REPUBLIC OF THE GAMBIA

MINISTRY OF HEALTH




THE NATIONAL GUIDELINES FOR WATER, SANITATION AND HYGIENE IN HEALTH CARE FACILITIES

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The provision of improved Water, Sanitation and Hygiene (WASH) services in Health Care Facilities (HCFs) has of late attracted the attention of governments, Development Partners (DPs) and the international public health institutions. This is due to the fact that, although HCFs provide essential medical care to the sick, most of them especially in developing countries including the Gambia lack basic WASH services and thus compromising their ability to provide quality health care and consequently posing serious health risks not only to people who seek treatment but also to Health Care Workers (HCWs) and caregivers. There are numerous consequences of poor WASH services in HCFs. Several studies have revealed that, due to inadequate provision of WASH services, patients, caregivers and HCWs are potentially at higher risk of developing Health Care Associated Infections (HCAIs). The risk of infection is particularly high in newborns leading to sepsis which in most cases is fatal.

Furthermore, lack of adequate WASH services may discourage women from giving birth in HCFs or causing delays in care-seeking. Therefore, addressing the inadequate provision of WASH services in HCFs will not only improve the quality of care but also attract many people to seek care including delivery services to pregnant women and most importantly contribute in the prevention of HCAIs.

The Ministry of Health (MOH), being the custodian of delivering health care services in the Gambia, acknowledged that, there are many ongoing initiatives by the government, Development Partners and private agencies in The Gambia to improve WASH services in HCFs. However, there are no uniform and nationally well-organized guidelines to support and guide these initiatives. This document is therefore, intended to provide a standard approach to guide stakeholders in addressing WASH challenges in HCFs countrywide.

Overall, the guideline puts in place a uniform and harmonized approach in the provision of WASH services in public and private HCFs all over the country. Specifically, it offers practical guidance for planning and budgeting as well as technical designing and construction of recommended WASH facilities, Operation and Maintenance (O&M), and monitoring of the performance of the services. Furthermore, adherence to this guideline will provide a safer working environment for HCWs thus improving their performance in service delivery and targets.

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The Ministry sincerely commends the great job availed by WASH stakeholders and institutions who participated extensively in the preparation of this guidelines. These include Ministry of Health and Social Welfare, Department of Water Resources, Gambia Red Cross Society, School of Medicine and Allied Health Sciences of the University of The Gambia, National Nutrition Agency, World Health Organization, Medical Research Council, Health Promotion and Development Organization, Catholic Relief Services (CRS), Department of Community Development, National Environment Agency, Ministry of Lands and Regional Governments and School of Community Health Nursing.
Finally, the Ministry extend its gratitude to UNICEF country office for their support that facilitated the preparation of this guideline. It is our hope that, these and other stakeholders will continue working with the government to accelerate the implementation of WASH activities in the HCFs in the country. Finally, a special word of thanks goes to all those who in one way or another contributed to a successful preparation of this guidelines. Their moral, technical and or material support is highly appreciated

ABBREVIATIONS AND ACRONYMS

ADWAC		Advancement and Development for Women and Children
BOD		Biological Oxygen Demand
CAC		Catchment Area Committee
CBOs		Community-Based Organizations
CEO		Chief Executive Officer
CHS		Council Health Services
CMD		Chief Medical Director
CO		Change Objectives
CRS		Catholic Relief Service
CTC		Cholera Treatment Centre
DCD		Department of Community Development
DHS		Directorate of Health Services
DP		Development Partners
EFSTH		Edward Francis Small Teaching Hospital
EHO		Environmental Health Officer
FBO		Faith Based Organization
FFD		Foul Flush Device
GCRS		Gambia Red Cross Society
GLAAS		Global Analysis and Assessment of Sanitation and Drinking-Water
HBV	-	Hepatitis B Virus
HCAI		Health Care Associated Infection
HCAIs		Health Care Associated Infections
HCF		Health Care Facility
HCFs		Health Care Facilities
HCV		Hepatitis C Virus
HCW		Health Care Workers
HCWM		Health Care Waste Management
HCWM		Health Care Waste Management
HCWs		Health Care Workers
HePDO		Health Promotion and Development Organization
HIV		Human Immunodeficiency Virus
IPC		Infection Prevention and Control
IPC		Interpersonal Communication
IPD		Inpatient Department
IPD		In patient Department
JMP		Joint Monitoring Program
LGAs		Local Government Authorities
mg/L		Miligram/litre
MHH		Menstrual Health Hygiene
MHM		Menstrual Hygiene Management
MoH		Ministry of Health
NAWEC		National Water and Electricity Council

NDP	National Development Plan
NEA	National Environment Agency
NGOs	Non-Governmental Organizations
NHSSP	National Health Sector Strategy Plan
NTU	Nephelometric Turbidity Units
O&M	Operation and Maintenance
OD	Open Defecation
ODF	Open Defecation Free
OPD	Outpatient Department
PPE	Personal Protective Equipment
PPE	Personal Protective Equipment
PURA	Public Utility Regulatory Authority
RAT	Rapid Assessment Tool
RCH	Reproductive and Child Health
RHD	Regional Health Directorate
RWH	Rain Water Harvesting
SDG	Sustainability Development Goal
UN	United Nation
UNICEF	United Nation Children's Fund
VIP	Ventilated Improved Pit
WASH	Water Sanitation and Hygiene
WHO	World Health Organization
WUI	Water Use Intensity

GLOSSARY

Adequate water supply	Sufficient quantity of suitable quality water that is physically, legally, and continuously available to satisfy the water demands of health care facilities (HCFs).
Alcohol-based hand rub	An alcohol-based preparation (liquid, gel or foam) designed for application to the hands to inactivate microorganisms and/or temporarily suppress their growth.
Antimicrobial (medicated) soap	Soap (detergent) containing an antiseptic agent at a concentration sufficient to inactivate microorganisms and/or temporarily suppress their growth.
Antiseptic hand rubbing	Applying an antiseptic hand rub to reduce or inhibit the growth of microorganisms without the need for an exogenous source of water and requiring no rinsing or drying with towels or other devices.
Antiseptic hand washing	Remove or destroy transient microorganisms and reduce resident flora using water and antimicrobial soap.
Aquifer	A body of permeable rock able to hold or transmit water
Black water	Wastewater containing faecal matter and urine.
Caregivers	Refer to family, friends, or voluntary workers who accompany patients to a HCF and provide basic, non-professional care. Caregivers may be occasional visitors, or they may stay to prepare food, clean and care for patients in a HCF
Changing room	A room within HCFs where health care workers dress in protective clothing and dispose of soiled and contaminated protective clothing.
Detergent (surfactant)	Compounds that possess a cleaning action. They are composed of a hydrophilic and lipophilic part and can be divided into four groups: anionic, cationic, amphoteric and non-ionic.
Disinfection	A process of removing or inactivating microorganisms
Drinking water	Water with acceptable quality complying with national standards used specifically for drinking.
Emergency	Sudden, unexpected, or impending situation that may cause injury, loss of life, or damage which therefore requires immediate assistance or relief.
Emerging diseases	Are the one that have appeared in a population for the first time, or that may have existed previously but are rapidly increasing in incidence or geographic rang.
Re-emerging diseases	Are diseases that once were major health problems globally or in a particular country, and then declined dramatically, but are again becoming health problems for a significant proportion of the population?
Environmental surface	Floors, walls, ceiling, table tops etc.
Flush toilet	Also known as a lavatory or water closet (W.C.) is the toilet that disposes human excreta (faeces and urine) by using water to flush it through a drainpipe to another location for disposal.
Gardening	Refers to growing of plants, flowers and grass within the premises of the HCF
Grey water	All wastewater generated in households or office buildings mainly from cleaning activities such as laundry, showers, dishwashing, and floor cleaning and bathing.

Hand washing facility	A facility characterized with running water and soap and mainly used for hand washing.
Hand washing	Washing hands with plain or antimicrobial soap and water.
Hazard	Any source of potential damage or harm or adverse health effect on something or someone.
Health Standards	Clear and verifiable requirements that must be met to achieve minimum essential environmental health conditions in health care
Health care associated infections	An infection occurring in a patient during the process of care in a health care facility, which was not present or incubating at the time of admission. Health care-associated infections can also appear after
Health Care Waste	A by-product of heath care services that include all waste, hazardous or not, generated in the process of performing medical activities.
Hygiene	Conditions and practices that help to maintain health and prevent the spread of diseases
Improved latrine	A sanitation facility, which ensures hygienic separation of human excreta from human contact.
Improved sanitation facilities	Those facilities likely to ensure hygienic separation of human excreta from human contact. They include; flush/pour flush (to piped sewer system, septic tank and pit latrine); ventilated improved pit latrine (VIP); pit latrine with slab and composting toilet.
Improved water source	A water source that by its nature of construction adequately protects the source from outside contamination, particularly faecal matter.
Landscaping	Refers to making land within the HCFs more visibly attractive by altering the existing design, adding ornamental features including planting trees.
Operation and Maintenance	Refers to all post-construction activities needed to operate and maintain and manage a water supply and sanitation system, which goes beyond the technical definition but includes also managerial aspects to run Water, Sanitation and Hygiene (WASH) infrastructures on a sustainable basis.
pH	A measure of acidity and alkalinity of a solution that is a number on a scale on which a value of 7 represents neutrality and lower numbers indicate increasing acidity and higher numbers increasing alkalinity.
Plain soap	Detergents that contain no added antimicrobial agents.
Privacy	Ability of the sanitation facility to provide: protection from disturbance and being observed; shelter against the rain and sunrays; and security to
Rehabilitation	Entails the correction of major defects and the replacement of equipment to enable the WASH facilities to function as originally
Resident time	Refers to average time water is supposed to stay within the tank to avoid
Residual chlorine	Amount of chlorine that remains in the water after a certain period or contact time.
Runoff coefficient	A dimensionless coefficient relating the amount of runoff to the amount of precipitation received.
Sanitation	Refers to the provision of facilities and services for the safe management of human excreta (urine and faeces).
Sedimentation	The act or process of depositing sediment from suspension in water. The term also refers to the process whereby solids settle out of wastewater by gravity during treatment.

Shallow wells	Refer to wells of shallow depth, generally with a minimum of 30m deep and are often hand dug. Many shallow wells are not perennial as they dry up during extended drought periods.
Soak away pit or soak pit	A simple excavation in the ground either lined or filled with stones, which allow water to percolate into the surrounding soil.
Stakeholders	
Sterilization	The use of physical or chemical procedure to destroy all microbial life. The most practical method in health-care settings is saturated steam sterilization.
Surgical hand	Antiseptic hand wash performed preoperatively by surgical personnel to eliminate transient and reduce resident hand flora.
Turbidity	Cloudiness in water caused by particles in suspension, which makes chemical disinfection of the water less effective. Turbidity is common measure in nephelometric turbidity units (NTU) and can be determined visually using simple equipment.
Visibly soiled hands	Hands showing visible dirt or visibly contaminated with proteinaceous material, blood, or other body fluids (e.g. fecal material or urine).
Water availability	Sufficient and reliable quantities of quality water supplied throughout to meet all uses in HCFs.
Water storage tank	A container with specifications for storage of water for use.
Water supply	Refers to the provision of water by urban or rural utilities usually via a system of pumps and pipes.
Water treatment	Any process that makes water more acceptable for a specific end use. The end uses are both to meet demand for medical and non-medical use in HCFs.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

This document provides guidelines on provision of Water Supply, Sanitation and Hygiene (WASH) services for Health Care Facilities (HCFs) in The Gambia. Health Care Facilities (HCFs) play a pivotal role of not only caring for the sick but also in preventing the spread of HCAIs, improving health, life expectancy, gender equality, and upholding the dignity of vulnerable populations including pregnant women, children under five years of age and the differently-able. Health Care Facilities are required to have a standardized approach that guides the provision of WASH services so as to ensure quality and safe care and most importantly minimize the risk of Health Care Acquire Infections (HCAIs) for staff, patients, caregivers and visitors.

WASH in health care facilities is captured in Sustainable Development Goals (SDG) Targets 6.1, 6.2 and 6.3 which recognize that access to water and sanitation is a basic human right. The WHO/UNICEF Global Action Plan for WASH in health care facilities recognizes that sustained improvements in WASH in health care facilities require integration between quality of care efforts and WASH. With reference to the Gambia National Development Plan (2018 – 2021), the two most important WASH indicators desired to increase proportion of the population with access to improved sanitation facilities from 64.9% to 75% as well as households with a place for hand washing with soap and water from 30.3% to 60% (Urban) and from 26% to 50% (Rural) (NDP, 2018-2021).

Therefore, adequate WASH services in HCFs and particularly safe hygiene practices such as hand washing by health caregivers, patients and visitors are critical elements for the delivery of quality and safe health care services and can greatly reduce the risk of HCAIs, tackle anti-microbial resistance and ultimately improve the health outcomes of patients. Besides this, maintaining high standards of environmental cleanliness within the premises of HCFs have positive effects on the health of the clients and service providers and also contribute in the control and prevention of infections.

The consequences of poor WASH in HCFs are numerous as several studies have revealed. With poor WASH services, HCFs are subjected to becoming potential areas of spreading infectious diseases as well as compromising the provision of safe and quality health care; thus predisposing serious health risks to people who seek health care services and those who provide such services.

According to WHO/UNICEF Joint Monitoring Programs report (2017), 844 million people still lack access to basic drinking water service. Furthermore, 263 million people spent over 30 minutes per round trip to collect water from an improved source (constituting a limited drinking water service). Interestingly, 159 million people still collect drinking water directly from surface water sources, out of which 58% lived in sub-Saharan Africa.

Likewise, the burden of infections related to poor WASH in HCFs unclean birth and maternal mortality form ester… eg neonatal sepsis and maternal sepsis is particularly high in newborns, for example, severe infections such as sepsis are major killers of newborns. The risks associated with sepsis are reported to be 34 times greater in low-resource settings. Lack of adequate WASH services may also discourage women from giving birth in HCFs or cause delays in health care-seeking (Velleman et al, 2014). However, with improved WASH services women could be attracted to seek antenatal care and deliver in HCFs, which can greatly reduce neonatal and maternal mortality.

