify for another award.

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1.3 Contributions by others

This document refers international standards agreed by agencies across the world, analyse the standing of Ethiopian IPC & WaSH in reference to joint project data of Ethiopian Health sector WaSH coverage. The document also borrowed Ethiopian MoH strategic document as state effort and tried to adopt to project management cycle for humanitarian efforts to enable complementary projects design & implementations ensuring relevance to the government efforts to address the identified gaps based on WHO 8 practical steps.

1.4 Statement of parts of thesis submitted to qualify for the award of another degree

This document is compilation of the authors own experience and different standards recommended by specialized agencies in this sector. No publication from an individual is incorporated in this work.

1.5 Own publications included in this thesis

This document is not just collection of documents from different publications but, it is the authors day to day professional point of concern and hence contribution on this agenda by visualization of the global view, local context, government's plan on the sector and tries to define the role that non-government agencies to contribute to this through their response strategies. The big emphasis on this work is to bring together standards in dispersed manner to help practitioners better understand integrated programming of WaSH, IPC & health for effective tangible outcome towards improved contribution of health of vulnerable.

1.6 Acknowledgements

I would like to extend my acknowledgement to **Paul Jawor** (WatSan Global advisor in Doctors without borders Spain-MSF-OCBA) who thought me the role of Engineers in HCFs through WaSH and **Joos Van Den Noortgate** (WatSan Global advisor in Doctors without borders Belgium-MSF-OCG) for motivating me on WatSan & IPC focused in HCF during training in Entebe Uganda, 2017. Lessons from Paul & Joose together their team are incorporated in this document on HCF WaSH assessment and interventions. I would also like to credit support of my wife **Mimi Paulos** for her support during my studies.

1.7 Dedication

This document is dedicated to all humanitarian agencies & humanitarian personnel who are committed & dedicated to humanitarian responses with sense of empathy & accountabilities and work hard towards delivery of real life changing services.

2. About this document

2.1. Categories

Countries	Document Type	Subject	Institutions	Language
Ethiopia	Research	Health,	Humanitarian	WHO
Developing countries	Document review	WaSH	Assistance	UNICEF
...	Reference	Nutrition Project Management Advocacy Coordination	Humanitarian principles Indicators	MSF Sphere Project GOAL Ethiopian MoH

2.2. Author



Gemechis Bizuayehu (6 November 1985) is Qualified professional Engineer, Project manager, Sociologist & rich in experience of Programmes & operations management with great values for integrity, professionalism, teamwork, gender equality & equity, diversity and other cross cutting issues. Mr Gemechis is well experienced in projects management, coordination, monitoring and evaluation. Mr Gemechis has been working with different career capacities from field junior supervisor level to country mission advisory & managerial roles with different INGOs like International Rescue Committee, International Medical Corps, Oxfam GB, Medecins Sans Frontiers & GOAL Global for nearly ten years in WaSH sector in Ethiopia. Mr Gemechis received his Bachelors of Science in Water Resource Engineering from well-known Bahir Dar University in 2010. Mr Gemechis is motivated to select this topic for his study, being concerned about poor coordination of WaSH & Health sectors strategically among partners during his career. He believes this document will attract professionals engaged in this thematic area for further actions.

2.3. Executive Summary

In 2018 the Secretary-General of the United Nations (UN) issued a Global Call to Action to elevate the importance of and prioritize action on WASH in all health care facilities, including primary, secondary and tertiary facilities in both the public and private sectors. The call recognises the important role WASH plays in preventing infections, saving lives, and improving quality of care. As such, all UN agencies, Member States, and partners are now being asked to invest more in this critical component for health and wellbeing.

The purpose of this document is to visualize the global picture and developments to build capable & functional health facilities through improved WaSH intervention that contribute to community health with clear understanding of IPC. Global picture of WaSH, Health & IPC in HCFs is viewed, the coverage of WaSH in HCFs in Ethiopia is assessed, the Ethiopian Ministry of Health (MoH) strategy is presented and the recommended roles of non-government agencies implementing humanitarian health projects in parallel with the MoH strategy through their project management is shown.

This document starts with the WHO and UNICEF Joint Monitoring Programme's WASH in Health Care Facilities at Global & specific to Ethiopian context. Global baseline report 2018, which provides the first national, regional, and global baseline monitoring estimates for SDG 6, which calls for universal access to WASH everywhere including in households, schools, and health care facilities.

The main audiences for this document are national health policy makers, district health managers, quality experts and implementers, and health facility administrators and staff. Additional audiences include WASH and health partners, national water and sanitation policymakers, WASH practitioners, researchers, and civil society.

Below is a summary of the global status of WASH in health care facilities and global targets. While modest improvements in WASH in health care facilities are likely to have an impact on health, the long-term vision is a future where all health care facilities provide access to quality care in a clean and safe environment for patients, providers and the community.

2.4. Global Status of WASH in health care facilities

- ✓ One in four health care facilities lack basic water services, and one in five have no sanitation service
- ✓ Impacting 2.0 and 1.5 billion people, respectively. Many more people are thought to be served by health care facilities that lack hand hygiene and health care waste facilities.
- ✓ The burden of maternal sepsis is twice as great in low- and middle-income countries as it is in high income countries, and health care facilities in low-income countries are at least three times as likely to have no water service as facilities in higher resource settings.
- ✓ Compared to hospitals, non-hospitals, are twice as likely to have no water or sanitation services. See Highlights from JMP.¹
- ✓ WASH services vary considerably between regions. For example, more than 1 in 4 health care facilities in sub-Saharan Africa have no water service.
- ✓ In most of Asia, 1 in 10 facilities have no water service, and in Latin America and the Caribbean, 1 in 20 health care facilities have no water service.
- ✓ Sanitation services lag further behind. In Central and Southern Asia, 2 in 5 health care facilities have no sanitation services, and in Oceania and sub-Saharan Africa, 1 in 3 facilities have no sanitation services.

¹ Non-hospital facilities include primary care facilities and other health facilities where basic care and procedures are provided, including delivery of non-complicated births.

- ✓ Across all regions, WASH services in health care facilities fall short of WHO and national standards. Sanitation services with provisions for menstruating women and girls and people with limited mobility tend to be less prevalent in health care facilities than
- ✓ Water services (1). Hand hygiene and health care waste services are even rarer. It is important to note that due to data scarcity and the difficulty of data collection, the global indicators for basic WASH in health care facilities do not consider all aspects of minimum standards for WASH in health care facilities. For example, water quality and quantity are not included in the definition of basic water while safe management of faecal waste is not considered in basic sanitation. If these aspects were considered, the gaps in WASH would be far greater.²

2.5. Context of Ethiopia as per 2018 JMP with focus on Non-hospital/Primary health facilities

- ✓ Across the country 48% of non-hospital health facilities have limited water supply access while 29% don't access to water supply
- ✓ Only 2.8% non-hospital facilities have basic sanitation facilities while 68.70% have limited and 28.50% are without any sanitation facility
- ✓ 2.25% of the facilities are known to be without hygiene facilities while 97.75% are without sufficient data
- ✓ 63.1% of the primary health care facilities own limited waste management while the remaining 36.9% are without sufficient data
- ✓ All health facilities don't have data indicating practice of Environmental cleaning

Global Targets for WASH in health care facilities

2.5.1.1. Basic services

- ✓ By 2022, 60% of all health care facilities² globally and in each SDG region have at least basic WASH services; by 2025, 80% have basic WASH services, and by 2030, 100% have basic WASH services.
- ✓ **Higher service levels**
- ✓ By 2022, higher levels of service are defined and monitored in countries where universal basic WASH services have been achieved already. By 2030, higher levels of WASH services are achieved universally in 80% of those countries.

2.5.1.2. Metrics for success³

- ✓ By 2020, at least 35 international partners and donors have committed additional financial and non-financial resources to improve WASH in health care facilities.⁴
- ✓ By 2021, all Member States have completed and reported baseline WASH in health care facility assessments, have set national targets that identify and address sub-national disparities, and have developed and are implementing national standards.
- ✓ By 2023, all Member States have included improved WASH services in plans, budgets, and implementation efforts for improving quality of care, strengthening infection prevention and control, preventing antimicrobial resistance, and supporting the commitment to universal health coverage.
- ✓ By 2025, at least 50 Member States that did not have universal access in 2016 have met or exceeded their own national targets.

² WASH improvements and services will be prioritized in facilities where births occur. "All health care facilities" includes primary, secondary, and tertiary facilities.

³ These metrics were first developed at a global strategic meeting hosted by WHO and UNICEF in 2018 (see Additional Resources) and refined through an open call for input and by the Advisory Group to the global work on WASH in health care facilities.

⁴ Commitments will be tracked and reported annually. The funding gap will be calculated when more data are available on financing needs and options, including domestic financing.

Eight practical steps to improve WASH in health care facilities

- 

1. Conduct situation analysis and assessment.
A situation analysis examines health and WASH policies, governance structures, and funding streams, whereas an assessment provides updated figures on WASH coverage and compliance. Together, these documents form the basis for prioritizing action and mobilizing resources.
- 

2. Set targets and define roadmap.
The roadmap, supported by an intersectoral national team, should clearly define the approach, intervention areas, responsibilities, targets, and budget for WASH improvements over a defined time period.
- 

3. Establish national standards and accountability mechanisms.
National standards should reflect the national context and provide the basis for design, costing, implementation and operation of WASH services. Accountability mechanisms should ensure that all facilities meet national standards.
- 

4. Improve and maintain infrastructure.
WASH infrastructure should be improved to meet national standards and be accompanied by policies, resources, and strategies to keep infrastructure and services operational over time.
- 

5. Monitor and review data.
WASH indicators can be integrated into routine data collection and review processes for health care. The data can be used to measure progress and hold stakeholders accountable.
- 

6. Develop health workforce.
All workers engaged in the health system, from doctors, to nurses, midwives, and cleaners should have access to up-to-date information on WASH and infection prevention and control practices during pre-service training and as part of regular professional development.
- 

7. Engage communities.
Community members serve an important role in defining, demanding, using and providing feedback on health services. They ought to be included in the development of WASH policies and in the regular review of WASH coverage and implementation data.
- 

8. Conduct operational research and share learning.
External review and research is important for testing and scaling-up innovative approaches and reflecting on and revising programmatic strategies.

Fig. 1 8 Practical steps for improved WaSH services: Source WHO

3. Introduction and Background of the study

3.1. Introduction

Water, sanitation and hygiene (WASH) in health care facilities (HCFs) are essential for improving quality within the context of universal health coverage (UHC). Focused attention to this triangulation between quality, UHC¹ and WASH can catalyse improvements in a number of other areas including health and safety, service delivery, staff moral and performance, health care costs and disaster/outbreak resilience as well as being linked to, and integrated with, improvements in infection prevention and control. With nearly 40% of HCFs in low- and middle-income countries lacking improved water and nearly 20% without sanitation, there is much to be done to improve WASH services. WASH is a necessary prerequisite to achieve quality UHC and its implementation as such, will shape health systems across the world.

UHC is a global health priority and part of the Sustainable Development Goals (SDGs) under target 3.8. WASH in health care facilities is also implicitly and explicitly captured in the 2030 Agenda for Sustainable Development with the terms “universal” and “for all” in SDG Targets 6.1 and 6.2, which recognizes that access to water and sanitation is a basic human right.

The WHO/UNICEF Global Action Plan for WASH in HCFs recognises that sustained improvements in WASH in HCFs require integration between quality of care efforts and WASH. To date, little evidence is available on how such integration occurs at country level. To address this knowledge gap, WHO has conducted several in-depth situational analysis in countries that are undertaking actions to improve WASH in HCFs as part of their quality of care improvement efforts. The purpose of the situation analyses was to capture mechanisms that “jointly support” WASH in HCF and quality of care improvements and also identify barriers and challenges to implementing and sustaining these improvements.

3.2. Statement of the Problem

Ethiopia Health & WaSH Sectors:

Ethiopia has a clear, identified need for improvements and demonstrated commitment from the Government to address quality UHC and WASH in health care facilities. Ethiopia launched the Clean and Safe Health Care Facilities (CASH) programme in 2014 to reduce health care infections and make hospitals safer, by improving infection prevention and control and patient safety (IPPS), through a focus on behaviour and attitudinal change, as well as providing safer and sufficient WASH services. Key enabling factors for CASH and quality improvement include effective leadership and governance; mentorship and peer-to-peer learning activities; patient, family and community engagement; and accountability mechanisms. Multiple bottlenecks do however remain which have hindered improvements in WASH services and quality. These include a lack of coordination of national activities; inadequate and dated infrastructure; limited technical capacity and guidance documents; limited budget; insufficient human resource capacity; and barriers to behaviour change. CASH does cover all aspects of WASH and environmental health and should be updated to better align with WHO environmental health standards.

As per the 2018 Ethiopia SARA Report,

- About 61% of health facilities have sanitation facilities
- Only 34% health facilities have improved water source

As detailed strategic plan to improve these gaps in line with WHO’s 8 practical steps to improve WASH in HCFs, Ethiopian MoH proposed to take the following steps:

¹ WHO states that universal health coverage (UHC) “means that all people and communities can use the promotive, preventative, curative, rehabilitative and palliative health services they need, of sufficient quality to be effective, while also ensuring that the use of these services does not expose the user to financial hardship”.

1. **Establish baseline:** Conduct comprehensive assessments according to the national context and, where appropriate, to quantify: the availability and quality of, and needs for safe water, sanitation and hygiene (WASH) in health care facilities; and infection prevention and control (IPC) using existing regional and global protocols or tools and in collaboration with the global effort to improve WASH in health care. No comprehensive national baseline data exist for WASH in HCF. However, Service Availability and Readiness Assessment (SARA, 2018) done by Ethiopian Public Health institution indicated that Sampled health facilities have access of 34% improved water source and 61% with sanitation facilities. Good to establish baseline data using secondary data also as an option.
2. **Develop and implement a road map:** according to national context so that every health care facility in every setting has, commensurate with its needs: safely managed and reliable water supplies; sufficient, safely managed and accessible toilets or latrines for patients, caregivers and staff of all sexes, ages and abilities; appropriate core components of infection prevention and control (IPC) programmes, including good hand hygiene infrastructure and practices; routine, effective cleaning; safe waste management systems, including for excreta and medical waste disposal; and, whenever possible, sustainable and clean energy.
3. **Establish and implement standards,** according to national context, minimum standards for safe water, sanitation and hygiene (WASH) and infection prevention and control (IPC) in all health care settings and build WASH and IPC standards into accreditation and regulation systems; and establish accountability mechanisms to reinforce standards and practice.
4. **Set targets & monitor progress:** Set targets within health policies and integrate indicators for safe water, sanitation and hygiene (WASH) and infection prevention and control (IPC) into national monitoring mechanisms to establish baselines, track progress and track health system performance on a regular basis.
5. **Integrate WaSH in to Nutrition Programming:** Integrate safe water, sanitation and hygiene (WASH) into health programming, including into nutrition and maternal, child and new-born health within the context of safe, quality and integrated people-centred health services, effective universal health coverage, infection prevention and control (IPC) and antimicrobial resistance. Strengthen WASH integration in to existing health program such as maternal health, Nutrition, WASH-NTD and Emergency health program. Moreover, good to use initiatives such as Ethiopian Hospital Alliance for Quality(EHAQ), CASH, Clean and Timely Care in hospitals for Institutional Transformation
6. **Allocate Regular Funding:** Have procedures and funding in place to operate and maintain safe water, sanitation and hygiene (WASH) and infection prevention and control (IPC) services in health facilities, and to make continuous upgrades and improvements based on needs so that infrastructure continues to operate and resources are made available to help facilities access other sources of safe water in the event of failures in the normal water supply, so that environmental and other impacts are minimized and in order to maintain hygiene practices.
7. **Establish Multi-sectoral coordination:** Establish strong multispectral coordination mechanisms with the active involvement of all relevant ministries, particularly those responsible for health, finance, water, and energy; to align and strengthen collaborative efforts and ensure adequate financing to support the delivery of all aspects of safe water, sanitation and hygiene (WASH) and infection prevention and control (IPC) across the health system.
8. **Develop Health Workforce:** Invest in a sufficient and well-trained health workforce, including health care workers, cleaners and engineers to manage WASH services, provide ongoing maintenance and operations and perform appropriate WASH and IPC practices, including strong pre-service and ongoing in-service education and training programmes for all levels of staff; educate and raise awareness, in line with regional agreements, on water, sanitation and

hygiene, with a particular focus on maternity, hospital facilities, and settings used by mothers and children

Even though this strategy is in place, still there is a big gap demanding standardization, harmonisation and clear direction on on-ground improvement of visualization of engineering health services quality with consideration of WaSH & Infection prevention and control throughout the whole project management cycle. This document is intended to provide the first stepping stone in WaSH, health & nutrition sectors integrated response projects design, implementation, monitoring & evaluation for effective, efficient & beneficiary-centred humanitarian response in first instance while developments can be done for holistic programming.

3.3. Research goal & Research questions

3.3.1. Goal:

To produce compiled minimum standards & best practices on health facilities physical design designing, evaluation & improvements ensuring ease of quality health services provision, access to sufficient WASH services & acceptable IPC specific to emergency response/humanitarian sector.

3.3.2. Research questions

This research will help responders involved in WaSH, Health & nutrition assistance to address question " what are the minimum WASH services required for HCF to be functional with acceptable IPC for the patients, care takers & staffs with reference to the global standards also to complement the MoH long term plan with clear understanding of WaSH & IPC holistic integration in to quality health programing ".

3.4. Significance of the Study

This document is significant for reasons/not limited to points below:

- ❖ Functional HCF is defined in an integration of WaSH prospect with IPC
- ❖ Useful documents published in dispersed manner are brought together
- ❖ Setting clear & triangulated practical quality WaSH & IPC standards that the health sector success needs starting from assessment
- ❖ Helps as a guide for intervention of the gaps relative to the standard for quality health services
- ❖ Used as a guiding tool for WaSH & health experts to consider cross sectoral technical targets when engaged on integrated Health & WaSH projects
- ❖ Helps agencies to get clear picture of Health sector engineering concepts for WaSH & IPC

3.5. Scope of the Study

This study will suggests the minimum requirements for assessments of HCF for community health services & indicators for evaluation of integrated WaSH, Health & nutrition humanitarian responses with key technical references.

3.6. Limitations of the Study

This study is limited to literature reviews, compilation of recent exposures & best lesson of the author due to COVID-19 Pandemic.

3.7. Description of the Study Area

3.7.1. Ethiopia Snapshot

3.7.1.1. General

Population at study time	110,000, 000
Number of facilities in country:	
Hospitals	125 existing, 185 under construction
Health centres	3 245
Health posts	16 048

3.7.1.2. HEALTH

Maternal mortality ratio per 100 000 live births (2015)	353 (247-567)
Neonatal mortality rate per 1000 live births (2015)	28 (18-41)

Diarrhoeal (0-5 years) (%)	17.8
Births attended by a skilled health professional (%) (2015)	28
Life expectancy at birth (m/f, years) (2015)	62.8/66.8
Total expenditure on health per capita (USD)	73
Total expenditure on health as % of GDP (2014)	4.9

3.7.1.3. WASH

3.7.1.3.1. Coverage of WASH in facilities

- ❖ Improved water source (%) (2014) 77
 - ✓ (urban 94, rural 65) Access to piped water (%) (2014) 52 (urban 83, rural 30) Coverage of WASH in health posts
- ❖ Improved water source (%) (2014) 45
 - ✓ (urban 50, rural 45) Access to piper water (%) (2014) 3 (urban 28, rural 2)

3.7.1.3.2. POPULATION ACCESS TO WASH

- ❖ Population using improved drinking water sources (%) (2015) 57
 - ✓ (urban 93, rural 49)
- ❖ Population using improved water sanitation facilities (%) (2015) 28
 - ✓ (urban 27, rural 28)
- ❖ Mortality rate attributed to unsafe WASH services (per 100 000) 29.6

Source: achieving quality universal health coverage through better water, sanitation and hygiene services in health care facilities: a focus on Ethiopia-2017 WHO

4. Research results

This research will have the following results:

- ❖ From various sources of data the level of coverage of WaSH & IPC in health facilities needs more intervention
- ❖ The efforts of most humanitarian actors implementing integrated health, nutrition & WaSH is not supported with practical & technical project concept, design & implementations to create functional health service meeting minimum standard water, hygiene & sanitation facilities which in-turn made difficult to imagine IPC at all
- ❖ There is no clear picture over the responsibilities of IPC, HCF waste management & vector control

5. Conclusion and recommendations

Based on WHO practical guide, all stakeholders engaged on health sector improvement should support the government strategy during projects design & implementations through the following actions

1. **Establish baseline:** health projects should consider the WaSH facilities coverage during their assessment and design of responses that address gaps for improved health service in functional HCF where IPC is in place
2. **Develop and implement a road map:** ensure that health sector projects address gaps for improved health service in functional HCF where IPC is in place. Commensurate with its needs: safely managed and reliable water supplies; sufficient, safely managed and accessible toilets or latrines for patients, caregivers and staff of all sexes, ages and abilities; appropriate core components of infection prevention and control (IPC) programmes, including good hand hygiene infrastructure and practices; routine, effective cleaning; safe waste management systems, including for excreta and medical waste disposal; and, whenever possible, sustainable and clean energy.
3. **Establish and implement standards,** support the sector, through adaptation of recommended minimum standards for safe water, sanitation and hygiene (WASH) and infection prevention and control (IPC) in all health care settings and build WASH and IPC standards into accreditation and regulation systems; and establish accountability mechanisms to reinforce standards and practice.
4. **Set targets & monitor progress:** Set targets within health sector strategy and

- integrate indicators for safe water, sanitation and hygiene (WASH) and infection prevention and control (IPC) into projects monitoring, evaluation & reporting.
5. **Integrate WaSH in to Nutrition Programming:** Integrate safe water, sanitation and hygiene (WASH) into health programming, including into nutrition and maternal, child and new-born health within the context of safe, quality and integrated people-centred health services, effective universal health coverage, infection prevention and control (IPC) and antimicrobial resistance. Strengthen WASH integration in to existing health program such as maternal health, Nutrition, WASH-NTD and Emergency health program. Moreover, good to use initiatives such as Ethiopian Hospital Alliance for Quality(EHAQ), CASH, Clean and Timely Care in hospitals for Institutional Transformation
 6. **Allocate Funding:** Humanitarian Health assistance funding process should include costs to operate and maintain safe water, sanitation and hygiene (WASH) and infection prevention and control (IPC) services in health facilities, and to make continuous upgrades and improvements based on needs so that infrastructure continues to operate and resources are made available to help facilities access other sources of safe water in the event of failures in the normal water supply, so that environmental and other impacts are minimized and in order to maintain hygiene practices.
 7. **Multi-sectoral coordination:** multispectral coordination particularly WaSH & Health clusters should work aggressively; to align and strengthen collaborative efforts and ensure adequate financing to support the delivery of all aspects of safe water, sanitation and hygiene (WASH) and infection prevention and control (IPC) across the health system.
 8. **Develop Health Workforce:** support on capacity building including staffing & training of health workforce, including health care workers, cleaners and engineers to manage WASH services, provide ongoing maintenance and operations and perform appropriate WASH and IPC practices, including strong pre-service and ongoing in-service education and training programmes for all levels of staff; educate and raise awareness, in line with regional agreements, on water, sanitation and hygiene, with a particular focus on maternity, hospital facilities, and settings used by mothers and children

For humanitarian partners implementing emergency & long-term projects to can adopt the steps mentioned above in their project cycle management during assessment, design, funding, implementation, monitoring & evaluations.