Moreover, improved WASH in HCFs is a necessary condition of a comprehensive health service and crucial in improving health outcomes, access to such services in health care settings especially in the low and middle-income countries is generally poor. This situation is linked, among other things, with:

(i) Lack of national policies, guidelines and standards on how to implement WASH in HCFs;
(ii) Limited financial and human resources for effective and efficient implementation of WASH services; and
(iii) Lack of clear approach of standardizing and strengthening monitoring mechanisms of WASH interventions in HCFs (WHO/UNICEF, 2015).

In The Gambia, 8% of households get their drinking water from a non-improved source, mainly unprotected wells. In terms of disparities, more than three times as many rural households as urban households use non-improved sources of drinking water (15% versus 4%) (Gambia DHS, 2013).

Apart from the direct adverse effects of poor WASH on pregnant mothers and newborns, lack of quality water in administering medications such as anti-tuberculosis drugs, de-worming medications, etc. can increase the risk of infections. Therefore, Health Care Facilities are required to operate within acceptable standards of personal and environmental cleanliness that are essentially determined by the availability and accessibility of improved WASH services.

1.2 Scope of the guidelines

These guidelines provides guidance in a number of aspects related to the provision of WASH services in Health Care Facilities in the country. Specifically, the Guidelines focus on the provision, utilization and promotion of WASH services in HCFs, which include: hospitals, health centers (major and minor) and health post. The guidelines largely focus on the following key issues:

(i) Legal and institutional framework
(ii) Planning and budgeting;
(iii) Water supply in health care facilities;
(iv) Sanitation in health care facilities;
(v) Excreta disposal and drainage;
(vi) Liquid and solid waste management
(vii) Standard Hygiene practices in health care facilities;
(viii) WASH services in health care facilities during emergency;
(ix) Landscape and Control of vector/vermin;
(x) Operation and maintenance;
(xi) Social Behavioural Change Communication to address WASH in HCFs;
(xii) Monitoring and Evaluation of WASH interventions in HCFs.

1.3 Users of the guidelines

This document has been developed to be used by health managers and planners, contractors including firms involved in architectural and construction works, public and private Health Care Workers, and other stakeholders. The objective is to ensure that all stakeholders involved, follow the same set of guidelines in providing WASH services in HCFs. In doing so, this document will help to minimize the risks of HCAIs which may be caused by inadequate WASH services in Health Care Facilities.

1.4 Rationale for developing the guidelines

Although there are many ongoing initiatives countrywide by various stakeholders to support the improvement of WASH services in HCFs. There is no national guideline on the provision of WASH services for HFC in the Gambia

1.5 Objectives of the guidelines

Generally, this guideline is intended to put in place a uniform and harmonized approach in the provision and utilization of WASH services in public and private HCFs all over the country. The document offers practical guidance for effective and efficient provision of WASH services in HCFs to ultimately contribute to the prevention and control of HCAIs, and improvement of quality of health care services in The Gambia.

Specifically, the guideline is intended to:

(i) Provide technical guidance on planning, budgeting, implementation, maintaining WASH services and replacement of infrastructures in HCFs.

(ii) Provide basic information on technical designs and O&M to guide implementation of WASH services for sustainable delivery.

(iii) Establish systems for monitoring of WASH services in HCFs for continuous quality improvement.

CHAPTER TWO

2. 0 OVERVIEW OF WASH IN HEALTH CARE FACILITIES

This chapter provides an overview of the current situation of WASH services in Health Care Facilities both at global and country levels. It cites important findings of various studies which describe the scale of problems related to WASH in HCFs and the subsequent global action plan as well as national strategies to address them.

2.1 WASH in Health Care Facilities:

Globally, provision of WASH services in HCFs is low as the current levels of such services are far below the required universal health coverage. Provision of improved WASH services in HFCs for decades has not been given required attention in relation to the role it plays on socio-economic development and well-being at large particularly in developing countries. In many HCFs there are limited resources and lack basic WASH services, compromising the ability to provide safe care and posing serious health risks to staff, patients, caregivers and visitors. Furthermore, compliance with hand hygiene guidelines among HCWs globally is still low. Evidence from a systematic review of 96 studies, which were carried out in hospitals in high-income countries reveals that on average, hand hygiene compliance among HCWs was 40% and considered to be as low as 2.1% in developing countries (Water Aid, 2012).

Inadequate WASH services are wide spread in low-and middle-income countries. Findings from the global assessment of 66,101 HCFs from 54 countries to ascertain the extent to which HCFs provide essential WASH services, revealed that, 38% of HCFs lack access to basic levels of WASH (WHO/UNICEF, JMP, 2015). In particular, the same study found that 19% of the facilities did not have improved sanitation where as 35% of facilities did not have water and soap for hand washing.

Due to this alarming situation, access to improved WASH services within the HCFs has become a global concern, and drawing significant attention from different stakeholders including governments and the international community. The devastating Ebola outbreak in some parts of West Africa in 2015 has highlighted some of the dangerous consequences of poor access related to WASH services in Health Care Facilities.

2. 2 Global initiatives for improved WASH in health care facilities

In order to improve WASH in HCFs, WHO, UNICEF and other WASH partners have committed to implement a global action plan on WASH in HCFs. The vision of the global action plan is ‘to ensure that by 2030, every HCF, in every setting, has a safely managed, reliable water, sanitation and hygiene facilities and practices to meet staff and patient needs in order to provide quality, safe people-centred care, with particular attention to the needs of women, girls and children’ (WHO/UNICEF, JMP, 2015).

In order to realize this vision, five change objectives (COs) have been developed as summarized below Table 1.

TABLE 1: CHANGE OBJECTIVES FOR GLOBAL ACTION PLAN

CO1	WASH in HCFs is prioritised as a necessary input to achieving all global and national health goals especially as those linked to universal health coverage. Key decision makers and thought leaders champion WASH in HCFs.
CO2	All countries have national standards and policies on WASH in HCFs and dedicated budgets to improving and maintaining services
CO3	Global and national monitoring efforts include harmonizing core and extended indicators to measure WASH in HCFs
CO4	The existing evidence base is reviewed and strengthened to catalyse advocacy messages and improve implementation of WASH in HCFs.
CO5	HCF staff, management and patients advocate for and champion improved WASH services. Risk-based facility plans are implemented and support continuous WASH improvements, training and practices of health care staff.

2. 3 WHO minimum WASH standards in Health Care Facilities

In order to provide quality health care as well as to minimize risks of acquiring HCAIs to patients, staff, caregivers and visitors, minimum WASH standards in HCFs have been set by the WHO for countries to adopt or make their own standards. The standards cover, among other things; water availability, water quality, water quantity, water facilities and access to water, human excreta disposal, waste water treatment and disposal, health care waste disposal, cleaning and laundry, food storage and preparation, building design, construction and management, control of vector-borne diseases, information and hygiene promotion. These requirements are detailed in Table 2 below (WHO, 2008).

TABLE 2: WHO MINIMUM WASH STANDARDS IN HCFS

• Availability of safe and adequate water for drinking, medical purposes such as sterilization, surgery and deliveries, food preparation, showering and laundry;
• Accessible and clean toilets, separate for men and women in sufficient numbers for staff, patients, visitors, people with special needs such as differently-abled, elderly, very sick people etc.;
• Improved hand washing practices among health care staff through orientation and training
• Proper health care waste management and safe disposal of excreta and wastewater;
• Clear and practical communication with patients and visitors, including caregivers about hygiene promotion.

2. 4 Overview of WASH in Health Care Facility in the Gambia

The Gambian health policy envisions to provide quality and affordable health services for all by 2020. With a mission to protect the health of Gambians through equitable provision of quality health care, the system strives to provide a full package of preventive, promotion, curative and rehabilitative services (MOHSW 2012b). These services are rendered with in the three-tier health care system. Each level operates to serve a specified catchment population based on determined standards/norms.

2.4.1 Primary level

This represents the community level health system that serves as the first point of contact at the village level. Each primary care set up serves a village of 400 populations in average or a less number in case of hard-to-reach populations. A group named Village Support Group (VSG) composed of members selected by the Village Development Committees (VDCs) serves the functions of this tier. Two Community Health Workers (CHWs) named *Village Health Workers* and *Community Birth Companions* serve each village. They provide health promotion, education and common illness treatment services.

Villages are categorized as PHC villages and Non-PHC villages according the availability of CHWs. An average of 5 such villages; called circuits are served by a Community Health Nurse (CHN). In some communities, this level also caters a community clinic that is open for most of the day to provide a wider package of service to clients who couldn't be managed by the VHW. The CHN is usually staffs this facility. Services provided by VHWs, CBCs and CHNs are complemented by RCH outreach clinics provided by staffs of minor and major health centres through trekking in every key village provided once a month.

2.4.2 Secondary Level

The secondary level care is composed of minor health centres and major health centres, which receive clients directly or up on referral from the VHWs and CBCs. Minor health centres serve an average population of 15,000 to 20,000 population staffed by nurses, midwives, lab assistants, and public health officers. Minor Health Centres have 20-40 in-patient beds. These centres are expected to provide 70% of the essential health care package. Major health centres are referral centres that serve an average population of 150,000 to 200,000 (one such centre serves a referral for an average of 10 minor health centres) with 110-150 beds capacity. These centres are meant to be able to provide comprehensive emergency obstetric and surgery services that includes caesarean section and blood transfusion.

Though predominantly located in the WHR1 region in the west side, the secondary level care is also complemented by services provided by NGO clinics and Service clinics (clinics owned by institutions and organizations).

2.4.3 Tertiary level

Facilities at the helm of referral are the tertiary level facilities. This level is composed of district/regional hospitals and teaching hospitals. Regional hospitals provide specialty services to a catchment of one region that has an average of 300,000 to 400,000 population. In addition to the composition of staff major health centres would employ, these hospitals also have specialist physicians and an average of 150-300 inpatient beds (a hospital serves referrals from an average of 2 major health centres). Teaching hospitals staffed by academicians, clinicians and researchers provide specialty and subspecialty clinical services while also being used as a training and research institution.

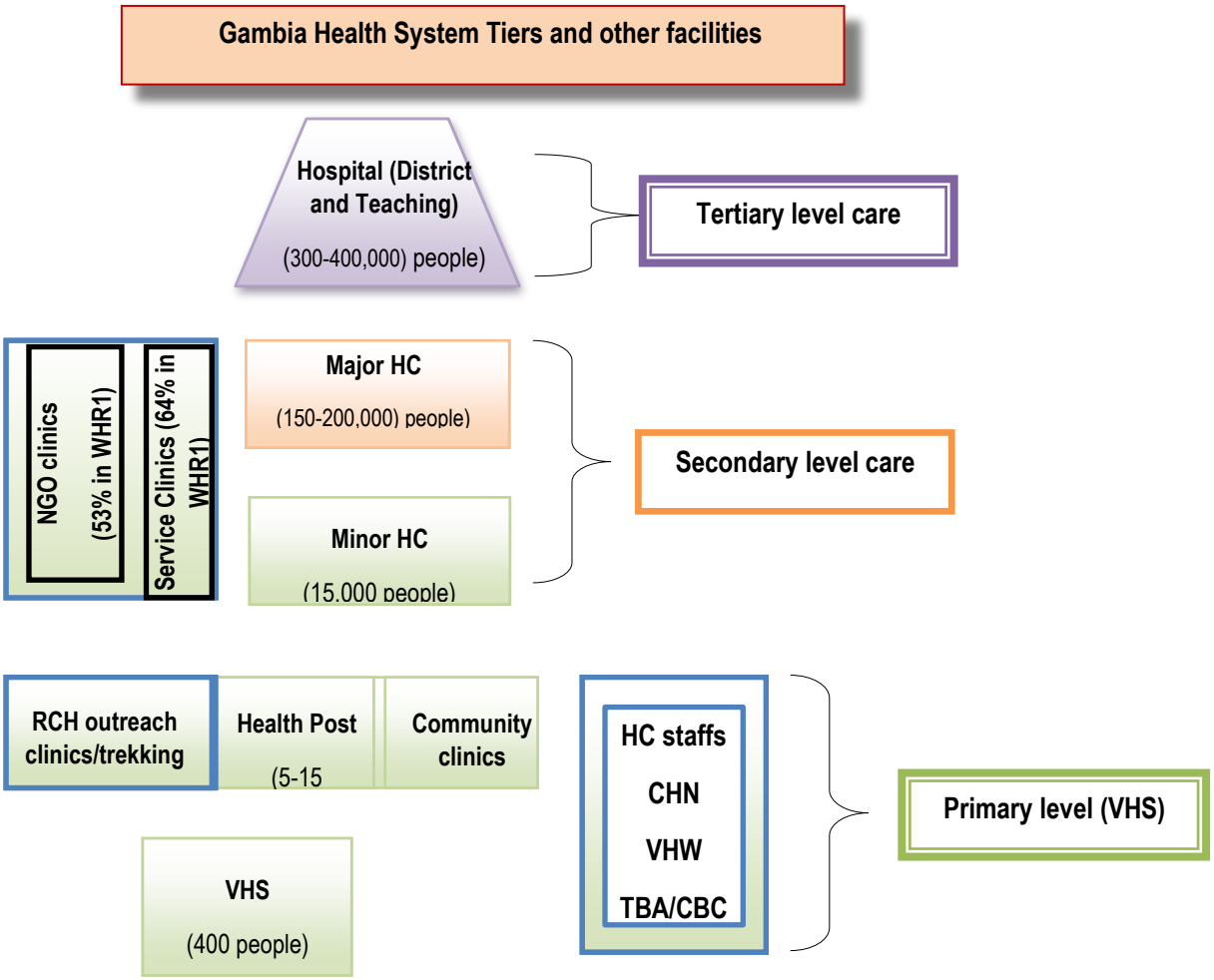

FIGURE 1: GAMBIA HEALTH SYSTEM TIERS AND OTHER FACILITIES

Source: *Roadmap for revitalizing and scaling-up of Primary Health in the Gambia, 2017-2022*

HCFs in the Gambia still face challenges in the provision of WASH services. The situation is worse in small HCFs especially those located in remote rural areas. The challenges range from poor water supply both in quantity and quality, unimproved sanitation facilities to poor hygiene practices mainly due to lack of supportive infrastructure and absence of initiatives to promote good hygienic behavior, which is common in most HCFs (NIMR, 2016).