This research document will try to contribute to suggest key standards for improved health, WaSH & IPC project integrated approaches. In the following sections essential requirements/standards, monitoring & reporting tools will be presented.

6. Basic WaSH requirements in health structures

Adequate water and sanitation provisions are medical requirements, since they are essential for many curative interventions; e.g. Water for surgical procedures, maternity, and re-hydration. Water and sanitation provisions are also essential for preventative interventions. The essential water and sanitation requirements allow curative actions to be undertaken, and contribute towards reducing nosocomial infections. The essential requirements are applicable to:

- *The smallest health post through to the largest health structure*
- *Acute emergencies through to chronic emergencies and stabilised situations*

They are linked to the Standard Precautions and respect the fundamental rule not to harm patients, staff, visitors, and populations surrounding the health structures. In order to have a properly functional health structure, the essential water and sanitation requirements should be reached, or preferably even exceeded. However, the essential requirements are not stand-alone standards. They need to be adapted to the context and should be seen as reference points, not as absolute rules. They are means to come to a functional health structure from a water and

6.1. Human-related activities required for assessment, planning, training and promotion

The essential requirements list mainly technical criteria, but it is clear that no intervention can be considered successful if facilities are inappropriate for local conditions, if they are incorrectly used, or if they are not maintained (correctly). The human-related activities must go hand in hand with any technical intervention.

<p><u>Acute emergency:</u></p> <ul style="list-style-type: none"> • Initial assessment and analysis • Technical training to the staff • Information to the patients 	<p><u>Chronic emergencies and stabilized situations:</u></p> <ul style="list-style-type: none"> • Initial assessment and analysis • Set up or strengthen the Hygiene Committee • In-depth assessment and analysis with the staff • General and technical training to the staff • Promotion towards the patients / visitors
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6.1.1. Staff management

Ensure that the staff are trained, equipped, and managed correctly:
 Identify and train the Water, Hygiene and Sanitation (WHS) responsible(s)

a. Small health structures

- ❖ Cleaner / water and sanitation focal

b. Large health structures

- Technician / water and sanitation officer
- Provide the necessary administrative and technical tools
- Job descriptions for all staff
- Appropriate protective clothing when they are involved in hazardous WHS activities and appropriate tools
- Vaccination of the staff who are exposed to health risks: Hepatitis B and Tetanus
- Provide access to the Post-Exposure Prophylaxis (PEP) kit for the staff exposed to HIV/AIDS risks.

6.2. Water

6.2.1. Water quality: Provide water of acceptable quality

"No" pathogens	Free residual chlorine concentration at distribution points <ul style="list-style-type: none"> • 0.2 - 0.5 mg/l (if pH < 8) minimum 30 minutes contact time • 0.4 - 1.0 mg/l (if pH > 8 minimum 60 minutes contact time or max 10 E.Coli/100 ml at discharge points if chlorination is really not possible (=> water filters highly recommended)
Low turbidity	<ul style="list-style-type: none"> • < 5 NTU • < 20 NTU is permissible in an acute emergency
Low concentration of compounds that are acutely toxic or that have serious long-term effects	Context specific; in case of doubt, contact your technical referent
Acceptable to users	• Water is not rejected due to colour, taste, odour or salinity

6.2.2. Water quantity and accessibility:

Health structure / activity	Quantity/patient day	Max distance to water point	Min. storage capacity in closable reservoir	
Mobile clinic: infrequent visits	2L	100 m	1 day	
Mobile clinic: frequent visits (in fixed tents / existing buildings)	5L		100 m	2 days
Out-Patient Department (OPD)	5L			
In-Patient Department (IPD) / hospital	40 – 60 L*			
Operating theatre / maternity (sterilisation not included)	100 L/intervention			
Blanket feeding	0.5L 5L for long			
Supplementary Feeding Centre (SFC)	5			
Ambulatory Therapeutic Feeding Centre(ATFC)	5L			
In-patient Therapeutic Feeding Centre (ITFC)	30 – 50 L*			
Cholera Treatment Centre (CTC)	60L			
SARS isolation	100L			
Viral Haemorrhagic Fever (VHF) Isolation	300 – 400 L*			

* Context dependent: e.g. climate, number of patients (for small number of patients, high quantity range)

For chronic emergencies and stabilised situations, all quantities should preferably be higher. Keep also in mind that up to 20 % of the water can get lost through leaks and spillage. Water should be accessible to the staff, patients and visitors.

Reliable water points should be available within the health structure, certainly at the critical points.

- **OPD:** consultation room, dressing room, waste zone, nearby latrines, sterilization, Ante Natal Care and immunization, pharmacy.
- **IPD/hospital:** operating theatre, maternity, sterilization, laboratory, waste zone, nearby latrines/toilets, kitchen, morgue, all wards, laundry, pharmacy, emergency.

All water collection points must be maintained at least once a week.

6.3. Excreta: Provide adequate and appropriate excreta disposal facilities

In sufficient quantity	In-Patient health structures (e.g. IPD, ITFC) 1 latrine/20 users assume each patient has 1 visitor/attendant. (1 + 1 for staff) + (N° of beds x 2)/20 OPD: 1 for staff + 1 male + 1 female + 1 children’s latrine (or potties)
Technically appropriate (depending on local constraints)	<u>Acute emergency</u> Improved trench latrine <u>Chronic emergencies and stabilised situations</u> Pit latrine / children latrine VIP latrine / Double pit VIP latrine (Pour) flush latrine (potentially with septic tank and infiltration system or closed sewer)
Appropriate for users	Facilities must be culturally and socially appropriate Separate facilities for staff and patients Preferably a separation between male and female (certainly if culturally necessary) In-patient health structures (e.g. IPD, ITFC): some latrines provided with seats and handlebars for physically impaired persons Children’s latrines provided near to paediatric ward and feeding centres (or potties) Bed pans / urine flasks (or similar local material) for bedridden patients

Easily accessible	Distance of pit latrines: > 5 m and < 30 m from buildings
At safe location	To avoid risk of sexual violence Night lights provided and operating (if feasible)
Convenient hand washing facilities	Soap, hand washing and waste water facilities provided at exit of latrines
Prevent contamination of water resources	Latrines > 30 m away from water resources
All excreta disposal facilities must be maintained at least once a day.	

6.4. Hygiene

6.4.1. Provide bathing facility

In sufficient quantity	In-Patient health structures (e.g. IPD, ITFC) 1 (bucket) shower/40 users Assume each patient has 1 visitor / attendant (1 + 1 for the staff) + (N° of beds x 2)/40 OPD (bucket) shower (in case of scabies or sexual violence)
Appropriate for users	The facilities must be culturally and socially appropriate Separate facilities for the staff and patients Separation between male and female (small children can go to women's showers) In-Patient structures: some showers provided with seats and handlebars for physically impaired persons
At safe location	To avoid risk of sexual violence Night lights provided and operating (if feasible)
Related facilities	Water supply close by (maximum 5 to 20 m walking distance) Showers connected to wastewater facilities
All shower facilities must be maintained at least once a day.	

6.4.2. Provide washing areas for In-Patients structures

Separate washing areas for	The dishes, if a kitchen is present The structure's laundry (e.g. bed sheets) with sufficient drying lines The patients' laundry (if required)
Appropriate for users	The facilities must be culturally and socially appropriate
Related facilities	Water supply close by (maximum 5 to 20 m walking distance) Washing areas connected to wastewater facilities
All washing areas must be maintained at least once a day.	

6.4.3. Provide adequate wastewater disposal facilities

Type of wastewater	Pre- treatment	Disposal	Distance between disposal and water resource
"Clean" wastewater e.g. from tap stand, hand pump (without soap, oil, grease)	No	Soak away pits (emergency) Infiltration trenches Evapo-transpiration area (arid zones) Properly sealed sewer system.	> 3 0 m
"Dirty" wastewater (grey water with soap, oil, grease)	Grease trap	Soak away pits (emergency) Infiltration trenches Evapo-transpiration area (arid zones) Properly sealed sewer system	>30 m
Black water (overflow of a septic tank)	Septic tank	Soak away pits (emergency) Infiltration trenches Evapo-transpiration area (arid zones) Properly sealed sewer system	> 3 0
Rain and runoff water	No	Natural drainage	

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6.5. Medical Waste Management

- Provide a safe and secure segregation, collection and temporary storage, potential treatment and final disposal of all types of waste.

General

- Install the waste containers for patients / visitors at maximum 5 to 20 m walking distance from where the waste is generated.
- Provide 3 sharps, 3 soft and 3 organic waste containers per ward (with maximum 20 beds) /treatment room, one for use, one for rotation, one for spare

6.5.1. Operating theatre

Nearby the operating table, install:

- 2 sharps containers, 1 for the surgeon, 1 for the anaesthetist
- 2 soft waste containers of 20 l, 1 for the surgeon, 1 for the anaesthetist
- 1 big soft waste containers of 60 l (in case the sterilised material is kept in Kraft paper, which will help to light the volume reducer / incinerator, if kept dry)
- 1 organic waste container

6.5.2. Sharps

Provide appropriate sharps containers in convenient locations (next to the examination table, on a tray or trolley for mobile use in the wards)

- ✓ Modified drugs pot (or reusable sharps container if available); if lots of empty ampoules and vials are generated, a separate glass container can be provided, for them to be crushed afterwards in a safe glass crusher
- ✓ Safety box: in case of immunization or for specific waste (e.g. very long needles), possibly also in the early stages of acute emergency (latter to be avoided if possible)

Ensure the regular collection and disposal of sharp waste

- ✓ Provide an appropriate sharps pit: Concrete lined sealed pit or adapted drum / plastic container in case of acute emergency, small health post, starting up phase of bigger structures, slum where there isn't space to construct a concrete sharps pit
- ✓ With a Safety Box Reducer if this kind of containers is used in the structure
- ✓ With a glass crusher if lots of glass waste is generated

6.5.3. Soft waste

Provide appropriate soft waste containers (plastic buckets of 20 - 60 l capacity with lid, all with the same colour) in convenient locations (next to the examination table, on a tray or trolley for mobile use in the wards)

Ensure at least daily collection of the soft waste, with safe temporary storage before (potential)

Treatment

Ensure disinfection and cleaning of the emptied soft waste containers

Provide appropriate treatment and disposal facilities:

Acute emergency

- Drum volume reducer and residues (ash) pit
- Ashes and residues deposited directly in the ash / residues pit

Chronic emergencies and stabilised situations

- De Montfort incinerator (or equivalent) with:
 - ❖ 2 ash / residues pits
 - ❖ Ashes and residues deposited directly in the ash / residues pit
- Covered pit if (very) small quantity of waste and/or lots of space available
- Exceptionally, offsite disposal with appropriate transport facilities (e.g. containers, vehicles, waybills) if urban zone / dense population / no space

6.5.4. Organic waste

Provide appropriate organic waste containers (plastic buckets with lid, all of the same colour, but different than for soft waste) in a convenient location (next to delivery chair, the operating table).

- ✓ Maternity: 15 to 40 l.
- ✓ Operating theatre: 20 to 60 l.
- ✓ Ensure immediate collection and disposal of the organic waste.
- ✓ Ensure disinfection and cleaning of the emptied organic waste containers. Provide appropriate final disposal facilities:
 - Latrine (for placentas but only if very few deliveries, NOT to be used for body parts).

Acute emergency

- ✓ Organic waste pit (closed pit, or open pit with contents covered with soil).
- ✓ Chronic emergencies and stabilised situations
- ✓ 2 organic waste pits, each with a fixed cover and a ventilation pipe.
- ✓ Exceptionally offsite disposal with appropriate transport facilities (e.g. containers, vehicles, waybills) if urban zone / dense population / no space.

6.5.5. Hazardous waste

- ❖ Ensure that all hazardous waste is disposed of legally, and disposal practices and methods comply with or exceed country legislation.
- ❖ Ensure that all hazardous waste is disposed of safely (according to the WHO recommendations). If required, ask advice from your technical referent.

6.5.6. Waste zone

Provide a defined & fenced waste zone with soft waste storage and all appropriate treatment and disposal facilities located inside.

- ✓ Install a washing area with water point within the waste zone.
- ✓ Install facilities for wastewater evacuation via a grease trap to an appropriate disposal system. Ensure management and supervision by designated and trained person(s).
- ✓ Distance > 50 m from water sources (certainly when organic waste pits are included). The complete waste zone must be maintained daily.

6.6. Dead Bodies Management

Dead bodies related to war / famine / natural disasters **DO NOT** represent a major public health risk. A good management is needed however to avoid proximity to the dead (psychological effects), odours and scavengers / vectors. Dead bodies related to epidemics (e.g. cholera, Ebola, Marburg, typhus, plague) **DO** represent a public health risk and strict rules have to be followed in order to avoid further disease transmission (refer to specific guidelines!).

- ❖ Ensure safe storage of bodies prior to burial / cremation
 - ✓ Provide an appropriately sized and located morgue for In-patients structures, with a separate morgue for the isolation units.
- ❖ Ensure that dead bodies are handled safely, and that appropriate hygiene and disinfection measures are taken when handling and preparing the bodies.
- ❖ General
 - ✓ All persons handling and preparing bodies wear gloves.
 - ✓ All persons handling and preparing bodies wash hands using water and soap after manipulation.
 - ✓ Epidemics of contagious diseases (*refer to specific guidelines!*)
 - ✓ All persons handling, preparing and burying bodies wear appropriate protective equipment (disease specific).
 - ✓ All persons handling, preparing and burying bodies wash themselves within the isolation centre according the appropriate rules (disease specific).
 - ✓ Safe leak-proof containment of bodies; e.g. body bags for cholera, body bags and coffin for Viral Haemorrhagic Fevers (disease specific).
 - ✓ Trained team carry out disinfection of bodies, structures and transport facilities.

- ✓ Trained team perform and/or supervise burial (with burial practices to be evaluated in every context).
- ✓ Cremation should only be done on specific demand of relatives.
- ✓ Ensure that handling, preparation, and burial of the bodies is done in a culturally sensitive manner.

6.7. Vector Control

- Prevent the transmission of vector borne diseases within health structures.
 - ❖ Minimise the survival chance and density of vectors in health structures.
 - ❖ Reduce contact of persons (e.g. patients, staff) with potentially infected vectors.
 - ❖ Contact of vectors with infected patients.
- Prevent infestation of vectors and nuisance pests in health structures.
- Provide appropriate vector control facilities, equipment and services in addition to the other water sanitation requirements

7. Basics of Infection Prevention and Control

Infection control practices can be grouped in two categories

- 1) Standard precautions;
- 2) Additional (transmission-based) precautions.

Transmission of infections in health care facilities can be prevented and controlled through the application of basic infection control precautions which can be grouped into standard precautions, which must be applied to **all** patients at **all** times, regardless of diagnosis or infectious status, and additional (transmission-based) precautions which are specific to modes of transmission (air borne, droplet and contact).

As per the objective of this study, this document will only discuss a section of standard procedures with additional point on cholera specific topic at the end of this section.

7.1. STANDARD PRECAUTIONS

Treating all patients in the health care facility with the same basic level of "standard" precautions involves work practices that are essential to provide a high level of protection to patients, health care workers and visitors.

These include the following:

- ✓ Hand washing and antiseptics (hand hygiene);
- ✓ Use of personal protective equipment when handling blood, body substances, excretions and secretions;
- ✓ Appropriate handling of patient care equipment and soiled linen;
- ✓ Prevention of needle stick/sharp injuries;
- ✓ Environmental cleaning and spills-management; and
- ✓ Appropriate handling of waste.

7.1.1. Hand washing and antiseptics (hand hygiene)

Appropriate hand hygiene can minimize micro-organisms acquired on the hands during daily duties and when there is contact with blood, body fluids, secretions, excretions and known and unknown contaminated equipment or surfaces

Wash or decontaminate hands:

- After handling any blood, body fluids, secretions, excretions and contaminated items;
- Between contact with different patients;
- Between tasks and procedures on the same patient to prevent cross contamination between different body sites;
- Immediately after removing gloves; and using a plain soap, antimicrobial agent or waterless antiseptic agent.

The hospital setting is a good setting for communication about personal hygiene, such as informing visitors and the general public about hygiene rules such as washing hands.

7.1.2. Use of personal protective equipment

Using personal protective equipment provides a physical barrier between microorganisms and the wearer. It offers protection by helping to prevent microorganisms from:

- ❖ Contaminating hands, eyes, clothing, hair and shoes.
- ❖ Being transmitted to other patients and staff

Personal protective equipment includes:

- ✓ gloves.
- ✓ protective eye wear (goggles);
- ✓ mask.
- ✓ apron.
- ✓ gown;
- ✓ boots/shoe covers; and
- ✓ cap/hair cover

Personal protective equipment should be used by:

- ❖ Health care workers who provide direct care to patients and who work in situations where they may have contact with blood, body fluids, excretions, or secretions.
- ❖ Support staff including medical aides, cleaners, and laundry staff in situations where they may have contact with blood, body fluids, secretions and excretions.
- ❖ Laboratory staff, who handle patient specimens; and
- ❖ Family members who provide care to patients and are in a situation where they may have
- ❖ Contact with blood, body fluids, secretions, and excretions.

7.1.3. Cleaning Practices in HCF

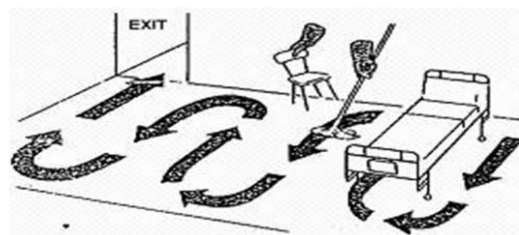
Products with different characteristics will be used based on the need of cleaning at various situations, categorized as:

- ✓ An **antiseptic** is an antimicrobial agent capable of removing or temporarily inhibiting the growth of microorganisms **on skin and other living tissues**.
- ✓ A **disinfectant** is a germicide that inactivates or inhibits the growth of microorganisms **on inanimate objects or surfaces** but not necessarily all microbial forms (e.g., bacterial spores as tetanus spores).
- ✓ A **detergent** is a foam-producing cleaning product, which removes grease and soiled matter from **any surface** (skin, linen, floors, etc.) to facilitate its removal.
After use, surfaces are visibly clean, but they are not disinfected.

Surface high disinfection

Basic rules & steps

- Wear protective equipment
- Clean equipment then floors
- Start with the least soiled equipment or surfaces.
- Follow circuit



7.2. IPC-During cholera Outbreak

- ✓ Everything leaving the CTC is disinfected (sprayer 0.2%) including transport means bringing patients, utensils... And shoes soles and soiled clothes from everyone.
- ✓ Wastewater and runoff water are treated within the isolation center (grease trap/drains + infiltration pit)
- ✓ Vomits and diarrhea are collected in buckets with 1cm of 2% chlorine solution which are emptied 3 to 4 times a day. (extremely contagious material, non under patients control = risk for anyone around it)
- ✓ Everything leaving the CTC is disinfected (sprayer 0,2%) including transport means bringing patients, utensils... And shoes soles and soiled clothes from everyone.
- ✓ Wastewater and runoff water are treated within the isolation center (grease trap/drains + infiltration pit)

7.2.1. Recommended usage of chlorine-based products for Cholera outbreaks

Caution:

- Metal is destroying chlorine, so NEVER PREPARE NOR STORE CHLORINE SOLUTION INTO METAL CONTAINERS (only enamel-coated or painted metal containers may be used).
- Prepare every day fresh solution because it is degraded by heat and light. 0, 05% solution should even be replaced twice a day.
- Staff members, patients attendants and patients must **wash hands** with soap and / or chlorinated water (**0, 05% solution**) after going to the latrine, or upon leaving isolation rooms (particularly during cholera epidemics).
- Upon arrival, **patients' skin must be disinfected** with **0, 05%** chlorine solution. **Clothing must be soaked into the same kind of solution** during several minutes, then rinsed with clean water.
- To take care of dejections, pour the content of a small glass (**150 ml**) of **2%** 'sterilising' solution **into cans collecting stools and vomit**. Dejections must be left at least 10 MN in contact time with the chlorine solution before being disposed of into a specially designed pit.
- **Rinse these cans** with **0, 2%** disinfecting solution.
- **Latrines disinfection** is achieved by spraying **0, 2%** solution **on the latrines' slab and around the latrine. Pit disinfection is not needed.**
- **Each room has to be cleaned twice a day** (particularly during cholera epidemics) using a **0, 2%** chlorine solution.
- **2% solution has to be stored into a dark, non-metallic tightly closed container, away from light and heat. It has to be renewed at least every other week (recommended: once a week).**
- Calcium hypochlorite and sodium dichloroisocyanurate (NaDCC) are recommended for all-purpose disinfection (more stable and high titre of active chlorine). NaDCC dissolves the best, and is less corrosive. Moreover, NaDCC is not concerned by the tight IATA regulations concerning corrosive products air transport.
- Concentrates have to be kept in a cool, dry place, away from direct sunlight. They have to be locked and / or kept (danger, particularly when children might play around). When in contact with the air oxygen, chlorine creates an heavier than air gas. Aeration of rooms containing such chlorine concentrates has to be made on the lower part of the walls.
- Never put dry chlorine generating products (particularly calcium hypochlorite) into contact with organic material (e.g. corpses), as there is a high explosion risk.
- Never mix different chlorine generating products as there is a risk of fire.
- Chlorine is a 'heavy' product. It is thus advisable to inquire on the local availability of such products, in order to reduce freight expenses.