There has not been any baseline assessment of the WASH situation in the HCFs in the Gambia, even though WASH component is captured in SDG 6.1, 6.2 and 6.3 targets.

2. 5 Strategies for improving WASH in health care facilities in The Gambia

In line with the global initiatives, the Government of The Gambia through MOH in collaboration with various partners especially WHO and UNICEF has recognized the need to urgently address WASH challenges in HCFs. There are efforts underway to improve WASH conditions in HCFs which have been identified as a priority area. Under this programme several HCFs will be provided with improved WASH services across the country. Remarkably, this intervention will open an opportunity to enable develop joint products and approaches that will help to improve the WASH situation in an around HCFs in The Gambia.

More importantly, the development of this guideline is part of the government's initiatives to ensure that WASH services in HCFs are improved in a uniform manner through which the minimum standards are set to minimize the WASH related infections to patients, HCWs, caregivers, and visitors.

CHAPTER THREE

3. 0 LEGAL AND INSTITUTIONAL FRAMEWORK FOR WASH IN HCFS IN THE GAMBIA

3.1 Overview

This chapter provides a succinct summary of policies, legal and institutional framework related to WASH with a view to understand the extent to which WASH is a public health issue of major concern in the Gambia and the extent to which it supports the promotion of WASH in HCFs. All these policies reflect requirements as outlined in the National Development plan (NDP 2018-2021). Specifically, the NDP 2018-2021 aims among other things, at achieving a universal access to primary health care and reduction in infant and maternal mortality rate 54/1000 to 44/1000, neonatal mortality rate from 22/1000 to 15/1000 and improved sanitation from 64.95% to 75%. This implied that the provision of adequate WASH services in HCFs is one area that can guarantee the realization of this ambition of reduction in infant and maternal mortality, as these groups are the most vulnerable.

The following national policies, strategies and legislations have been reviewed:

3.1.1 National Development Plan 2018 - 2021

The goal 4 of the NDP, 2018 aimed at investing on people through improved education, health services and building a caring society. Specifically, outcome 4.6 of the NDP, 2018 provides for improved, equitable access to safe and affordable water and sanitation, good hygiene practices, and environmental protection for all.

WASH is a critical intervention for improved health and socio-economic outcomes for the population in The Gambia. Given the high rate of population growth and urbanization, water and sanitation services are unable to keep pace with the demand causing adverse public health consequences. Poor maintenance culture of water systems, inadequate investment/funding, weak institutional capacities, poor coordination, low hygiene, and sanitation practices further complicates the situation.

3.1.2 National Health Policy, 2012 - 2020

The Policy emphasizes on provision of basic health services that are of good quality, equitable, accessible, affordable, and sustainable and gender sensitive. This can be achieved through among other things ensuring availability of adequate water, sanitation and hygiene services within the HCFs. In recognition of this, the National Health Policy outlines several objectives relating to environmental health, hygiene and sanitation that include: -

I. To reduce mortality and morbidity related but not limited to childhood, reproduction and the reproductive system across the country.
II. To reduce the frequency of environmental health and safety related diseases/conditions by 30% by 2020.
III. Institute proper management of solid, gaseous and liquid wastes.
IV. Prevention and control of communicable and non-communicable diseases particularly HIV/AIDS, malaria, tuberculosis, diabetes, cancers, hypertension, diseases resulting from mismanagement of chemicals, poor nutrition, environmental and working conditions.
V. To develop, review and update health and health related laws and acts to make them more responsive to current healthcare needs.
VI. Enhancing collaboration for health service delivery between public sector, private sector, faith-based organizations, civil society and the community.
VII. Rehabilitate and construct infrastructure to accommodate the requirements of people with different abilities (people with special needs), and establish a system for preventive maintenance of health facilities, equipment and working tools.

3.1.3 National Health Financing Policy 2017 - 2030

The document is to ensure adequate and sustainable financing of health care services including WASH provision to protect the population from financial hardship particularly the poor and vulnerable in the country and to increase access to quality health care service by 2030.

3.1.4 National Water Policy, 2006 - 2016

This document is the planning and management framework for providing the people of The Gambia with secure water resources to meet basic water needs in a sustainable manner while conserving resources and preserving the environment for future generations. In the same vein, maintain an equitable balance between universal access to water supplies and the needs of individual users. It also strengthens and develop human capital and build the economy of the country, negotiate and discharge international responsibilities in a spirit of good will and cooperation

3.1.5 National Health Promotion and Education Policy, 2015 - 2020

The overall objective is to provide policy framework and the strengthening stewardship role of MOHSW for coordination and management of health promotion activities addressing risk factors and social determinants of health across programs disease specific issues and population groups. This policy provides for the establishment of WASH unit that coordinate the WASH programs under the MOHSW.

3.1.6 National Disaster Management Policy, 2007

The policy aligns the strategic direction for disaster risk reduction with international norms and framework conventions. It also mainstreams disaster mitigation into relevant areas of activity of Government, NGOs and Civil Society Organizations. Strengthen the governance and accountability arrangements in place that support achievements of disaster management priorities.

3.1.7 The Gambia National Policy for Sanitation and Hygiene, 2011 - 2016

The goal of the policy aimed at promoting and providing adequate sanitation and hygiene services for improving the quality of life of the general population. In order to enhance improvement of sanitation and hygiene practices, the implementation of the policy was guided by the following principles and programs: in recognition of the existing compartmentalization of sanitation issues in different ministries, departments and agencies; coordination, collaboration and partnership will be seriously pursued in order to ensure effective participation in a multi-sectoral approach in addressing sanitation issues.

3.1.8 The National Education policy (2004-2015)

This elaborates on the expansion of the number of schools, the required number of classrooms, and related school facilities such as sanitary and water facilities.

The National Education Policy makes no provision for hygiene and sanitation in the school system, yet the issue is considered critical to the proper and total quality management of the schools. The Policy failed to set basic principles, guidelines and standards for the provision and use of water and sanitary facilities in schools. Notwithstanding this omission in the policy document, the sector has made significant steps in ensuring the provision of basic sanitary facilities and services in the school environment.

3.1.9 National Environment Management Act, 1994

This legal instrument recognized the necessity to protect and improve the health and quality of life of all Gambians through sound environmental management, and to preserve and restore the equilibrium of ecological processes, in accordance with the Banjul Declaration of 18th February 1977. It is desirous to prevent pollution and where it occurs ensure that the true and total costs of environmental pollution are borne by the polluter in accordance with the polluter pay's principle. Therefore, increased public and environmental awareness and the promotion of effective public participation and community involvement are essential to environmental management.

3.1.10 Public Health Act 2001

This act provides related hygiene and sanitation measures within the overall framework of public health across different settings including restaurants, compounds, institutions, etc. It also provides that no person

should own or occupy a premise which is injurious, dangerous or prejudicial to health; cause an accumulation, deposit, waste or produce an emission which is prejudicial to health; because an area of land or animal kept to remain in a state prejudicial to health or in an insanitary condition.

3.1.11 Local Government Act, 2002

This act highlights that every Council shall be responsible for the promotion and preservation of health within its area of jurisdiction which ranges from community health care services to hospitals through the provision of maternal and child health services and general hygiene and sanitation. The act recommends that there should also be a Local Public Health Committee to better discuss health related issues.

3.2 Related National Strategies

3.2.1 National Health Sector Strategic Plan, 2014 - 2020

The Gambia health sector has a three-tier system comprising the Primary, Secondary and the Tertiary levels whose goal is to reduce morbidity and mortality to contribute significantly to quality of life in the population. Through the provision of quality and affordable Health Services for all, promote and protect the health of the population through the equitable provision of quality health care.

3.2.2 Gambia Disaster Management strategy, 2008 - 2011

The strategic objectives of the national disaster management strategy are as follows:

I. To integrate disaster risk reduction into sustainable development policies and planning;
II. To develop and strengthen institutional mechanisms and capacities to build resilience to hazards
III. To systematically incorporate all international, regional, national and local disaster risk reduction strategies and approaches into the implementation of emergency preparedness, response and recovery.
IV. To achieve a comprehensive, all hazard, all agencies approach by achieving the right balance of prevention, preparedness, mitigation, response and recovery;
V. Prepare communities to ensure that they are fully equipped to anticipate and respond to disaster events.
VI. To promote a transparent, systematic and consistent approach to disaster risk assessment and management.
VII. A multi-stakeholder participatory approach including community participation at all levels
VIII. Develop a database and information exchange system at national, regional and international levels.

3.2.3 Solid Waste Management Strategy, 1997

The primary purpose of the Strategy is to assess the extent of any problem areas in waste management and the resources required to deal with them. It is only by fully justifying requirements that resources can be provided from inside The Gambia or by outside funding. The Strategy will ensure that: - best use is made of resources and facilities that are available, opportunities for waste reduction and recycling are maximised, all options for collection and disposal are considered, arrangements for collection and disposal are integrated, arrangements for disposal of various types of waste are integrated, and short term solutions are not applied before long term effects are considered.

3.3 Institutional framework

3.3.1 National level

For a functional and sustainable WASH system in HCFs, it is important to identify the main actors who are involved and clarify their roles and responsibilities. At National level, WASH services is led by MOH and coordinated by WASH Unit. The Ministry is responsible for the development and coordination of policies, strategies, guidelines, legislation and regulation as well as setting standards for sanitation and hygiene. WASH is an integral component for provision and utilisation of quality health services provided by HCFs at all levels. On the other hand, the Ministry of Water resources, Fisheries and National Assembly Matters is primarily responsible for rural water supply. In order to expedite the pace of improvement of sanitation and hygiene services, an integrated approach for implementation of sanitation and hygiene endeavours has been adapted in which the MOH has entered into an arrangement with other ministries or stakeholders. There is a National Water and Sanitation working group which comprise of government departments, NGOs and Civil Society Organizations, which are as follows: MOH, Water resources, Department of Community Development, NAWEC, PURA, NEA, NaNA, ADWAC, HEPDO, GRCS, CRS, Child Fund and United purpose.

3.3.2 Regional Health Directorate

In principle, the governance structure of the health service delivery systems operates through a cascading system in which the Regional Health Directorate (RHD) are responsible for HCFs within their administrative areas. At the regional level, RHDs are responsible for planning, implementation and M&E of quality health care delivery within their region to improve and maintain the health status of its population through among other things, proper sanitation and hygiene.

3.3.3 Municipalities and Area Councils Health Service

The prime responsibility of Council Health Service (CHS) is to ensure that WASH issues are properly taken care by the council and the municipalities. All councils have the capacity to decide and mobilize resources to strengthen WASH services in HCFs. It is therefore crucial for LGAs to ensure that these

structures are empowered through active participation of their members and give them an independent voice in key management processes in order to enable them provide governance and oversight to health services.

3.3.4 Catchment Area Committees

Although HCFs (including Bamako Initiative facilities) within the district operate with some degree of autonomy on a day to day basis, they are supervise by their respective RHDs which are accountable for all aspects of their operations. Hospitals on the other hand have their own autonomous management set ups. Hence, the coordination and management of WASH activities at each HCF is, in principle, the responsibility of the health facility managers specifically Hospital CEOs/CMD, in line with the mandates specified in various relevant policies and legislations.

CHAPTER FOUR

4.0 PLANNING AND BUDGETING FOR WASH IN HCFS

4.1 Introduction

Planning and budgeting are the most fundamental aspects that influence any sectorial development. If not appropriately dealt with, they can affect the progress or expected achievements. Thus, this guideline considers planning and budgeting for WASH in HCFs to be of paramount importance for they are likely to affect the realization of WASH interventions that are geared towards improvement of health care services.

This chapter provides a step-by-step guide on how HCFs should plan for and finance improvement of WASH at every level of HCF in the country with a view to maintain a sanitary health care environment for IPC. The prime objective is to make optimal use of the allocated/available resources and addressing financial resource gaps for WASH improvement.

It is emphasized that while planning for WASH interventions, existing government guidelines for planning and budgeting for different activities in HCFs should be upheld. For example, for HCFs at council level, situational analysis and needs assessment to determine WASH requirements and associated activities at the HCFs should be integrated into the annual plans and budgets. Moreover, relevant bodies such as RHDs, CHSs, and CAC should be involved during the planning stage.

4.2 Planning for WASH activities in HCFs

4.2.1 Planning Process

In planning for improvement of WASH services in HCFs, LGAs should as much as possible adhere to the following steps:

Step 1: Conduct needs assessment for WASH services in HCFs

This assessment will help in establishing the WASH needs and feasibility. Councils in collaboration with RHDs are required to conduct thorough needs assessment for WASH services in all HCFs under their jurisdiction.

Step 2: Scrutinize WASH plans

Each council should ensure the inclusion of WASH activities in plans and budgets of HCFs within its area of authority.

Step 3: Establish costs for each identified WASH needs

Within the strategic plan of the councils, WASH activities for each level of facility should be captured and allocated funds. The fund so allocated should aim at facilitating the operation and maintenance of WASH services and for construction of new facilities when need arises.

Step 4: Prioritize WASH needs

Prioritizing of WASH activities in the council plans should be guided by the following considerations:

(i) Activities or jobs must be categorized as either minor or major works. Minor works refer to things like fixing and installation of new water pipes, doors or water trap, while major works include building a new structure, changing the entire roofs and ceiling etc. Categorization is important in determining the level of engagement of technical people and in the process of contracting.

(ii) Activities should be prioritized with the support from Council experts in order to review the planned technical options in a bid to determine if they are socially acceptable, financially feasible and environmentally suitable.

(iv) The plan should include initial investment costs, maintenance, replacement and extension of services.