Disinfection Solutions Preparation from Calcium Hypochlorite (HTH)

PREPARATION FROM	'STERILISING 2% CHLORINE SOLUTION	DISINFECTING 0,2% CHLORINE SOLUTION	JAVELLISED WATER (0,05% CHLORINE)
70% Calcium Hypochlorite (HTH powder or granulates)	30g /litre or 2 table spoons / litre	30g / 10 litres or 2 table spoons / 10 litres	7g / 10 litres or 1/2 table spoons / 10 litres
To be used to disinfect :	Dejections Corpses Feet wash	Soils Objects Beds	Hands Skin Clothing
Caution : leave to rest for a while ; don't use the bottom of the solution			

Other Chlorine-Generating Products Used To Prepare Disinfecting Solutions

	'STERILISING 2% CHLORINE SOLUTION	DISINFECTING 0,2% CHLORINE SOLUTION	JAVELLISED WATER (0,05% CHLORINE)	CAUTION
Sodium dichloroisocyanurate (NaDCC 15g active chlorine / tablet)	14 tablets / litre	14 tablets / 10 litres	4 tablets / 10 litres	Ensure excipient(s) used are non-toxic

- ✓ Vomits and diarrhea are collected in buckets with 1cm of 2% chlorine solution which are emptied 3 to 4 times a day. (extremely contagious material, non under patients control = risk for anyone around it)
 - ✓ One latrine identified to empty the buckets (protection of healthy people using the latrines)
 - epidemiology: identification of infection focus and transmission mechanisms
 - Patient's house disinfection (chlorine solution 0,2%) – 1 person on a bicycle can disinfect up to 5 houses a day
- Must be done as soon as possible after patient admission (max. ½ day)
- Soap distribution (1 piece) to caretaker returning home to family.
 - Sensitization: GIVE THE 3 MESSAGES!!!
 - Water chlorination (centralized or bucket) in focal area
 - Management of bodies in community

Basic Rules:

- Between the 4 zones: a water for cleaners and patients (showers).
- Limit movements from « high contamination » to « low contamination » area.
- Limit amount of entry and exits (visitors)
- Latrines in every zones



8. Health facilities check-list For Integrated WaSH, Health & IPC

This data can be used to size the standard requirements for the WaSH services based on the case load, staffing, services sectors based on the established standards. Water consumption, waste generation, specific IPC protocols & procedures will consider key check-points produced from this data. The check-list is a generic type that users can adopt to their specific plan based on the scope & need of their project themes.

Country: _____ Location: _____ Date: _____

8.1. General aspects.

No. of primary healthcare structures _____ Name of hospital: _____

8.2. Health information:

Is there a record per service? Information analysis (frequency). _____
 Record taking frequency _____
 Comments _____

8.3. Indicators:

Crude mortality rate < 48h. _____
 Crude mortality rate >48h. _____
 Mortality rate < 5 years Fatality rate. _____
 Average stay. _____
 Attendance rate. _____
 Occupation rate. _____
 Admission rate. _____

8.4. Capacity (hypothetical/real)

	Number of beds	Doctors	Nurses	Assistant Nurses
Medicine	(/)			
Surgery	(/)			
Paediatrics	(/)			
Maternity	(/)			
Others	(/)			
Condition of beds				

Comments _____

8.5. Description of the wards

1 IPD:

Paediatrics: _____

General medicine: _____

Surgery: _____

Maternity: _____

Intensive care: _____

TBC Service: _____

Others: _____

2 Vertical Programmes

Tuberculosis: _____

AIDS: _____

Others: _____

Are the services free of charge? (Yes/No) _____

Are there standardized protocols? (Yes/No) _____

Are they used? (Yes/No) _____

Comments _____

8.6. Pharmacy:

Number of staff and qualification: _____
Is there a central pharmacy? (Yes/No) _____
Is there a pharmacy per ward? (Yes/No) _____
Is there a record system? (Yes/No) _____
Are there stock records? (Yes/No), _____ Filled in (Yes/No) _____
Where is the pharmacy supplied from? How often? (MoH, NGO, etc..) _____
Are medicines free of charge? (Yes/No) Percentage of generic medicines _____
Are there any expired medicines? Which ones? Medicines most often used:
1 _____
2 _____
3 _____
Is the temperature taken and recorded? _____
Temperature at the pharmacy in the summer _____
Are there any means to protect the pharmacy against the heat / air conditioning (AC)?

If AC:
- In order? How well does it function? _____
- Person in charge of operating and maintaining the equipment _____
- Possibilities to repair it locally _____
- Energy sources used and frequency of use _____
Comments:

8.7. Operating theatres

Number surgical operations / week/day _____
Type of most frequent surgical interventions _____
Mortality rate / surgical cases _____
Post-surgery infection rate _____
Percentage of urgent /planned surgical interventions _____
Surgical medical equipment (which one and condition) Is there a record system? (Yes/No) _____
Is the service free of charge? (Yes/No) _____
Comments

8.8. Maternity

Number of deliveries /month _____
Number of c-sections / month _____
Most frequent complications _____
Equipment used (description) _____
Quality of the work. _____
Comments

8.9. Laboratory

Total number of tests / day _____
Number of microscopes and condition _____
Other equipment / instruments _____
Reagents available? (Yes/No) _____
Record system _____
Most frequent tests _____
Cold chain (Yes/No) _____

Blood bank (Yes/No) _____
HIV / HEP B / Blood group testing? (Yes/No) _____
Airing? _____
Comments:

8.10. X-Rays

Total number of X-rays /day _____
Quality and condition of equipment _____
Quality of the X-rays _____
Most frequent X-rays _____
Protection measures for the staff (Yes/No) _____
Protection of the X-ray room _____
Comments

8.11. Human Resource

Organogram & Management structure _____
Medical _____
Non-medical _____
Doctors/ specialists _____
Assistant doctors' _____
Cook _____
Nurse _____
Cleaner _____
Evaluation of the staff (Yes /No) _____
Assistant nurse _____
Driver _____
Evaluator _____
Midwives / TBA _____
Pharmacists/assistants _____
Others (specify) _____
Laboratory technician's _____
Trainings provided to the staff (Mention essential trainings in line with your project):
Doctors _____
Nurse _____
Cleaner _____
Cook _____
Waste operators _____
Watsan operator _____
Driver _____
Others _____
PPE provided to the staff/PPE used by staff:
Doctors _____
Nurse _____
Cleaner _____
Cook _____
Waste operators _____
Watsan operator _____
Driver _____
Others _____
Comments:

8.12. Food:

Is food distributed to patients and /or accompanying family members? _____
The food ration consists of: _____
Kitchen condition (clean, running water ...) _____
Cooking system / fuel used: _____
Service free of charge?: _____

Comments:

8.13. Health structure –Physical Infrastructure

Location (type of soil, water table, likely to suffer from floods, vegetation nearby, etc)

Plan of the structure with dimensions _____
Alignment of wards with patient flow ease _____
Space available per patient _____
Type and condition of roof _____
Type of building materials used and condition of the walls (crevices, etc)

Wall and floor coating _____
Foundation works. Condition _____
Number and condition of doors and windows (cross-ventilation, specific requirement meet)

Comments

8.14. Water

Water sources if there are wells: _____
Are they protected? _____
System used to pump out water _____
Distribution system and condition (Head & discharge) _____
Own water tank in the hospital (volume and condition) _____
Pump (condition, type, make, flow, energy source used, energy supply)

Water supply frequency (hours / day) _____
Water points (inside /outside the hospital) _____
General operation of the system _____
Water appearance and quality _____
Is the water treated? Quantity /patient _____

Comments

8.15. Electricity

Is there electricity in the centre? _____
How many hours / day? _____
Where is it supplied from? _____
Voltage (110, 220, 380 watts) _____
Other lighting systems (is there a backup system? _____
If so, type, make, etc) _____
Power fluctuations _____
Frequency and average duration of power cuts _____
Are there independent earth wires? _____
Are sensitive electric materials protected? _____

Comments

8.16. Hygiene and Sanitation

Are there showers inside the hospital _____
How many? Condition _____
Are there toilets inside the hospital? (How many? Condition) _____
Is there a washing place? (Condition) _____
Drainage system _____
Are there latrines inside and outside the hospital? Number / person and condition _____

Are there latrines for staff only? _____
Anal hygiene material used & availability _____
Is there a possibility for hand washing after using the latrines? _____

How often is the centre cleaned? _____
Products used? _____
Are there nets in the windows? _____
Any spraying done? _____
Product used? Concentration? _____
Frequency? _____
Is there resistance to the insecticide used? _____
Do fences surround the hospital? _____
Is there a morgue? How far from the hospital? _____
Who is in charge of cleaning, maintaining and operating these infrastructures? _____
Is there a management body? _____
Is there hygiene/IPC committee? How often do they meet? _____

Comments

8.17. Sterilization

Central sterilization? (Yes/ no) Type _____
Are the wards sterilized? (Yes/No) Type _____
Condition / reliability of the materials _____
Energy source used (availability of this energy source) _____
Is there a system to control sterilization temperature? _____
Protocol used: sterilization time and temperature _____
Disposable materials or reusable materials (syringes, needles, etc)? _____

Comments

8.18. Waste Disposal

General description of the infrastructure (are there residues / waste around?) _____

Is there a system to sort out waste? _____

What type of containers is used? _____

Are containers for sharp objects used (needles, scalpels, etc)? _____

Is there a waste disposal area? _____

Disposal of sharp objects, method used _____

Disposal of organic waste (placentas, amputated members, etc), _____

Method used Disposal of contaminated waste (blood, laboratory, gauzes, etc), _____

Method used Disposal of expired medicines, _____

Is there an incinerator? (Yes/no) Type _____

Who is in charge of operating and maintaining waste disposal management? _____

Are universal measures observed (protection for the staff) _____

Comments

8.19. Cold chain

Is there a cold chain? _____

Type and condition of refrigerator / cool-box _____

Energy supply _____

Is the temperature controlled? _____

Has the cold chain ever been broken? _____

Who supplies vaccines? _____

Transport of vaccines: means, conditions and time _____

Comments:

8.20. Communications

Is there a communication system in the health infrastructure network? Type, model, make, etc. How old? _____

Operational? Condition _____

Energy source used _____

Knowledge of the operator (for use and maintenance) _____

Possibilities to repair the equipment in the area _____

9. Planning, Implementation & Follow-up of Activities

Assessment data collected from the health facility will be analysed from the facility's medical service information based on the services provided & number of visitors.

9.1 WaSH Demand Calculation & targeting

Extract the medical data of number Inpatients, out-patient, maternal/OT cases per day

HCF services	Number		
	Patient	Care taker	Assumption
Total IPD beds	P	Yes	2XP
OPD daily patient average	P	No	P
Maternity/OT operations per day	P	Yes	2XP

Note: P=#patients, Final Number is the #patients to be used for calculation of demands

From the standard we refer the minimum requirements of WaSH services including water supply, latrines, showers & medical waste management which enables us to calculate the demand of different facilities & comparing the results with the minimum standard required, we can define the gaps in facilities. The demand will be calculated considering one-care givers for all in-patient services.

9.1.1. Demand calculation

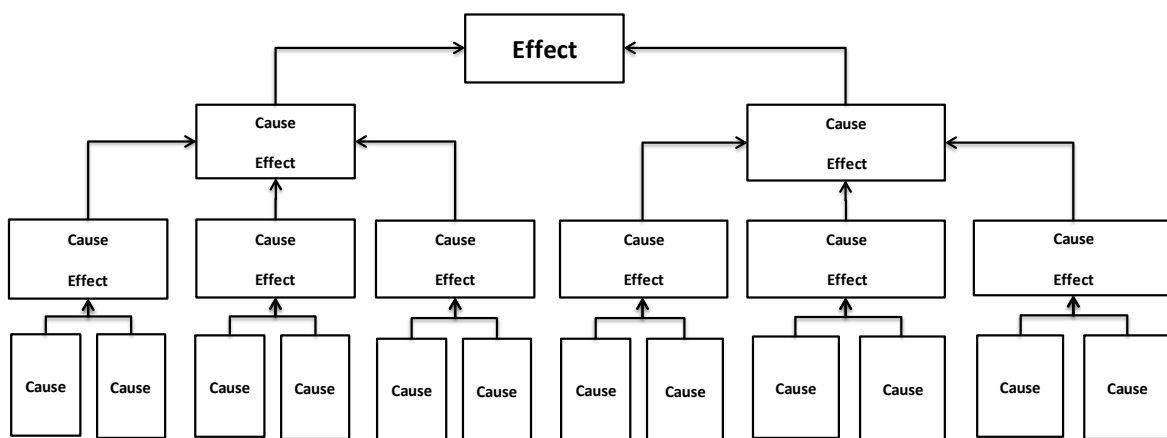
WATER SUPPLY	
Daily consumption (L/day)	$=2 * IPD * 40LPD + ODP * 5LPD + OT / Mat * 100LPD$ +consider 20% spillage losses
Minimum storage (L) Required	Two or three days storage-3* Daily consumption

LATRINES / TOILETS	
Minimum number in IPD	$=(2 * IPD) / 20 + (1 + 1)$
Minimum number in ODP	$=(1 + 1) + (1 + 1)$
Total	

SHOWERS	
Minimum number in the structure	$=(IPD * 2 / 40) + (1 + 1)$

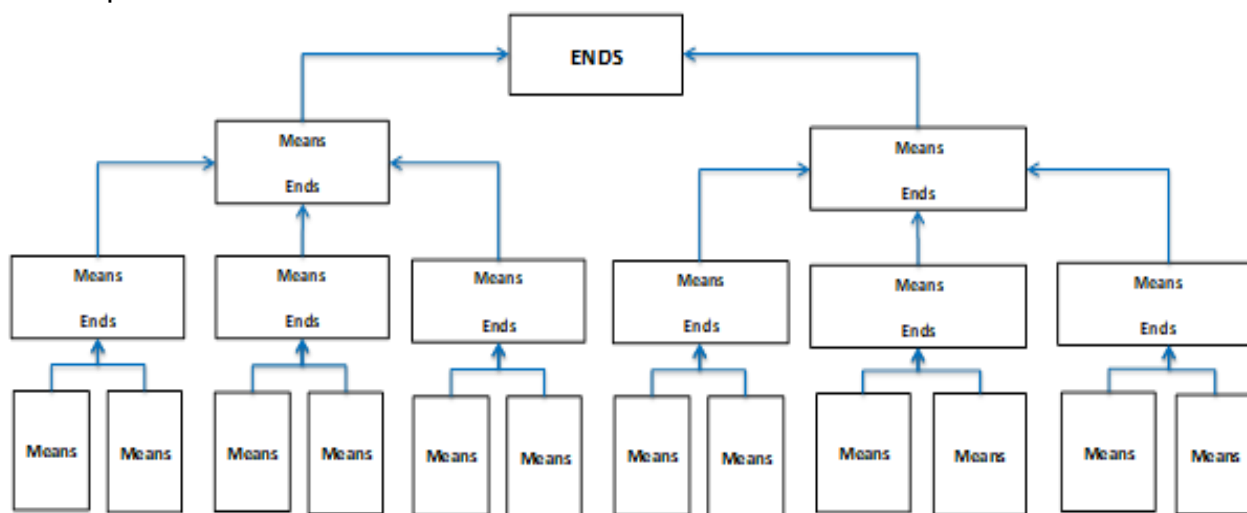
9.2. Project Development & Management

In addition to this we need to analyse the whole problems in the facility by listing the problems identified during the participatory exercises of assessment. Then try to group them by relevance, subjects (water, sanitation, etc) and create the tree of problems and setting actions to address the problems



Design of the objective tree: Present what will be the desired future situation, as you transform problems into objectives and expected results? Objectives are positive statements of the desired situation, rather than specific actions to solve the problem. It is the positive mirror image of the problem tree. The "cause-effect" relations becomes "means-to-ends" relations. It can be modified and relations can be reviewed and

reorganized as necessary. If some objectives are unrealistic, try to find alternatives to solve the problem



Once objective is set with clear means to end effects and problems identified in the HCF, with risk assumptions and mitigations, the project activities will be set with identified means with defined priorities within framed time frame. A simple tool for assessment & evaluations of key WaSH & IPC needs with simple tabular method is annexed in this document. For intervention in HCF's WaSH & IPC, evaluation & coverage of are calculated with percentages, indicating the problems behind the low coverage are agreed and means of ending the problems are defined as activity to improve the performance percentages. Here below is sample demonstration on how we use this tool to evaluate WaSH performance, identify problems for underperforming and required corrective measure to solve the problem. In table below, water supply coverage of HCF is shown. In the evaluation, evaluation parameters ranking is made according to the minimum standards and score is given by the evaluating team as 0% or 50% or 100%. For 50% and 0% value for each category, reasons are discussed identified together with respective corrective measure to meet the minimum requirement. For example, in table below frequent shortage happens in this HCF and the reason for this is indicated as low storage capacity. The corrective action agreed is to install 20,000Liter capacity tank. As observed at table bottom, the average water supply coverage of this HCF is 58% according to March 3, 2020. As per the remark placed for water supply sub-section, on May 3rd 2020, this will be improved to 75% as we install the water tank changing scores of storage & shortage from 0% to 100%.

2. WATER SUPPLY	Ranking based on Essential requirement			Score	Reason	Corrective measures
	0%	50%	100%			
Water quality						
Is the water treated? (if needed)	No	Sometimes	Always	50	staff capacity	Provide training
Pooltester results (if used)	Out of standards	Variable - unstable	Always within standards	50	variable HTH dosing	conduct jar test
Turbidity measurement	> 20 NTU	20 ≈ 5 NTU	< 5 NTU	100		
Bacteriological Contamination	Positive		Negative	100		
Chemical contamination	Positive		Negative	50	Not tested for Chemical	conduct water quality test
Do beneficiaries drink it?	No	Sometimes	Always	100		
Acceptance (smell, taste, colour)	Poor	Acceptable	Very good	100		
Water quantity						
Availability for patients	None	Under the standards	Within the standards	50		
Availability for staff and visitors	None	Under the standards	Within the standards	0		
Storage	None	1 day of consumption	2+ days of consumption	0	no storage installed for the HCF	install 20K tank
Shortages	Frequent	Occasional	Never	0	low storage	install 20K tank
Maintenance of water systems	Never done	After breakdown	Regularly	100		
Missing cells to evaluate = 0				Average	58%	
Remarks on Water supply						
* by taking the corrective measures the water supply coverage will be 75% within the next two months						

As this is only for water supply, doing the same evaluation for other WaSH activities based on standards, a summery table similar to the one shown below will be produced overall average WaSH coverage.

SUMMARY OF RESULTS FOR:		
Evaluation Date	3-Mar-20	3-May-20
1. STAFF MANAGEMENT	90%	90%
2. WATER SUPPLY	58%	75%
3. HYGIENE & SANITATION	43%	43%
4. MEDICAL WASTE MANAGEMENT	45%	45%
5. VECTOR CONTROL	25%	25%
6. COMMUNITY WATSAN	33%	33%
AVERAGE SCORE	49%	52%

See the difference in overall score change from 49-52% within two months between March and May only by installing water storage tank keeping others as they were.

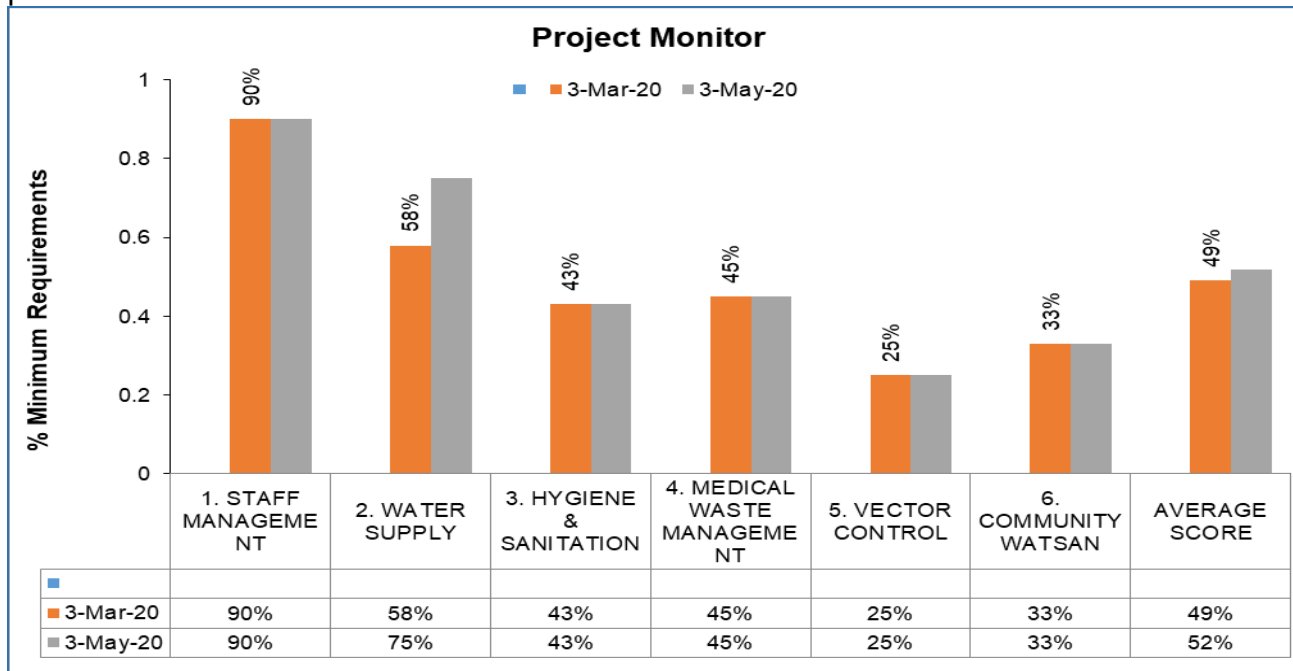
For all actions activity chronogram with clear priorities will be created for follow-up of the actions towards improvement.

PROJECT ACTION PLAN/CHRONOGRAM 2020

Project name: _____

SUBJECTS EVALUATED	SITE	PRIORITY	Month-1				Month-2				Month-3			
			1	2	3	4	1	2	3	4	1	2	3	4
1. HUMAN RESSOURCES		High												
		Medium												
		Low												
2. WATER SUPPLY														
install 20K water tank		High												
		Medium												
		Low												
3. HYGIENE AND SANITATION														
		High												
		Medium												
		Low												
4. MEDICAL WASTE MANAGMENT														
		High												
		Medium												
		Low												
5. VECTOR CONTROL														
		High												
		Medium												
		Low												
6. OTHER WATSAN														
		High												
		Medium												
		Low												

As noted, this excel tool can be used for assessment, evaluation, project designing, implementation through participatory project management. Changes in every activities plan can be monitored also as chart



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Annexes

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List of Acronyms

- **ABHR** - Alcohol-based hand rub
- **AMR** - antimicrobial resistance
- **CASH** - Clean and Safe Health Facilities
- **CDC** - Centres for Disease Control and Prevention
- **DPCC**- Diarrhoea and Pneumonia Coordinating Committee
- **GLAAS** Global Analysis and Assessment of Sanitation and Water
- **HCAI** health care-associated infections
- **HCF** health care facility
- **HCWM** health care waste management
- **HFA** health facility assessment
- **HMIS** health management information systems
- **IPC** - infection prevention and control
- **JMP** - Joint Monitoring Programme for Water Supply, Sanitation and Hygiene
- **LMIC** low- and middle-income countries
- **MOH** Ministry of Health
- **MOHS** Ministry of Health and Sanitation
- **MSF**: Medicines Sans Frontiers(Doctors Without Borders)
- **NIPH** National Institute of Public Health
- **PHC** primary health care
- **PHCC** primary health care centre
- **SDG** Sustainable Development Goal
- **UHC** universal health coverage
- **UN** United Nations
- **UNDP** United Nations Development Program
- **UNECE** United Nations Economic Commission of Europe
- **UNICEF** - United Nations Children’s Fund
- **USAID** United States Agency for International Development
- **WASH** - water, sanitation, and hygiene
- **WASH FIT** Water and Sanitation for Health Facilities Improvement Tool
- **WHO** World Health Organization