Step 5: Explore different sources of funding for WASH interventions

Sources could be either from central government, council own sources, DCD, private sector or community. It is important to indicate in the budget the sources of funds. Specifically, as per health sector resource flow in the Gambia, the major sources for financing health related interventions include central government through subvention and other partners and donor agencies

Step 6: Resource prioritization for new WASH interventions or improvements

Planners should aim at WASH needs that can be addressed in short, intermediate or long term. This will help in establishing what costs need to be included in the budget as well as the timeframe for the budget. During formulation of the budget, resource prioritization and performance linking should be applied. That is, with a critical situation analysis of WASH services, it will be much easier for HCF management to select for inclusion in the budget activities with the highest impact.

4.2.2 Funds allocation criteria

Given the fact that resources are limited compared to the needs of HCFs for both recurrent and development expenditures, allocation of resources to different WASH activities should be based on the following:

(i) The list of priority WASH needs as per results of the situational analysis.

(ii) HCFs with highest demand for WASH activities such as those with relatively poor WASH services should be given priority in the allocation of the available funds.

(ii) For immediate impact of the investment, priority should be given to upgrading activities, repair and maintenance.

(iv) Priority should be given to HCFs, which have high demands and have committed own resources, which require matching.

(v) WASH activities that are of great demand to vulnerable groups such as pregnant women, children under-five years of age, people with special needs and immune-compromised individuals.

4.2.3 Major considerations in planning and designing of WASH interventions

There are several important considerations for planning and designing of WASH interventions in HCFs without which the intended benefits cannot be realized. Apart from the technical design choices which are often based on the financial resources, physical conditions and prevailing socio-economic circumstances, there are other aspects, which should be reflected clearly in the plans for WASH interventions. This section highlights the major considerations which planners should give special attention while putting together their WASH plans for HCFs.

4.2.4 WASH plans as integral part of Council strategic plan

WASH plans in HCFs at Council level should be part of the Comprehensive Council strategic plan in line with national Health sector strategic plan (NHSSP) and national health policy. The planned intervention should be well addressed in the situational analysis and set out clear interventions, targets and respective activities. It is recommended that at least 15% of the HCF's (Hospitals) budget should be allocated for WASH services in respective facility.

4.2.5 Involvement of community/users

WASH facilities should be planned and designed with the involvement of the community around the HCFs and the users. Active involvement of the users or potential users is essential in all phases of any design process.

4.2.6 Strategic partnership with other stakeholders

There are a number of agencies (public and private) such as political leaders, local and international NGOs, Faith Based Organizations (FBO), United Nations (UN) and bilateral donors that are either currently involved or would be involved in the improvement of WASH services in HCFs. Planners should in collaboration with MOH&SW purposely include in the strategic plan initiatives for collaboration with such partners.

4.2.7 Choice of low-cost and quality of WASH facilities

The starting point for choosing the most appropriate technology option is the baseline assessment of WASH needs at each HCF. Normally, the existing situation assessment will bring to light which facilities need upgrading or improvement up to the required standards. In case construction of new WASH facilities is preferred, planners should consider low cost options but without compromising quality. It is recommended therefore, that planners should have a package of technical design options of WASH facilities and their estimated costs from which they can choose the most appropriate, affordable and durable ones and easy to maintain and clean.

4.2.8 WASH facilities for people with special needs

Very rarely, adaptations for the differentially able or seriously sick patients are incorporated into the design of WASH facilities. It is important for planners and technical designers to take note that not all the potential users of the WASH facilities will have normal physical abilities as they will include those with physical differentially able or chronically and seriously sick individuals. Nevertheless, the incorporation of technical designs for these users with special needs into the original designs can be made at little or no additional costs.

4.2.9 Needs for women, girls and children

Planners should be aware that some WASH needs are gender specific. This is because of different physical needs and socio-culturally determined roles, which men and boys do not have. One of the most important considerations when designing WASH facilities should be provision of a proper environment for menstrual health Hygiene (MHH). As such they need adequate toilets and water supplies to comfortably change and dispose of sanitary pads and to attend themselves in privacy during menstruation. In other words, provision of inadequate WASH facilities is particularly detrimental to the dignity and social development of women and girls and at worse discriminatory.

Children requirements should be taken into consideration so as to use designs that adapt well with their physical stature. It is recommended to consider the following child-size dimensions in the design of WASH facilities in the HCFs and outreach stations:

(i) Height of taps and hand-washing facilities.

(ii) Height of doorknobs and locks

(iii) Height of steps and handrails of stairs in toilets and for water and hand wash facilities

(iv) In urinals, distance from the squatting platform into the wall.

(v) If elevated urinals are being used consider the height of urinals

(vi) Diameter of the squatting hole (consider children's fear of falling in the toilet)

Again, since children have different levels of physical strength and motor skills than adults the following aspects have to be considered and measured:

(i) Force needed to open toilet doors

(ii) Strength needed to open taps, fetch water, etc.

For the youngest children up to 8 years, WASH facilities and adaptations should be made to allow for adults to supervise and/or help when children are using them.

4.2.10 Environmental safeguards

Environmental safeguards refer to measures required to effectively avoid undue harm to people and their environment. For instance, some facilities are likely to pose soil and groundwater contamination, while others may produce wastewater flows. Hence, it is necessary for planners and designers to avoid pollution of ground and surface water sources by locating toilets at least 30 meters away from water sources. Hence, measures to reduce these negative effects and hazards to the environment should be an integral part of WASH facilities planning, designing, implementation and O&M.

4.2.11 Sustainability plans

The issues regarding sustainability of the improved WASH facilities should not be overlooked during planning and designing. The purpose is to ensure that the constructed facilities continue to provide the intended services for a longer period. Therefore, a clear sustainability strategy should be embedded in the WASH plans so that the facilities are properly looked at after construction. The sustainability strategy should include the O&M plans and reliable sources of funding for WASH facilities.

CHAPTER FIVE

5. 0 WATER SUPPLY IN HCFS

5.1 Water needs in HCFs

Health Care Facilities are ranked among institutions which have a relatively high Water Use Intensity (WUI) and hence, require to have access to adequate supply of water at all times in order to maintain daily patients' care services and other operations. Adequacy of water should be in terms of quantity, quality, reliability and accessibility.

Although most HCFs have water supply, but in some cases it may not be adequate, safe, reliable and accessible. Therefore improve access to adequate safe and reliable water supply is prerequisite for the delivery of quality health care services at all levels.

Though the uses of water vary depending on the facility level, it is important for each HCF to develop a water supply plan. This chapter therefore provides a general guide on how to plan and implement water supply interventions in HCFs including water supply related features such as quantity of water required for different uses, water quality, treatment, protection, storage and technical designs of water supply options.

5.2 Water sources

5.2.1 Types of water sources

In the Gambia, HCFs can access water from the following three main sources:

- **Ground water sources:** These are sources whereby water is obtained from beneath the surface in rocks and soil, and accumulates underground in aquifers. Ground water can be of three types depending on the method of water drilling and the depths of occurrence and bearing stratum. These are shallow wells which their depths are not beyond 20 meters, medium well with depth of 20-35 meters and deep wells with depth greater than 35 meters

  The advantages of ground water include:

  (i) Mostly safe and it does not need as much treatment as surface water.

  (ii) For deep ground water sources, water availability is throughout the seasons (iii) Water quality is relatively constant.

- **Surface water sources:** These are sources whereby water is collected on the surface of the earth.

They include lakes, rivers, dams, ponds or wetlands. Water from these sources can be obtained by HCF by either using vehicle (water bowser) or can be pumped to the facility. Some surface water sources like large lakes and rivers can be accessed throughout the year. The advantage of this source is that water is generally softer compared to groundwater. However, water from surface sources is prone to contamination.

- **Rain Water Harvesting (RWH) System:** This is an alternative source that can ensure availability of water in HCFs, especially in areas with water scarcity or intermittent water supply. The capacity of RWH depends on the quality of the collecting surface (roof), storage capacity and the rainfall seasons in a respective area (once or twice per year). The main advantage of rain water is that it is normally clean and natural, especially if collected from buildings roofed with non-rusty corrugated iron sheets or tiles and clean gutters and stored in clean and closed tanks.

5.2.1.1 In selecting any of the mentioned water sources in section 5.2.1, HCFs should take into account the Basic considerations in selecting appropriate water sources for HCFs, they are as follow:

(i) **Water Quantity:** The quantity of water must be adequate for the current and future demand of the HCF.

(ii) **Water Quality:** The quality of water should be such that, after appropriate treatment, meets the specified standards in this guideline.

(iii) **Protection of Water Sources:** Water sources selected should be protected from pollution and contamination by observing the following:

(i) Domestic livestock and other animals should be kept away from the intake by fencing the area of a minimum radius of 60 meters from the installation

(ii) Defecation, urination, burial grounds and disposal of other solid and liquid wastes around the intake should be completely prohibited and preferably a sign post should be installed at the area reminding the public on this prohibition

(iii) Drainage and run off waters should be led away from intakes

(iv) The water source should be guarded against inundation by the flooding of nearby rivers

(v) Soil erosion should be prevented by reforestation and other practical methods

(vi) Algal growth should be prevented by draining swamps and pools around the intake or reservoir

(iv) **Feasibility:** The selected source should be amenable to being exploited using appropriate technology and within reasonable costs considering both capital and O&M costs such as use of

simple and reliable treatment and transmission technology.

Note:

The choice of water sources is very crucial before embarking on installation for a water supply system as it may be irrelevant or very costly and with short life span. Factors that should influence HCFs to choose the type of water sources should include:
• *Existence of public water supply utilities within the proximity of the HCFs such as community or urban piped water supply systems from which an extension to the HCFs is feasible,*
• *Favorable hydro-geological conditions within the HCFs premises or nearby,*
• *Relatively low costs of borehole drilling especially due to topographical features and easy access to borehole drilling site, and*
• *Availability of sufficient funding*
• *Sustainability Plans- Ensure that the HCFs have a sustainability plan for the continuity of the water supply system.*

5.3 Selection of available and feasible options of water sources

Upgrading of water supply in HCFs should focus on rehabilitation and/or construction of water supply facilities depending on the conditions of the existing water supply facilities and the available funding. In this regard, the most feasible options available to HCFs include connection to existing water supply networks, drilling or digging own wells, and installation of RWH systems.

5.4 Recommended water sources for each facility level

In principle, in planning and designing WASH facilities HCFs should adhere to the global definitions of improved water sources as outlined by the WHO/UNICEF/JMP. The JMP definition of 'improved water sources' is used as a reasonable accurate proxy indicator for 'clean and safe water' and much easier to monitor than water quality. However, caution should be taken that improved water sources will not always provide truly clean and safe water, which opt for regular treatment and periodic monitoring.

TABLE 3: RECOMMENDED WATER SOURCES PER HCFS LEVEL

Health Care facility level	Recommended water sources
Dispensaries(Community Clinic/Post)	• Must be connected to existing water supply system, either public or any other water source approved by local authority. • Installment of RWH system if possible • Protected shallow well fitted with a hand pump or connected to the storage
Health Centers	• Must be connected to existing water supply system, either public or any other water source approved by local authority. • Installment of RWH system if possible • Protected shallow well with fitted hand pump or connected to the storage
District/Regional Hospitals	• Must be connected to existing water supply system, either public or any other water source approved by local authority. • Installation of RWH system if possible • Drilled borehole with piped system if feasible
General Referral Hospitals	• Must be connected to existing water supply system, either public or any other water source approved by local authority. • RWH system installation if possible • Drilled borehole with piped system if feasible
National Hospitals	• Must be connected to existing water supply system, either public or any other water source approved by local authority. • RWH system installation if possible • Drilled borehole with piped system

5.5 Connection to existing water supply systems

Most of the HCFs located in regional headquarters or in small towns are either connected to water supply distribution networks operated by NAWEC or have a potential of existing water supply source. Also, there are HCFs situated in rural areas where rural piped water supply systems owned by communities are in operation. All these should be considered as opportunities for such HCFs to access reliable water supply by extending connections to their premises. However, given that there might occur

interruptions in the distribution of water from the existing piped schemes, it is strongly recommended that a backup should be provided to ensure that the supply is reliable. In this case storage facilities such as reservoir tanks or a deep well for providing water at least for 3 days should be installed within the HCFs premises. While NAWEC will normally provide extension of pipes to the premises, HCFs will require contracting out the services of improving in-house distribution network and installation of storage facilities to local water technicians/plumbers.

5.6 Development of own water sources

Health Care Facilities located in areas where there are no piped schemes either owned or operated by NAWEC or Community, the health facility will have to secure/dig their own water sources. The most likely options would be drilled boreholes (medium or deep wells), protected shallow wells. However, mechanized drilling is relatively costly and therefore, HCFs which choose this option should take into account the financial feasibility.

5.7 Construction of protected shallow wells

Drilled shallow wells can be optional sources of water for HCFs especially where those located far away from urban or community water supply systems. Many shallow wells are not perennial as they dry up during extended drought periods. In order to maintain acceptable water levels, it is recommended that protected shallow wells should be constructed during the dry season when water levels are at their lowest.

It should be noted that, though protected shallow wells have the advantage of being less costly if appropriate safety measures are not taken they are easily susceptible to bacteriological contamination especially if located near a toilet, soak ways or any other contaminants nearby. Thus, HCFs that choose this option should ensure that the water quality is regularly monitored for microbiological, chemical and physical contaminants and particularly the storage facilities and network system

FIGURE 2:PROTECTED SHALLOW WELL

Source: *https://www.shutterstock.com/search/water+well*

In developing a protected shallow well, HCFs should take into account the following instructions:

(i) Well diameter should not exceed 1.5 meters

(ii) Water column should not be less than 3 meters

(iii) Well should be lined with bricks or concrete rings

(iv) Well should be fitted with a hand pump to enable water accessibility within HCFs

(v) Well should be sealed with apron and must have a spills over

(vi) Toilets and septic tanks, soak ways should be located downstream of the well at least 30 meters from the existing water source within the premise

(vii) Avoid digging wells in sandy deposits as they are prone to biological contamination.