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3. WASH in health care facilities: Global Baseline Report 2019- ISBN 978-92-4-151550-4 © WHO and UNICEF 2019
4. Practical guidelines for IPC in HCFs-ISBN 92 9022 238 7©WHO 2004
5. Cholera, hygiene procedures & IPC WEDEC training material 2017
6. WATSAN evaluation in health structures by Doctors Without Borders

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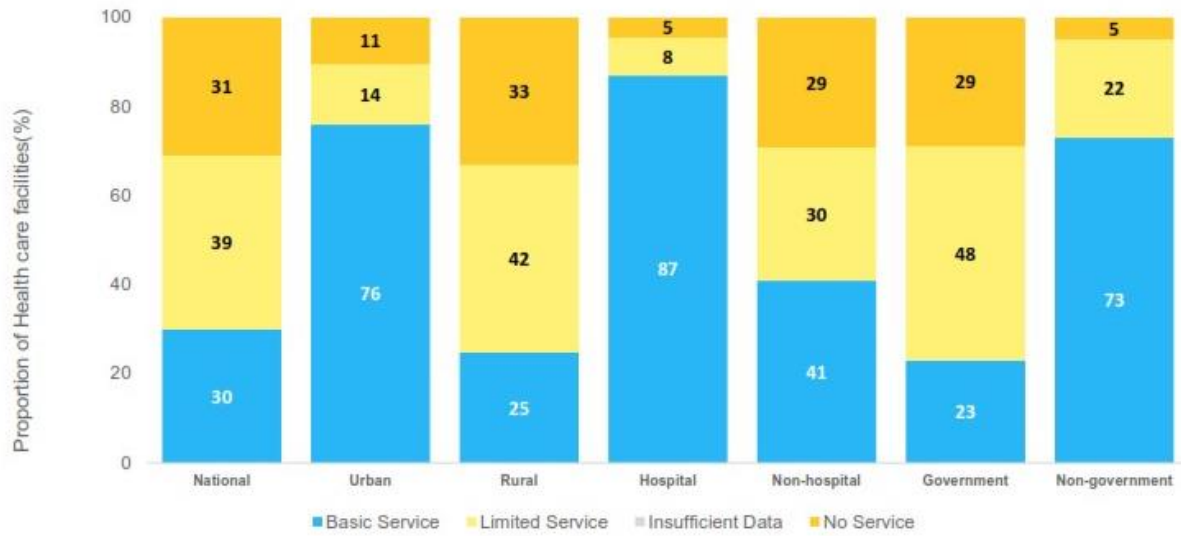
Annex-01 Summarized WaSH Coverage in HCF Ethiopia - JMP 2018

Sector	Sub-Category	Basic Service	Limited Service	No Service	Insufficient Data
Water	National	30.00%	39.00%	31.00%	0.00%
	Urban	76.00%	13.50%	10.50%	0.00%
	Rural	24.80%	42.06%	33.14%	0.00%
	Hospital	87.00%	8.41%	4.59%	0.00%
	Non-hospital	40.92%	29.90%	29.17%	0.00%
	Government	23.00%	48.00%	29.00%	0.00%
	Non-government	73.00%	22.10%	4.90%	0.00%
Sanitation	National	59.25%	16.59%	24.16%	0.00%
	Urban	66.36%	23.47%	10.17%	0.00%
	Rural	2.80%	66.84%	30.36%	0.00%
	Hospital	79.35%	14.17%	6.48%	0.00%
	Non-hospital	2.80%	68.70%	28.50%	0.00%
	Government	59.25%	16.59%	24.16%	0.00%
	Non-government	89.30%	5.70%	5.00%	0.00%
Hygiene	National*^	0.00%	0.00%	1.97%	98.03%
	Urban*^	0.00%	0.00%	0.85%	99.15%
	Rural*^	0.00%	0.00%	2.93%	97.07%
	Hospital*^	0.00%	0.00%	0.78%	99.22%
	Non-hospital*^	0.00%	0.00%	2.25%	97.75%
	Government*	0.00%	0.00%	1.95%	98.05%
	Non-government*^	0.00%	0.00%	2.29%	97.71%
Waste management	National	64.33%	0.00%	0.00%	35.67%
	Urban	84.52%	0.00%	0.00%	15.48%
	Rural	54.20%	0.00%	0.00%	45.80%
	Hospital	93.96%	0.00%	0.00%	6.04%
	Non-hospital	63.10%	0.00%	0.00%	36.90%
	Government	68.07%	0.00%	0.00%	31.93%
	Non-government	71.77%	0.00%	0.00%	28.23%
Environmental cleaning	National*	0.00%	0.00%	0.00%	100.00%
	Urban*	0.00%	0.00%	0.00%	100.00%
	Rural*	0.00%	0.00%	0.00%	100.00%
	Hospital*	0.00%	0.00%	0.00%	100.00%
	Non-hospital*	0.00%	0.00%	0.00%	100.00%
	Government*	0.00%	0.00%	0.00%	100.00%
	Non-government*	0.00%	0.00%	0.00%	100.00%

Source: WHO/UNICEF JMP (2018)

Annex-02 JMP Water Supply data chart

Water

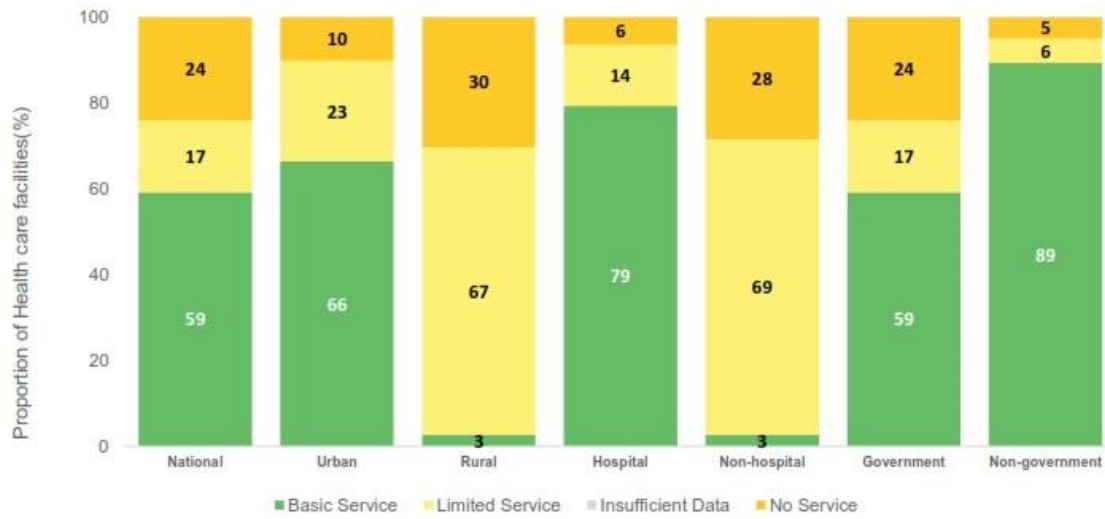


Ethiopia	Water						
	National 2016	Urban 2016	Rural 2016	Hospital 2016	Non-hospital 2016	Government 2016	Non-government 2016
Basic Service	30	76	25	87	41	23	73
Limited Service	39	14	42	8	30	48	22
No Service	31	11	33	5	29	29	5
Insufficient Data	0	0	0	0	0	0	0

Source: WHO/UNICEF JMP (2018)

Annex-03 JMP Sanitation data chart

Sanitation

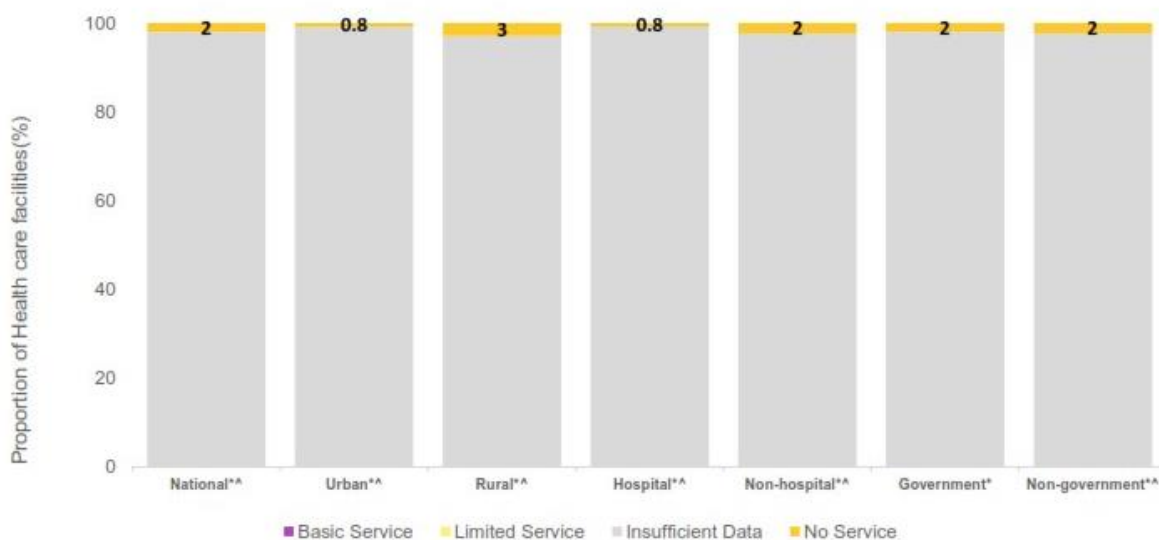


Ethiopia	Sanitation						
	National	Urban	Rural	Hospital	Non-hospital	Government	Non-government
	2016	2016	2016	2016	2016	2016	2016
Basic Service	59	66	3	79	3	59	89
Limited Service	17	23	67	14	69	17	6
No Service	24	10	30	6	28	24	5
Insufficient Data	0	0	0	0	0	0	0

Source: WHO/UNICEF JMP (2018)

Annex-04 JMP Hygiene data chart

Hygiene



*No basic service estimate available

**Facilities that cannot be classified as having basic/limited/no service are treated as insufficient data

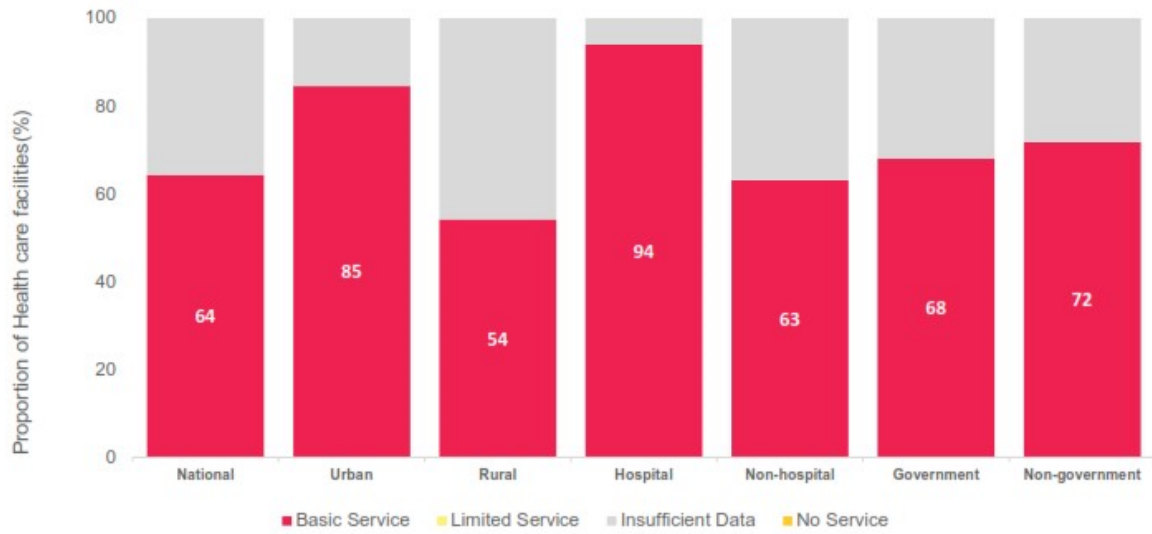
Ethiopia	Hygiene						
	National**	Urban**	Rural**	Hospital**	Non-hospital**	Government*	Non-government**
	2016	2016	2016	2016	2016	2016	2016
Basic Service	-	-	-	-	-	-	-
Limited Service	-	-	-	-	-	-	-
No Service	2	1	3	1	2	2	2
Insufficient Data	98	99	97	99	98	98	98