5.8 Operation and maintenance of water supply systems

The objective of an efficient O&M management of a water supply system in HCFs is to provide safe water as per designed quality and quantity with adequate pressure at convenient location and time on a sustainable basis. O&M includes routine maintenance, minor repairs and corrective maintenance.

While the expected service life of a well will depend on its design, construction, development and operation, proper maintenance will help to improve its performance and eventually increase its life span. As regards to O&M of drilled wells, HCFs should undertake the following actions:

- Keep proper records of power consumption, well discharge and drawdown operating hours
- Carry out periodic chemical and bacteriological analysis of water and treating it when necessary
- Check well cap and the area if they are secured annually to avoid source contamination
- Make site free from hazardous waste, health care waste and other waste that can alter water quality
- Undertake periodic cleaning of screens by adding hydrochloric, polyphosphates, specific proprietary chemicals or chlorine followed by agitation of the water in the well.

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- Make site free from hazardous waste, health care waste and other waste that can alter water quality
- Undertake periodic cleaning of screens by adding hydrochloric, polyphosphates, specific proprietary chemicals or chlorine followed by agitation of the water in the well.

Also, preventive and routine maintenance should be done for protected shallow wells. On one hand, preventive maintenance should focus on cleaning of the surroundings and regular check-up of a hand pump/well at fixed time intervals e.g. weekly or monthly so as to change some parts before they are fully worn out.

FIGURE 3:MAINTENANCE OF HAND PUMP AT SOMA H/C

©Mr. Alfusainey Manneh (Officer In-charge, Soma District Hospital)

5.10 Water sources protection

It should be noted that protection of water sources from pollution/ contamination is better than treating it after it has been contaminated.

TABLE 4: WATER SOURCE PROTECTION

Water source	Source Protection
Ground water (well)	*Casing:* the inside wall of the well should be made water proof by cementing from the top of the well down to a minimum depth of 3 meters. The deeper it is extended, the better. The casing of the well should also be extended for a minimum of 60cm above the surrounding ground level. *Cover:* A concrete cover should be fitted over the casing to prevent dust, insects, small animals, etc from falling in to the well and also to prevent leakage of flushed water. *Sanitary water drawing device*: Ideally, a pump should be installed, but if a pump is not available a sanitary bucket and rope system should be used *Fencing:* The immediate area of the well should preferably be fenced to keep animals away.
Rain water harvesting (RWH)	Flush the rain water to waste and away from the tank to avoid entry debris from the catchment area into the tank. Check and clean the storage tank periodically Cover and ventilate the tank to avoid mosquito breeding, prevent insects and rodents from entering the tank and minimize the growth of algae

5.11 Minimum water requirements for HCFs

Water demand in HCFs refers to the total amount of water to be used by the HCWs, patients and caregivers in a specific time. Hence, water requirements will vary from one HCF to another depending on the average number of people being served in a particular time, number and type of tasks carried out in different units and the level of the health facility. Water in HCFs is primarily required for domestic use, medical procedures, sanitation and hygiene use. Water requirements in HCFs in terms of liters per person or bed per day will vary depending on the level of the facility. For example, in dispensaries water consumption per day will be lowest compared to health centers, district, regional and national/referral hospitals. Thus, the higher the level of the facility, the more the quantity of water required because of the number of users and types of uses.

TABLE 5: NATIONAL REQUIREMENTS FOR BED CAPACITY IN HCFS

HCF Level	Number per Population
Clinic/Health post	l/Visitor/day
Minor Health center	20 - 40beds /15,000
Private Clinics	20 - 40 beds per 150,000
Major Health center	110 -150 beds per 150,000 - 200,000
District Hospital	>150 beds/200,000 or more
General/Teaching Hospital	>150beds/200,000 or more

Source: National Health Policy 2012-2020

Note: *Regardless of the level of the facility, water in HCFs must be available at all times with adequate quantity and quality for different uses as per facility needs to maintain effective functioning of the facility.*

TABLE 6: WHO STANDARDS ON WATER, SANITATION AND HYGIENE IN HEALTH CARE FACILITIES (WHO, 2008)

Item	Recommendation	Explanation
Water quantity	5–400 liters/person/day.	Outpatient services require less water, while operating theatres and delivery rooms require more water. The upper limit is for viral hemorrhagic fever (e.g. Ebola) isolation centers.
Water access	On-site supplies.	Water should be available within all treatment wards and in waiting areas.
Water quality	Less than 1 Escherichia coli/ thermotolerant total coliforms per 100ml. Presence of residual disinfectant. Water safety plans in place.	Drinking-water should comply with WHO Guidelines for Drinking- water Quality for microbial, chemical and physical aspects. Facilities should adopt a risk management approach to ensure drinking- water is safe.
Sanitation quantity	1 toilet for every 20 users for inpatient setting. At least 4 toilets per outpatient setting. Separate toilets for patients and staff.	Sufficient number of toilets should be available for patients, staff and visitors.
Sanitation access	On-site facilities.	Sanitation facilities should be within the facility grounds and accessible to all types of users (females, males, those with disabilities).
Sanitation quality	Appropriate for local technical and financial conditions, safe, clean, accessible to all users including those with reduced mobility.	Toilets should be built according to technical specifications to ensure excreta are safely managed.
Hygiene	A reliable water point with soap or alcohol based hand rubs available in all treatment areas, waiting rooms and near latrines for patients and staff.	Water and soap (or alcohol based hand rubs) should available in all key areas of the facility for ensuring safe hand hygiene practices.

(WHO, 2008)

5.12 Water storage

5.12.1 Minimum water storage requirements for HCFs

Water storage requirement for HCFs is determined by water demand of the each facility's level of service and time required to carry out its activities during non-supply of water from the source. Water should be stored in HCFs for the following reasons:

(i) To guarantee a consistent water supply during intermittent/rational situations

(ii) To increase the volume and pressure during scarcity of water, as long as the tanks are correctly installed and work with the adequate plumbing

5.12.2 Cleaning and disinfection of water storage tanks

It is of practical importance for HCFs to clean and disinfect water storage tank(s) at least once after every three months. Cleaning and disinfecting water storage tanks aims at removing algae (plant growth which produces bad tastes and odors), silt, and bacteria which may be harmful.

The steps below should be followed in cleaning and disinfecting water storage tanks:

(i) Empty the tank

(ii) Scrub or pressure wash the interior walls to remove dirt and grime with detergents

(iii) Rinse out the tank

(iv) Scrub or pressure wash the interior walls of the tank with 0.2% chlorine solution, and leave for 2 hours.

(v) After 2 hours, thoroughly rinse the tank with clean water Refill tank with water.

FIGURE 4: A PERSON WASHING A WATER STORAGE TANK

©Mr Alfusianey Manneh

Note:

Water storage tanks should be cleaned once every three months or more frequently if necessary. Every PVC tank should be provided with washing and flushing outlet.

5.13 Water quality

For the purpose of this guideline water quality refers to water free from chemical, physical, biological, and fecal substances, and fit for domestic and medical uses.

5.13.1 Water quality standards for HCFs

Water supplied in HCFs should maintain a standard quality to ensure that there is total absence of risks from microbiological, chemical and physical contaminants. Thus, all water supplied in HCFs for whatever use should meet the following recommended standards.

TABLE 7: WATER QUALITY STANDARDS FOR HCFS

Location	Parameter	Standard/	Means of Verification
Groundwater source	Fecal contamination	0 fcu/100ml	Water sampling at point of abstraction
	pH	6.5 – 9.2	
	Turbidity	<5 NTU	
	Arsenic	0.05 mg/L	
	Fluoride	1.5-4.0mg/L	
	Iron	0.3-1 mg/L	
	Manganese	0.1-0.5 mg/L	
	EC	1300mg/L	
	TDS*	1000 mg/L	
	Total Filterable	500-2000 mg/L	
	Total Hardness	500-600 mg/L	
	Calcium Ca	75-300 mg/L	
	Magnesium Mg	50-100 mg/L	
Surface water source	Nitrate (NO_3)	10-75 mg/L	Water sampling at point of abstraction
	Fecal contamination	0 fcu/100ml	
	pH	6.5 – 9.2	
	Turbidity	<5 NTU	
	TDS*	1000 mg/L	
	Color	1.5-50 TCU	
Piped mains water	Fecal contamination	0 fcu/100ml	Water sampling at point of entry
	Free chlorine residual	0.5-1 mg/L	
	pH	6.5 – 9.2	
	Turbidity	<5 NTU	
Water collection points	Fecal contamination	0 fcu/100ml	Random selection of 4 water collection points
	Free chlorine residual	0.5-1mg/L	
	Turbidity	< 5 NTU	
	Flow*	0.33 l/s	

Source: *The Environmental Management (Water Quality Standards) Regulations, 2007*

**Adopted standard from WHO*

5.14 Water treatment

5.14.1 Disinfection

Disinfection with chlorine is the most widely accepted and appropriate way of providing microbial safety in most of the HCFs in The Gambia. Bleaching powder, liquid bleach, chlorine tablets and other sources of chlorine may be used, depending on local availability.

To ensure adequate disinfection, a contact time of at least 30 minutes should be allowed between the moment the chlorine is added to the water and the moment the water is available for consumption or use. The free chlorine residual (the free form of chlorine remaining in the water) after the contact time should be between 0.5 and 1.0 mg/L in all points of the system, including end-points. Residual chlorine can be measured with simple equipment such as a color comparator and diethyl-p-phenylenediamine tablets.

Effective disinfection requires that the water has a low turbidity. Ideally, median turbidity should be below 5 NTU (URT, 2007). If turbidity exceeds 5 NTU then the water should be treated to remove suspended matter before disinfection, by sedimentation (with or without coagulation and flocculation) and/or filtration.

Note:

HCFs should carry out water quality analysis for physical, chemical and bacteriological composition before use of a new source of water.

5.15 Water access and distribution

Water access refers to the availability of water within a reasonable distance to allow convenience of access and use. Access will be determined by distribution of water taps or water points within the HCF. The purpose is to ensure that sufficient water-collection points and water-use facilities are available in the HCF to allow convenient access to, and use of, water for medical purposes, drinking, personal hygiene, food preparation, laundry and cleaning. As a guiding principle, water should be available within all wards and in waiting areas.

5.15.1 Major considerations in the distribution of water in HCFs

Water points/taps in HCFs should be installed taking into account the following aspects:

(i) A reliable drinking-water point should be accessible for staff, patients and careers at all times.

(ii) A reliable water point, with soap or a suitable antiseptic or sanitizers, should be available at all critical points within the HCF including operating theatres, wards, consulting rooms, dressing

rooms, etc. and in service areas such as sterilization, laboratory, kitchen, laundry, showers, toilets, waste zone and mortuary.

(iii) At least two hand washing basins should be provided in wards with more than 20 beds

(iv) At least one shower should be available for 40 users in inpatient settings (users include patients, HCWs and careers). (Tanzania wash guideline 2017)

(v) Laundry facilities, with soap or detergent, hot water and a disinfectant (such as chlorine solution) should be available for inpatient settings.

Note: *Disinfection can eliminate or reduce pathogens however it will not correct water problems caused by chemical contamination like heavy metals.*

CHAPTER SIX

6.0 SANITATION IN HEALTH CARE FACILITIES

6.1 Introduction

Sanitation in HCFs refers to safe management of sanitation systems which includes, construction and/or rehabilitation and management of sanitation facilities, garbage collection and maintenance of hygiene services such as waste water disposal. Also it looks at the interpersonal and group communication between the care givers and the clients to enhance proper hygiene. It also entails management of night soil (excreta), waste from ablution fittings, storm water, health care wastes (including placenta), and environmental cleanliness.

Improved sanitation facilities are established to prevent diseases by breaking pathogen transmission pathway or disease-causing organisms found in human excreta and waste-water from entering the environment there by posing a threat to people's health. Therefore, safe, adequate and appropriate sanitation facilities/services will serve to prevent infections and reduce spread of diseases within the HCFs, by protecting staff and patients, and maintaining the dignity of vulnerable people including the critically ill patients, people with physical disabilities and pregnant women

The guidelines consist of planning for sanitation interventions in HCFs, recommended sanitation options for different levels of health facility settings, minimum standards of technical designs and specifications for sanitation facilities for able-bodied, disabled or other people with special needs.

6.2 General criteria for excreta disposal in HCFs

Sanitation services in HCFs will be satisfactory and adequate if the following minimum requirements are met.

6.2.1 User convenience

There should be separate provisions of toilets for female and male users for HCWs, visitors, patients and people with special needs such as the differentially abled, pregnant women, critically ill persons, and young children. Supportive amenities should be provided for people with special needs such as wheel chair users and the blind. Labels indicating toilets for male and female users should be provided to help them locate the toilets easily. Also, toilets should be designed and equipped to respond to social and cultural norms such as provision of water for cleansing, strategically located and lockable doors for privacy and factoring clear access pathway with light especially at night.

6.2.2 Accessibility

Toilets should be conveniently located; preferably not more than 30 meters from all users so that they can be easily reached and free from any forms of obstruction (physical or non-physical) that is toilets must be open for use when needed.

6.2.3 Reliability

Toilets should be in good condition for use at all times.

6.2.4 Safety

Sanitation facilities should contribute in reducing infections within the HCFs rather than being routes of transmission of infections. Designing and construction of sanitary and waste disposal facility should be in such a way that the sanitary waste or human excreta do not contaminate the environment or transmit harmful agents such as microbial, physical contaminants or harbor vector or vermin. Similarly, measures to control fly and mosquito breeding should be in place especially for toilets. Sanitary facilities should be well-constructed without presenting the risk of collapsing, falling, or otherwise causing injuries to users. In order to avoid the risk of violence, including sexual violence, toilets should be properly located, with lockable doors and access pathway with light especially at night. .

6.3 Recommended public toilet for HCFs

Due to public health concerns in HCFs the flush toilets (squatting type) with washable seats for differentially able people should be provided and cabin design for Women and Girls to address menstrual hygiene. In other words, each HCF should aim for the water based sanitation systems. However, due to inadequacy of water supply in the Gambia, it is recommended that a VIP latrine option can be used. Various types of water based toilets recommended for use in HCFs are presented in Figure 5.