Source: WHO/UNICEF JMP (2018)



Annex-05 JMP Waste Management data chart

Waste management

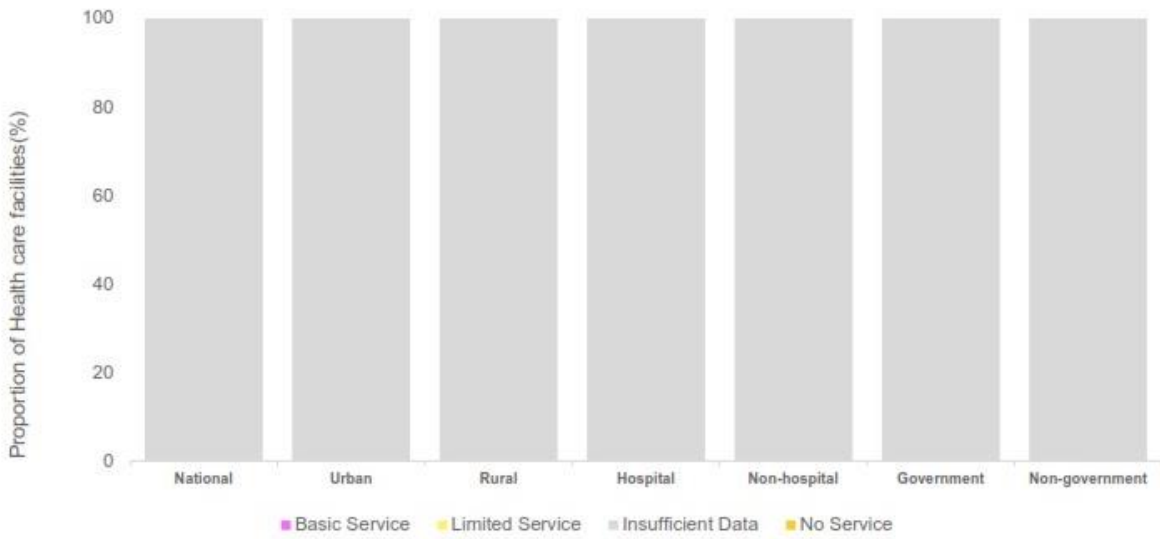


Ethiopia	Waste management						
	National 2016	Urban 2016	Rural 2016	Hospital 2016	Non-hospital 2016	Government 2016	Non-government 2016
Basic Service	64	85	54	94	63	68	72
Limited Service	-	-	-	-	-	-	-
No Service	-	-	-	-	-	-	-
Insufficient Data	36	15	46	6	37	32	28

Source: WHO/UNICEF JMP (2018)

Annex-06 JMP Environment cleaning chart

Environmental cleaning



*No basic service estimate available

Ethiopia	Environmental cleaning						
	National* 2016	Urban* 2016	Rural* 2016	Hospital* 2016	Non-hospital* 2016	Government* 2016	Non-government* 2016
Basic Service	-	-	-	-	-	-	-
Limited Service	-	-	-	-	-	-	-
No Service	-	-	-	-	-	-	-
Insufficient Data	100	100	100	100	100	100	100

Source: WHO/UNICEF JMP (2018)

Annex-07 HCF Water, Sanitation & Hygiene Evaluation (page-1 of 2)

WATSAN EVALUATION IN HEALTH STRUCTURES

Name of Project		Initial comments on this Evaluation:
Name of the health structure		
Name of the evaluator		
Date		
Time		

LEAVE BLANK IF IT CAN NOT BE VERIFIED
BUT COMPLETE IT AS SOON AS POSSIBLE

1. STAFF MANAGEMENT	Ranking			Score	Reason	Corrective measures
	0%	50%	100%			
Number of Watsan staff	Insufficient	Acceptable	Very good	50		
Training of staff	Staff is not trained	Partially trained	Fully trained	100		
Staff awareness on PEP kit	No one is aware of it	Some staff knows about it	All staff knows about it	100		
Protective clothes	Not given	Given but incorrectly used	Given and correctly used			
Tools and equipment of staff	Not given	Not complete or in bad condition	All given and in good condition			
Job profiles	Non-existent	Only a few are available	All staff has JP available			
Missing cells to evaluate = 3				Average	83%	

Remarks on Watsan Staff

2. WATER SUPPLY	Ranking based on Essential requirement			Score	Reason	Corrective measures
	0%	50%	100%			
Water quality						
Is the water treated? (if needed)	No	Sometimes	Always	50	staff capacity	Provide training
Pooltester results (if used)	Out of standards	Variable - unstable	Always within standards	50	variable HTH dosing	conduct jar test
Turbidity measurement	> 20 NTU	20 = 5 NTU	< 5 NTU	100		
Bacteriological Contamination	Positive		Negative	100		
Chemical contamination	Positive		Negative	50	Not tested for Chemical	conduct water quality test
Do beneficiaries drink it?	No	Sometimes	Always	100		
Acceptance (smell, taste, colour)	Poor	Acceptable	Very good	100		
Water quantity						
Availability for patients	None	Under the standards	Within the standards	50		
Availability for staff and visitors	None	Under the standards	Within the standards	0		
Storage	None	1 day of consumption	2+ days of consumption	100	no storage installed for the HCF	install 20K water tank
Shortages	Frequent	Occasional	Never	100	low storage	install 20K tank
Maintenance of water systems	Never done	After breakdown	Regularly	100		
Missing cells to evaluate = 0				Average	75%	

Remarks on Water supply
* by taking the corrective measures the water supply coverage will be 75% within the next two months

3. HYGIENE & SANITATION	Ranking			Score	Reason	Corrective measures
	0%	50%	100%			
Cleaning procedures						
Protocols	Non-existent	Not followed	Correctly followed			
Cleaning products	Only water	Detergent	Detergent + disinfectant			
Cleaning techniques	Not defined	"One bucket" technique	"Two buckets" technique			
Cleaning frequency	Not defined	Upon demand	Regularly			
Toilets and latrines						
Number of operative toilets	None	Insufficient	Sufficient			
Male / female separation	No		Yes			
Hygienic conditions	Poor	Acceptable	Very good			
Acceptance / usage	Poor	Acceptable	Very good			
Distance from building	Over 50 m	Between 30 and 50 m	Between 5 and 30 m			
Hand-washing points						
Operative points	None	Insufficient	Sufficient			
Soap	Unavailable	Unused	Used			
Acceptance / usage	Poor	Acceptable	Very good			
Grey water systems (soak-away, etc.)	Non-existent	Damaged	Functional			
Showers						
Operative showers	None	Insufficient	Sufficient			
Male / female separation	No		Yes			
Distance to water source	Over 20 m	Between 20 and 10 m	Less than 10 m or inside shower			
Grey water systems (soak-away, etc.)	Non-existent	Damaged	Functional			
Washing areas						
Operative areas	None	Insufficient	Sufficient			
Drying lines	None	Insufficient	Sufficient			
Distance to water source	Over 20 m	Between 20 and 10 m	Less than 10 m or inside the laundry area			
Grey water systems (soak-away, etc.)	Non-existent	Damaged	Functional			
Drainage systems						
Floodable areas in health structure	Abundant	Few	None			
Operative systems	None	Damaged	Functional			
Missing cells to evaluate = 23				Average		

WATSAN EVALUATION IN HEALTH STRUCTURES

Name of Project		Initial comments on this Evaluation:
Name of the health structure		
Name of the evaluator		
Date		
Time		

4. MEDICAL WASTE MANAGEMENT	Ranking			Reason	Corrective measures
	0%	50%	100%		
General					
Identification / labelling of waste	No	By name	By name and colour		
Segregation practices	Incorrect	Acceptable	Very good		
Sharps waste					
Type of container	Whatever is available	Card boxes or plastic bottles	Safety boxes or RSC (reusable sharps container)		
Quantity of containers available	None	Insufficient	Sufficient		
Frequency of collection	Rarely, or when overfills	At reaching full capacity	When it's almost full		
Final treatment and disposal	Dumped in an open space	Dumped in open pit	Safety pit or Waste company		
Soft contaminated waste					
Type of container	Cardboard box or similar	Whatever bucket is available	Colour buckets with lid		
Quantity of containers available	None	Insufficient	Sufficient		
Frequency of collection	Weekly or longer	Each another day	Daily		
Disinfection of dirty containers	Never done	Cleaned but not disinfected	Cleaned and disinfected		
Final treatment and disposal	Dumped in an open space	Dumped and Burned in open pit	Incinerated + safe pit or by waste company		
Organic waste					
Type of container	Cardboard box or similar	Whatever bucket is available	Colour buckets with lid		
Quantity of containers available	None	Insufficient	Sufficient		
Frequency of collection	Weekly or longer	Each another day	Daily or after each operation		
Disinfection of dirty containers	Never done	Cleaned but not disinfected	Cleaned and disinfected		
Final treatment and disposal	Dumped in an open space	Dumped in open pit	Buried in safe pit or by waste company		
Hazardous waste (expired drugs, labo...)					
Type of container	Unknown	Any box available	Safe and Labelled boxes		
Quantity of containers available	None	Insufficient	Sufficient		
Final treatment and disposal	Dumped in an open space	Dumped in a sealed pit	According to MSF protocols		
Waste Zone					
Protection	Unprotected	In bad conditions	In good conditions		
Temporary storage	Unavailable	In bad conditions	In good conditions		
Water point and washing area	Unavailable	In bad conditions	In good conditions		
State of hygiene	Bad	Acceptable	Good		
Zone operator	Unavailable	Not trained	Trained		

Missing cells to evaluate = 24 Average

Remarks on Medical Waste Management

5. VECTOR CONTROL	Ranking			Reason	Corrective measures
	0%	50%	100%		
Insecticide residual spraying	Never done	Once a year or more	Regularly or by season		
Mosquito nets on beds	No	Insufficient	In all needed beds		
Mosquito breeding sites	Many	A few	None		
Screens for vectors on windows	No	Insufficient	In all needed windows		
Traps or poison for rodents	No	Insufficient	Correctly placed / used		

Missing cells to evaluate = 5 Average

Remarks on Vector Control

6. COMMUNITY WATSAN	Ranking			Reason	Corrective measures
	0%	50%	100%		
Initial assessment	Not started	On-going	Completed		
MSF community intervention (if needed)	Not started	On-going	Completed		

Missing cells to evaluate = 2 Average

Remarks on Community Watsan

FINAL REMARKS ON THIS EVALUATION

SUMMARY OF RESULTS FOR:		
Evaluation Date	3-Mar-20	3-May-20
1. STAFF MANAGEMENT	90%	90%
2. WATER SUPPLY	58%	75%
3. HYGIENE & SANITATION	43%	43%
4. MEDICAL WASTE MANAGEMENT	45%	45%
5. VECTOR CONTROL	25%	25%
6. COMMUNITY WATSAN	33%	33%
AVERAGE SCORE	49%	52%