Pedestal Flush Toilet

Pour Flush Toilet

VIP Latrine

FIGURE 5: TYPES OF TOILETS RECOMMENDED IN HEALTH CARE FACILITIES

Adopted: Republic of Tanzania, Ministry of Health, national guideline on water sanitation and hygiene, 2017

6.4 Designing and construction of sanitation facilities

6.4.1 General considerations

Provision of adequate sanitation infrastructure and services for a health care facility requires selection of appropriate designs and careful planning. Designing of sanitation facilities should be part of the initial HCF planning. However, where sanitation infrastructure and services are inadequate it is equally critical to plan for construction of new ones or upgrading the existing facilities. As mentioned in the previous section, two types of toilets are recommended for HCFs depending on the following factors:

(i) Facility size and catchment area population (with future projections)

(ii) Type of services being offered at a facility

(iii) Availability of reliable water supply

(iv) Level of water table.

(v) Soil permeability to determine the depth of pit to be excavated and the possibility of contamination of ground water source

(vi) Presence of supporting sanitation infrastructure such as a public sewer

(vii) Socio-cultural norms of users

(viii) Cost of the sanitation infrastructure

(ix) Any other environmental technical and social considerations that might apply

This guideline assumes that all HCFs ranging from the community level to teaching hospital have appropriate toilets though their current conditions and sufficiency vary from one HCF to another. Hence, depending on the current condition of the existing toilets each HCF at these levels will have to consider either rehabilitating the old ones, increasing the number of toilets as per demand or both.

6.4.2 Flush toilets

Flush or pour toilets can be designed for squatting types but designs do not handle waste on site as their drain pipes are connected to waste conveyance and waste treatment systems. Once the content is flushed the wastewater flows into a septic tank or sewage system and from there to a sewage treatment plant where applicable. The choice between flush and pour flush toilets will depend on the number of users as well as the socio-cultural aspects. For various socio-cultural and even hygiene reasons many public places such as institutions prefer the squatting type especially if there many users.

Structural components of a flush and pour flush toilet

(i) **Technical requirements*:*** Water flushed toilets require a bowl or pan, (into which excreta are deposited) and a water seal created by placing a 'U' bend beneath the bowl. The bowl and 'U' bend can be integral or can be manufactured separately. The bowl may be designed to allow the user to squat, in conformity with our cultural norms and values.

(ii) **Options for wastewater disposal*:*** Wastewater from water-flushed toilets may be discharged either in a septic tank, soak away, cesspool, or to a public sewer which carries it away from the plot.

(iii) **Water usage*:*** The bowl drain is visible at the rear of the bowl, connected to the waste pipe. The amount of water used by conventional flush toilets usually makes up a significant portion of personal daily water usage in HCFs especially those with relatively high numbers of HCWs, patients and caregivers. It could be as much as 50 litres per person per day if a person flushes the toilet five times per day with 10 litres per flush. It is recommended that HCFs should opt for

modern low flush toilet designs, which allow the use of much less water per flush that range from 4.5 to 6 litres per flush.

6.4.2.1 Maintenance and hygiene of flush toilets

Flush toilets are not typically designed to handle waste on site. Instead, their drain pipes are connected to waste conveyance and waste treatment systems. In normal circumstances, when a toilet is flushed, the wastewater flows into an inspection chamber, septic tank then to a sewerage system or a soak away pit. For maintenance and hygiene purposes the following practices are recommended:

(i) Users of flush toilets should be reminded through a visibly displayed poster that they must flush and leave the toilet clean after use.

(ii) The cleaners should clean the flush toilet with a toilet brush and detergents.

(iii) There should be a cleaning schedule that shows the cleaning time and a supervisor's verification column that is signed to indicate monitoring for cleanliness.

(iv) Periodic checks on effective functioning of the flush toilets in the HCF should be carried out to identify any mechanical faults especially the blockage of wastewater flow due to the faulty cistern mechanism.

(v) Since in many cases flush toilets are located within the buildings, rectification of such faults should be done immediately otherwise flies could be easily attracted within the premises of the HCFs. Rectification is also important to avoid bad smell from blocked toilets.

(vi) Bed pans should be immediately cleaned and disinfected after being used by the patients.

FIGURE 6: VENTILATED IMPROVED PIT LATRINES

©Mr. Lamin Chaba Saidyleigh

6.5 General features of a VIP latrine

A ventilated improved pit latrine (VIP) as shown in figure 6.1, is the advancement from an improved traditional pit latrine aimed at controlling foul smell and release of vectors flies from the latrine. A VIP latrine differs from a traditional pit latrine in that it has a tall vertical vent pipe which has a fly-screen fitted at its top. The vent pipe is responsible for both odor and fly control. Two types of VIP latrines are identified as the single-pit and double pit VIP latrine. The latter is designed to allow the removal of the pit contents at regular intervals of between two and three years. Hence, the second type provides a more permanent facility which is especially suitable for longer term uses. VIP latrines are suitable where the HCF has adequate land and there are no rocky and high water table areas.

The principal mechanism inducing ventilation in VIP latrines is the action of the wind blowing across the top of the vent pipe. The vent pipe controls flies in VIP latrines in two ways. Firstly, since flies are attracted to pit latrines by the fecal odor coming from them, almost all flies will try to enter the pit via the top of the vent pipe as that is the point from which the odor emerges; but they are prevented from entering by the fly screen.

Secondly, a few flies that may enter the pit via the superstructure and squat-hole and lay their eggs in the pit, the top vent screen will prevent them from leaving the pit holding and perish them. Thus, the screened vent pipe has three important functions namely, eliminating fecal odors in the superstructure, preventing most flies from entering the pit, and preventing the few flies bred in the pit from escaping.

6.5.1 Structural components

Both single-pit and alternating double-pit VIP latrines consist of five basic structural components which are the pit, the cover slab and its foundation, the superstructure, and the screened vent pipe. A cross section of a VIP latrine is presented in Figure 6.3. However, minor differences exist in the design between the components for the single versus double pit types.

For all VIP latrines a cover slab made of concrete floor is recommended. The slab should be appropriately provided with a drop hole located near an inner wall. In addition, the floor should be provided with a hole for insertion of a vent pipe. The squatting plate should be cast using an appropriate mound for easy use and considering social cultural preferences in the area.

The VIP superstructure consists of walls and roofs. The walls should be made of durable materials, normally burnt bricks, cement blocks, or stones. The roof should be made of corrugated iron sheets or any other recommended durable roofing materials. The interior of the VIP in HCFs should be properly lined with wall and floor tiles for easy cleaning and maintenance. Hand washing and hand drying facilities including soap should be provided in or outside the latrine.

The vent pipe should be 27 - 200mm, preferably 110mm in diameter made from corrosion and sun-resistant materials commonly made of fiber glass and PVC. The vent pipe should extend for 0.8 above

the roof level and covered with fly screen.

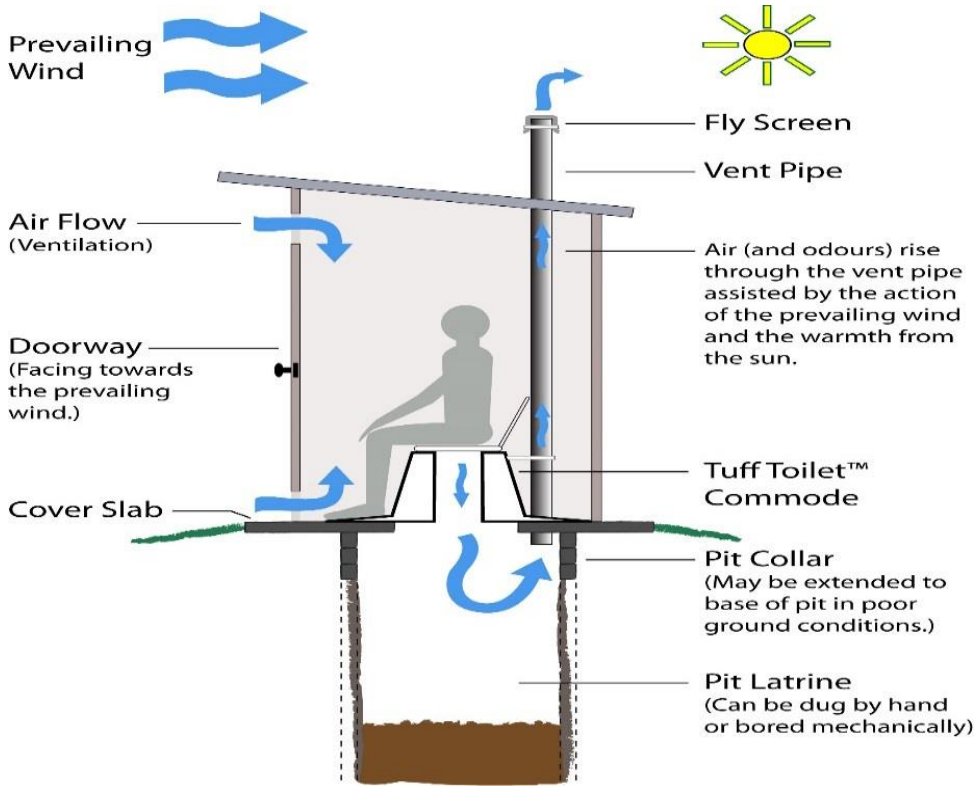


FIGURE 7: A CROSS SECTION OF A VIP LATRINE

Source: *https://wikiwater.fr/a8-dry-self-ventilated-improved*

6.5.2 Toilet features for people with special needs

Public toilets can present accessibility challenges for people with special needs such as the different abled persons and even young children. HCFs are therefore required to have accessible toilets which are specifically designed to accommodate these groups of people according to their or special needs. There are various technical options of sanitation facilities from which HCFs can select the most appropriate ones suitable to their situations. Accessible toilets for people with different able people are designed specifically to provide more space and bars for users to grab and hold during transfers (see Figure 8). There are also different designs of ramps as such and it is up to the HCF to select which one is more suitable to serve the intended purpose.

Designs of sanitation facilities should essentially take into account the following categories of differentially able:

(i) Blind people and people with poor vision need to have special grips and guiding systems (ramps) as well as proper lighting for the poor-sighted people.

(ii) For people in wheelchairs or with crutches the design of a toilet should include wider doors, and special grips or foldable seats.

FIGURE 8: DESIGNS OF SANITATION FACILITIES FOR PEOPLE WITH SPECIAL NEEDS

https://www.pinterest.com/DEMANDcharity/special-needs-bathing-toileting

6.6 Urinals

A ***urinal*** is a sanitary plumbing fixture for urination used by men. It can take the form of a container or simply a wall, with drainage and automatic or manual flushing. Urinals must be seen as part of the package of sanitation facilities in HCFs. The construction of urinals reduces the number of toilets needed especially for male users and is cheaper to construct and maintain than toilets. Furthermore, the use of urinals might prevent the accidental fouling of the male toilets, which is in many cases the prime cause of unpleasant odors. The main types of urinals recommended in HCFs are as shown in Figure 6.5

FIGURE 9: THE MAIN TYPES OF URINALS RECOMMENDED IN HCFS

Adopted: Tanzania WASH Guidelines for HCFs

6.6.1 Major features of a urinal

In constructing a urinal HCFs should take into account the following essential features:

(i) It is possible for one urinal to include several urinal spaces

(ii) A urinal space should at least be 0.6 meter of a urinal channel.

(iii) The compartment walls should be plastered and steel floated up to 1.2 meters above the floor. This should then be painted with a "urine" resistant washable paint.

(iv) There should be a raised footstep with a slope which separates the urine channel from the concrete floor

(v) Urinals can be built as separate buildings or as part of a toilet block, i.e. using the back or sidewall of the toilets.

(vi) It is very important that a plastic or stainless steel trap is incorporated in the drain to prevent debris blocking the pipes.

(vii) The urinals should be connected to a soak-pit.

Note:

Provision of urinals should consider the number and frequency of users, male children patients, appropriateness of urinal designs and availability of water, and maintenance arrangements.

TABLE 8: RECOMMENDED EXCRETA DISPOSAL OPTIONS FOR HCFS

Facility Level	Number and types of excreta disposal facilities
Health post	(i) Two stances should be available for HCW (separate for male and female users) (ii) There should be one stance for every 20 users in OPD. (iii) There should be two stance for differentially abled people (separate for male and female) (iv) Male toilets should include urinal units (v) Additional toilet(s) may be provided next to delivery and Reproductive and Child Health Clinics (RCH) facility depending on the building layout and specific needs in an area (vi) Pour flush or flush toilets with water seal are the recommended toilet options for health post. However, VIP toilets may be provided in areas with critical water shortages.

Health centers	(i)	There should be separate toilets for staff and clients in both OPD and IPD.
	(ii)	At the OPD and reception area there should be at least 2 toilets for HCWs (separate for males and females) per department.
	(iii)	At least one stance should be available for 20 users for IPD and one for 20 users at OPD
	(iv)	At OPD there should be separate toilets for female and male clients and separate stance for male and female differentially abled clients and one for children.
	(v)	Urinals should be provided in all male toilet blocks
	(vi)	There should be a set of male and female toilets for HCWs in office blocks.
	(vii)	Flush toilets or pour flush, should be provided in all health centers with adequate water supplies.
	(viii)	Pour flush or flush toilets with water seal are the recommended toilet options for health center. However, VIP toilets may be provided in areas with critical water shortages.
	(ix)	There must be flush or pour toilets with water seal and bathing facilities at the deliver unit.
	(x)	Bed pans should be provided as per HCF requirements and should be separated between infectious and non-infectious wards.
	(xi)	Health centers must be provided with conventional sewage system onsite or offsite for effective liquid waste transportation and disposal.
	(xii)	The final disposal of wastewater should be wastewater treatment ponds or any other treatment methods applicable. The sewerage systems must be properly maintained and monitored.
	(xiii)	In all female toilets there should be menstrual cabin, receptacle bin lidded and foot operated lined with a plastic bag for disposal of sanitary pads. Placenta pit for proper disposal depending on the consent of the client

TABLE 9: RECOMMENDED TYPES OF EXCRETA DISPOSAL FACILITIES

Facility Level	Number and types of excreta disposal facilities
District hospitals	(i) There should be separate toilets for staff and clients in both OPD and IPD. (ii) At least one stance should be available for 20 users for IPD and one for 20 users at OPD (iii) At OPD there should be separate toilets for female and male clients and separate stance for male and female disabled clients and one for children. (iv) Urinals should be provided in all male toilet blocks. (v) Provision of sanitation facilities; one for people with differentially able and one for children should be considered in each of the facility's functional block or department. (vi) Actual number of toilets and urinals should be designed based on the average number of clients being attended. (vii) At least one toilet for each ward, service unit and a set of male and female toilets for HWCs in office blocks and reception areas should be provided. (viii) Excreta disposal facilities (including urinals) for hospitals must be water-based with flushing system and must adhere to high quality standards (ix) No pit latrines (even improved) are allowed in a hospital setting. (x) Bed pans should be provided as per hospital requirements and should be separated between infectious and non-infectious wards. (xi) Excreta disposal facilities for hospitals must be provided with sufficient water for regular operations and maintenance at all times. (xii) Sufficient sewage system onsite or offsite (connected to public sewer) should be provided to support excreta disposal systems in accordance with the type of the sanitation infrastructure (xiii) Excreta disposal and bathing facilities should be provided specifically for delivery clients. Toilets at the delivery unit must be flush or pour toilets with water seal. (xiv) High temperature incinerator and Placenta pit with cover is recommended. (xv) In all female toilets there should be menstrual cabin, receptacle bin lidded and foot operated lined with a plastic bag for disposal of sanitary pads.

TABLE 10: RECOMMENDED TYPES OF EXCRETA DISPOSAL FACILITIES

Facility Level	Number and types of excreta disposal facilities
General, specialize and teaching hospital	(i) There should be separate toilets for staff and clients. (ii) Two staff toilets (separate for males and females) per department. At least one stance should be available for 20 users for IPD and one for 20 users at OPD (iii) At OPD there should be separate toilets for female and male clients and separate stance for male and female differentially able clients and one for children. (iv) Actual number of toilets and urinals should be designed based on the number of clients being attended. (v) At least one toilet for each ward, service unit and a set of male and female toilets for staff in office blocks and reception areas should be provided. (vi) Bed pans should be provided as per Hospital requirements and should be separated between infectious and non-infectious wards (vii) Adequate quantities of mobile receptacles (wheel chairs with receptacles) and bed pans should be allocated in each ward. (viii) Facilities for excreta disposal, waste water and solid waste management, and environmental cleanness for regional referral hospitals should adhere the minimum requirements as provided for hospitals level (ix) Excreta disposal and bathing facilities should be provided specifically for delivery clients. Toilets at the delivery unit must be flush toilets with water seal. (x) High temperature incinerator should be used. (xi) In all female toilets there should be a receptacle bin lidded and foot operated lined with a plastic bag for disposal of sanitary pads.

Note

- *All OPD toilet must be open for all visitors/relatives*
- *Toilets should also be provided at waiting areas*

6.7 Guidelines for waste and faecal sludge management

6.7.1 Importance of proper handling and disposal of wastes

Proper handling and disposal of contaminated and infectious wastes generated in the process of delivering medical services or using the toilets is essential in preventing infection and injury to patients, HCWs and caregivers or visitors at the HCF and the surrounding community. Contaminated and potentially infectious wastes found within HCFs include:

(i) Faecal sludge from on-site sanitation
(ii) Grey water produced from washbasins, showers, sinks and flushing toilets
(iii) Body fluids and tissue specimens from patients
(iv) Objects that have been in contact with body fluids or tissues, including intravenous catheters, wound dressings, gloves etc.
(v) Sharp instruments such as scalpels and needles
(vi) Microbiology specimens including liquid and plated cultures

6.7.2 Acceptable procedures in handling and disposal of wastes

Aforementioned wastes are regarded as potentially infectious as they are most likely to be in contact with pathogens. In a bid to ensure that such wastes are properly handled and disposed, HCFs should ensure the following acceptable procedures:

6.7.2.1 Management of wastewater

For managing wastewater and faecal sludge, HCF should adhere to the following guidelines:

(i) Treat wastewater from HCFs before final disposal. The treatment should be either onsite by using septic tanks and soakage pit or offsite by using waste water treatment ponds.
(ii) Flush or pour flush toilets should be connected to inspection chambers, septic tanks and soakage pit.
(iii) For HCFs where the wastewater treatment plant is not available, contaminated liquids should be disinfected with chlorine before final disposal.
(iv) Drainage systems should be installed for management of ablution waste for all Health Care delivery points, lavatories, sluice rooms, laundry, and at any other points where grey water is produced.
(v) Ablution waste drains should be centralized or detached depending on the complexity of the facility infrastructure and the health and safety risks involved.
(vi) Wastewater from hand washing points should be disposed in simple ground seepage systems.
(vii) The wastewater from delivery rooms, dressing rooms, and other places with invasive procedures should be directed to appropriate soak away pits.

(viii) For HCFs located in urban areas the most appropriate option for wastewater disposal is connection to the existing sewer systems.

(ix) Provide proper faecal sludge emptying methods for HCFs with on-site sanitary facilities

6.7.2.2 Wastewater treatment systems

For protection of public health and environment, it is recommended that wastewater generated at HCFs is treated onsite before final disposal. Wastewater in HCFs comprises black water (sewage), grey water or sullage and storm water.

The following are the recommended treatment methods for wastewater which HCFs may opt to use:

(i) Anaerobic reactor system

(ii) Decentralized septic tank system

6.7.2.3 Anaerobic treatment system

This system consists of a primary and secondary treatment stage, and it should be used where HCF area is large enough to provide for construction of waste water treatment plant. Below shows a schematic of a basic hospital wastewater-treatment system

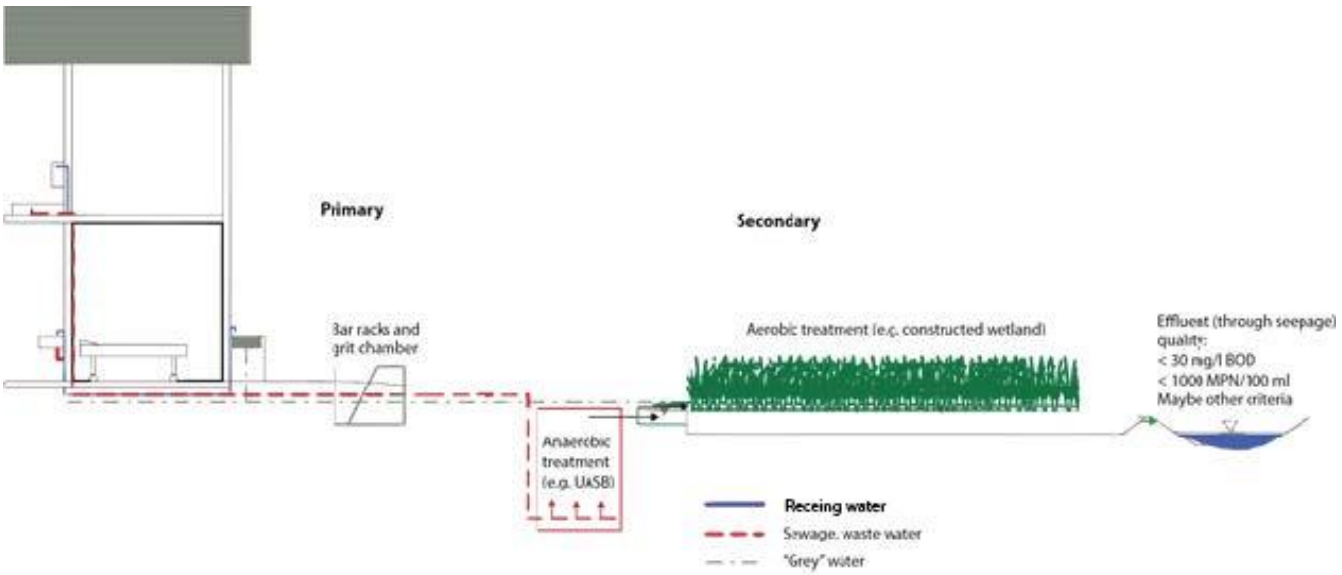


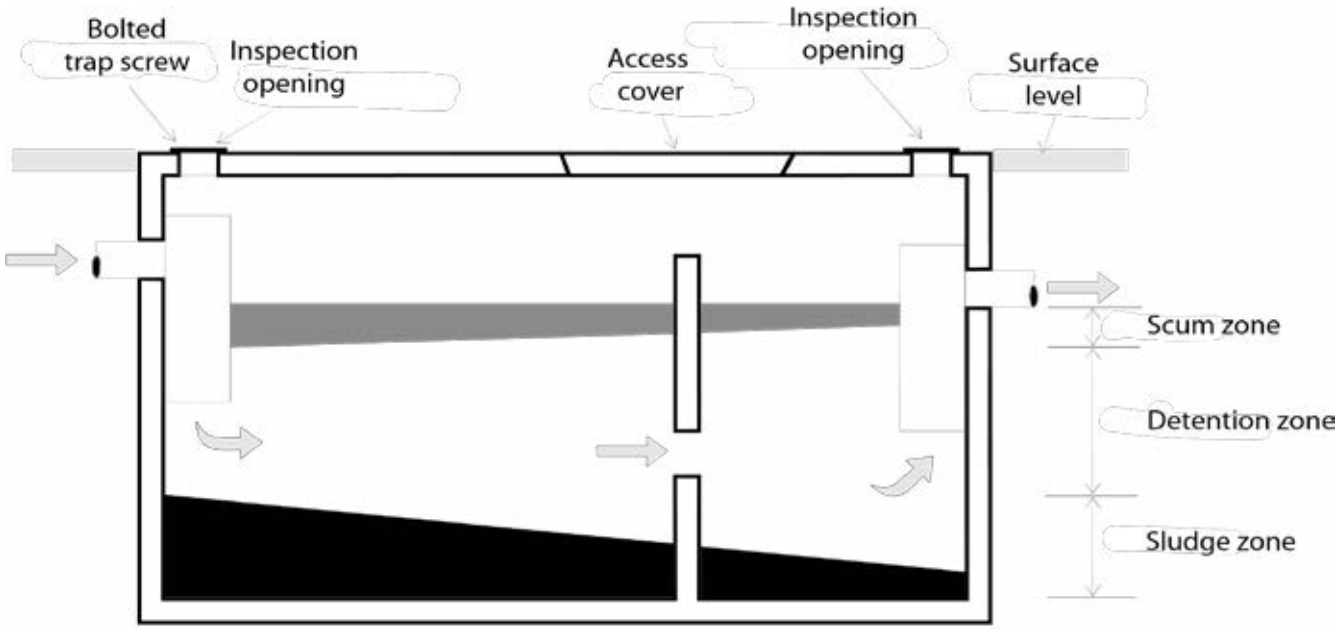
FIGURE 10: EXAMPLE OF ANAEROBIC TREATMENT SYSTEM

Adopted: Tanzania WASH Guidelines for HCFs

BOD, biological oxygen demand; MPN, most probable number; UASB, up-flow anaerobic sludge blanket

6.7.2.4 Decentralized septic tank system

The minimum treatment method for wastewater in HCFs should be a septic tank which has a watertight receptacle for the separation of solid and liquid components of wastewater and for the digestion of organic matter in an anaerobic environment. A constructed septic tank should consist of two or more chambers and can be divided into the following zones: *Horizontal*: inflow, settlement and clarifying zone and *Vertical*: scum, detention and sludge zone.



Source: South Australian Health Commission (1995)

FIGURE 11: DECENTRALIZED SEPTIC TANK SYSTEM

6.7.3 Pre-treatment of liquid waste

Service delivery in some health facility departments may result into generation of wastes containing high composition of heavy metals or other constituents that can impair efficiency of the management system. Liquid waste from these departments should therefore be pre-treated before discharging into the waste treatment systems. A summary of treatment options for liquid water from various department of hospital generating hazardous waste is in Table 11

TABLE 11: PRE-TREATMENT OF LIQUID WASTE

Department/	Pre- treatment method(s)
Dental Department	Installing of amalgam separators in sinks, especially by patient treatment chairs. The separated mercury waste must be safely stored.
Radiology department	Separate collection of radioactive wastewater (e.g. urine of patients from the thyroid treatment) and storage for decay in a secured die-away basin until background concentrations have decreased. After the required storage time, the wastewater can be disposed of in the sewer
Kitchen	Installation of grease trap to remove grease, oil, and other floating materials

6.7.4 Management of faecal sludge

Onsite sanitation results into accumulation of fecal sludge which would require emptying and further treatment to reduce microbial and nutrients load hazardous to human and environment. The physical, chemical and bacteriological characteristics of the fecal sludge vary depending on toilet usage, inflow and infiltration, collection methods and climate. Design and construction of treatment methods of fecal sludge should therefore consider characteristics of prior to designing for effective dislodging and treatment.

6.7.4.1 Technology for treatment of faecal sludge

Established technologies for treatment of fecal sludge include co- composting, co- treatment in waste stabilization ponds or through deep well entrenchment. Depending on treatment goal HCFs may adopt other innovative ways for treatment especially when the goal is to recover resources. Vermicomposting, black soldier flies, ammonia treatment, thermal drying and pelletizing, and solar drying are examples of treatment methods for resource recovery (Strande et al., 2014).

6.7.4.2 Selection criteria for treatment technology

The choice of treatment methods is influenced among others by the type of onsite sanitation system being used, the sludge quantity and characteristics, rain patterns (quantity, distribution over time) and the institutional set up. Designers and planners should therefore regard fecal sludge management methods as a combination of systems that facilitate efficient dislodging, transportation, treatment and the intended end use. Table 12 summarizes the criteria for selection of fecal sludge management technologies.

TABLE 12: SLUDGE TREATMENT OPTIONS IN HCFS

S/N	Treatment technology	Advantages	Disadvantages
1	Co-composting of fecal sludge with municipal waste	• The output of co-composting is a good soil conditioner which provide potential for income generation	• Operating a composting plant and generating a safe product with value requires technical and managerial skills
	Co-treatment in waste stabilization ponds	• Waste stabilization ponds are simple to build • Require relatively low operation and maintenance • Appropriate for tropical climate • Achieve high pathogenic removal in the effluent	• Land availability • High rates of solid accumulations if preliminary solids separation is not performed • Potential inhibition due to high salt and ammonia concentration • Removal of sludge that accumulate in the anaerobic ponds may require heavy mechanical equipment (Strauss et al., 2000)
3	Deep row entrenchment	• No need of expensive infrastructure or pumps • Growing tree has numerous benefits such as CO fixation, erosion protection	• Sufficient land has to be available in an area with a low ground water table • Legislative control are required to be instituted
4	Anaerobic digestion	• Produces biogas while stabilizing fecal sludge • Reduces sludge volume and odor	• Operation and maintenance requires relatively high skilled operations • Restriction measures for detergents and heavy metals should need to be instituted • Need for pilot scale prior to full scale implementation to learn more about safety and sustainability
5	Imhoff tank	• Small land requirement • There is possibility of operating only one tank (Klingel et al., 2002) • Physical separation between the settled sludge and the liquid fraction	• Increased operation complexity as compared to other methods • Comparatively high cost • Require skilled operator
6	Sludge incineration	• The sludge volume is substantially reduced and 'All pathogens are removed	• Potential emission of pollutants • Need for highly skilled operating and maintenance staff • High capital and O&M costs • Residual ashes

The selection process for fecal sludge management system is a participatory process and therefore should involve various stakeholders' specifically physical planning, water engineers, environmental engineers, private sector among others. HCF management should utilize environmental health officers (EHOs) in carrying out all processes for selection of appropriate technology for the treatment of accumulated fecal sludge in HCFs. Figure 6.10 is a prototype technology selection scheme.

6.7.5 Management of storm water

Storm water refers to water that flows over land from rainfall, and very often causing flooding, erosion and pollution. For proper management of storm water it is important to consider the following;

All buildings should be provided with appropriate storm water drainage to convey water away from the compound

All storm water drainage/open channels should be cleaned up regularly to avoid blockage

6.7.5.1 General storm-water control requirements

In general, storm water management consists of collecting, retaining (infiltrating) and/or detaining runoff before it is released to a natural drainage course. Simple and effective management strategies should be employed to either infiltrate or disperse the runoff on site. However, in some sites, such as, steep sites or sites receiving substantial runoff from adjoining properties more extensive drainage improvements may be necessary to collect and convey runoff in pipes in a safe manner to protect the HCF and property as well as the downstream drainage course or neighboring properties. On large sites excessive runoff may need to be detained in a detention pond to protect a downstream watercourse or an adjacent property.

Design and construction of a storm water drainage system should be according to the ministry's guidelines. A summary of important considerations for designing and maintenance of storm water are summarized here under

6.7.5.2 Storm water management for small size HCFs

For HCFs with less than or equal to 2 acres (0.8ha), and appropriate conditions such as safe from risk of flooding, infiltration trenches or shallow dry wells should be used to capture and retain runoff from impermeable surfaces. Impermeable surfaces include roofs, parking lots, driveways, and paved areas. Alternative methods for capturing run off are splash blocks, vegetated and rock-lined swales and shallow rocked trenches.

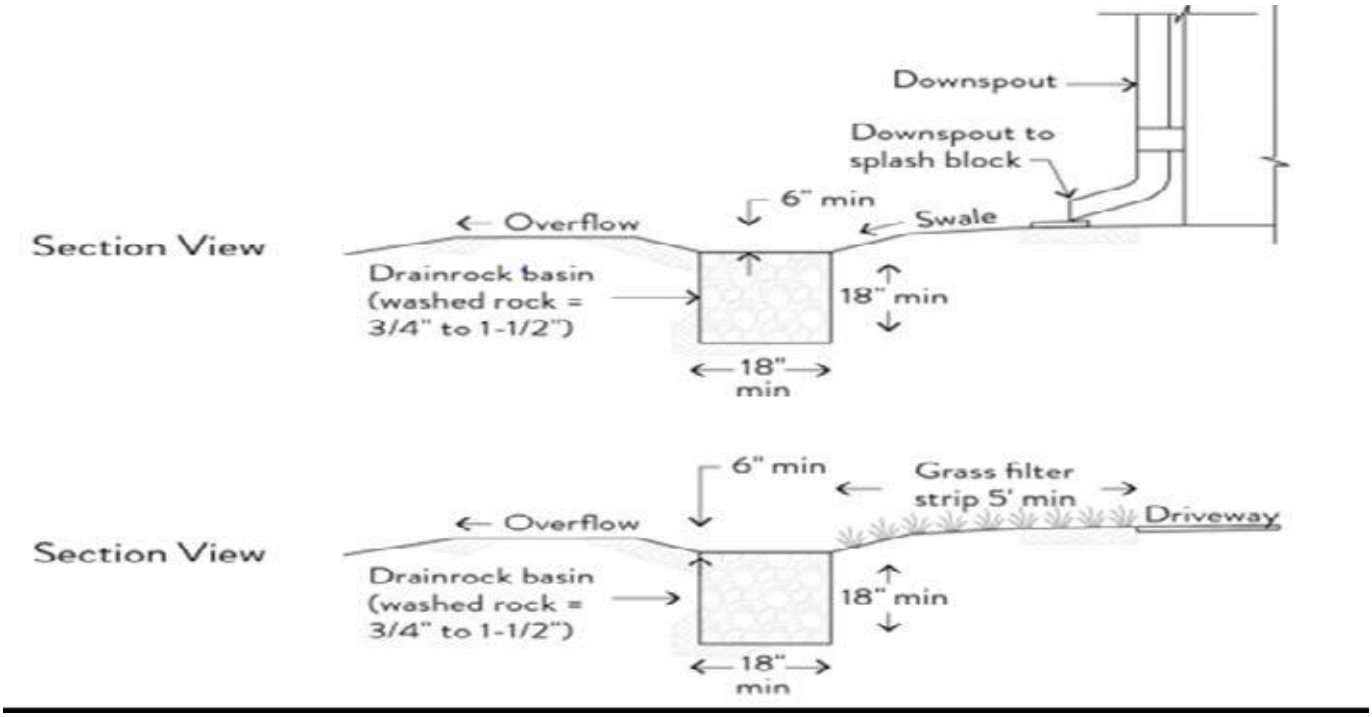


FIGURE 12: TYPICAL EXAMPLE OF DOWN SPOUT INFILTRATION

Adopted: Tanzania WASH Guidelines for HCFs

6.7.5.3 Storm water management for large HCFs

Designing and installation of storm water management practices for larger HCFs with larger than 2acres (0.8ha) or those located in flood prone areas or on steep slopes, require more in-depth drainage analysis, planning and engineering to properly manage runoff. Higher level HCFs, such as a consultant hospitals, referral hospitals and district hospitals require the installation of a piped stormed drain network to collect, convey and manage runoff in a safe and effective manner. Major considerations during design are:

(i) Complete drainage analysis to properly size drainage collection, conveyance, storage and treatment systems. The drainage analysis should be completed by a qualified engineer with experience in drainage engineering.

(ii) Design roof runoff collection systems to accommodate the peak flows from the 2-minute, 10-year rainfall equivalent to 15in (38.1cm) per hour.

(iii) Detention ponds and bio-retention swales can be constructed for temporarily detaining runoff to reduce the rate at which storm-water flows off the facility and control erosion or flash flooding down slope.

6.7.6 Operations and maintenance of sanitation facilities

Sanitation infrastructure and facilities requires careful organization and actions to ensure smooth operations and provision of maintenance services in case of structural or functional changes. Routine and periodic maintenance services are prerequisite for sustaining sanitation facilities in HCFs.

TABLE 13: KEY MESSAGE ON SANITATION AND MAINTENANCE OF SANITATION FACILITIES

(i) There should be a clear description of staff roles on management of sanitation infrastructure and services. Depending on the facility level there should be a committee consisting of a manager, supervisor(s), and attendant(s) each with assigned responsibilities in relation to maintaining sanitation infrastructure.

(ii) Toilets should be cleaned whenever they are dirty, and at least thrice a day with a disinfectant used on all exposed surfaces and a brush to remove visible soiling. Strong disinfectants are unnecessary and should not be used in large quantities (reference: Essential environmental health standards in HCF, 2008).

(iii) There should be weekly and daily cleaning schedule that specify when sanitation facilities should be cleaned and supplied with cleaning and hygiene agents. Cleaning schedule should identify persons or groups responsible for undertaking the cleaning tasks and their supervisors. The schedules should be displayed for easy access and be shared among responsible managers.

(iv) Orientation, training, and education of users is an important aspect of operations that must be implemented. Orientation materials, personnel and time should be dedicated to help new comers, regular visitors, and staff members.

(v) Operation and maintenance plan must be put in place to cover for the running and repairs of sanitation infrastructure and services. This should include regular or incidental repairs and scheduled maintenance activities.

(vi) Monitoring tools for sanitation in Health Care facilities will be developed centrally. It will be the responsibility of each individual facility to obtain tools for monitoring and evaluation exercise, and to make sure that they are being implemented on time.

(vii) Faecal sludge should be emptied when the septic tank is ¾ full.

(viii) Cleaning and maintenance inspection activities should be documented and reported in weekly meetings.

CHAPTER SEVEN

7. 0 STANDARD HYGIENE PRACTICES IN HCFS (SHPHCFs)

7.1 Introduction

This chapter provides guidelines for maintaining standard hygiene practices within the health care environment which should be adopted by the health care providers at all levels in order to minimize risks of contamination. Hygiene issues addressed in this chapter include: Hand hygiene, laundry, laboratory, hygiene in nutrition and isolation centres, kitchen management mortuary hygiene and patient care wards as well as environmental sanitation which include vectors and vermin control.

Good hygiene practices such as hand hygiene, bathing and use of personal protective equipment are very important in preventing contraction and spread of infectious microorganisms among health care staff, patients and caregivers. Hand washing with soap under running water has been proven to be one of the most simple and environment for microorganisms to survive on hands for longer periods especially in HCFs. Health Care Workers (HCWs) due to nature of their job are often more likely to be exposed to pathogenic and non-pathogenic microorganisms during patient care. Furthermore, studies have indicated that improper or inadequate hand washing provides a favorable condition for the growth and development of disease causing organism.

7.6.3 Promotion of hygiene practices in HCFs

Good hygiene practices are closely linked to hygiene behavior change as an essential part of achieving infection prevention and control in HCFs.

7.6.3.1 Approaches for promotion of hygiene practices in HCFs

There are many approaches for promoting proper hygiene practices in HCFs both among HCWs, patients and carriers.

(i) Make WASH a permanent agenda in HFCs Quality Improvement Team,
(ii) Increase funding allocation for hygiene activities,
(iii) Orientation to the HCF management on hygiene practices,
(iv) Conduct continuing hygiene education to all departments for example, inpatient wards, Reproductive Child and Health Clinics (RCH), and at Outpatient Departments (OPD),
(v) Provide information, education and communication, self-explanatory posters including SOPs on hygiene behaviours in ward walls, notice board and offices,
(vi) Provide adequate WASH facilities.

(vii) Ensure that proper hygiene practices are components of emergency response program

(viii) Developing strategies and tools to encourage hand-washing promotion by community health and outreach workers.

7.6.3.2 Sustaining hygiene practices in HCF

Each HCF should have an O&M strategy so that proper hygiene practices are maintained by staff, caregivers and patients and regularly monitored. The following hints will help HCFs to ensure good hygiene practices are maintained:

(i) Conduct regular supportive supervision on matters related to hygiene.

(ii) Prepare a checklist of issues which require regular monitoring

(iii) Prepare a working schedule which will show who is responsible for cleanliness, when and how it will be conducted.

(iv) Each HCF should, according to its working environment adopt a behaviour change and communication model which will be used by HCWs to educate client on behaviour change to improve people's behaviours on personal hygiene.

7.2 Standard guidelines for hand hygiene in HCFs

To promote hand hygiene, HCFs must have functioning hand washing stations available within the health care compound accessible to patients, visitors and staff. A hand washing station is defined as a dedicated, easy-to-access location where both soap and water are available for hand washing. A minimum recommended number of hand washing stations are as follows:

- At least one Hand Washing Station in the waiting area for visitors.
- At least one HWS in each delivery room.
- At least two HWS in a ward with more than 20 beds.
- At least three HWS in each toilet block
- At least one HWS in consultation area).
- At least one HWS in the mortuary.
- At least one HWS in area where ultra sound /X-ray facilities are provided.
- At least one HWS accessible for patients with limited mobility with the top of the sink 75cm from the floor with knee clearance underneath.
- At least one HWS in the canteen facility/kitchen.

All hand washing stations must meet the following requirements;

- Hand washing stations must have a tap and appropriate drainage to avoid stagnant water

- Hand washing stations must have the following materials available at all times: water, soap, and clean, single use paper or material towel. Multi-use towels must not be used, as they are potential sources of infection.
- Hand washing stations should be cleaned at least three times daily and drains should be monitored to avoid blockages and stagnant water.
- Hand hygiene promotion/instruction materials must be clearly visible and understandable at all hand washing stations.
- Water used at all hand washing stations must be from an improved water source

7.3 Critical moments of hand hygiene in HCFs

7.3.1 Hand hygiene in patient handling

Care has to be taken to ensure hand washing with soap and running water is practice before and after any medical procedure, Furthermore, HCWs should ensure that their hands are properly washed with soap and running water at critical moments as they can easily contaminate their hands at different occasions such as (lifting a patient, wound dressing, taking a patient's pulse, blood pressure, or oral temperature, touching a patient's hand, shoulder or groin etc). Critical moments of hand hygiene are illustrated in the below Figure 13.

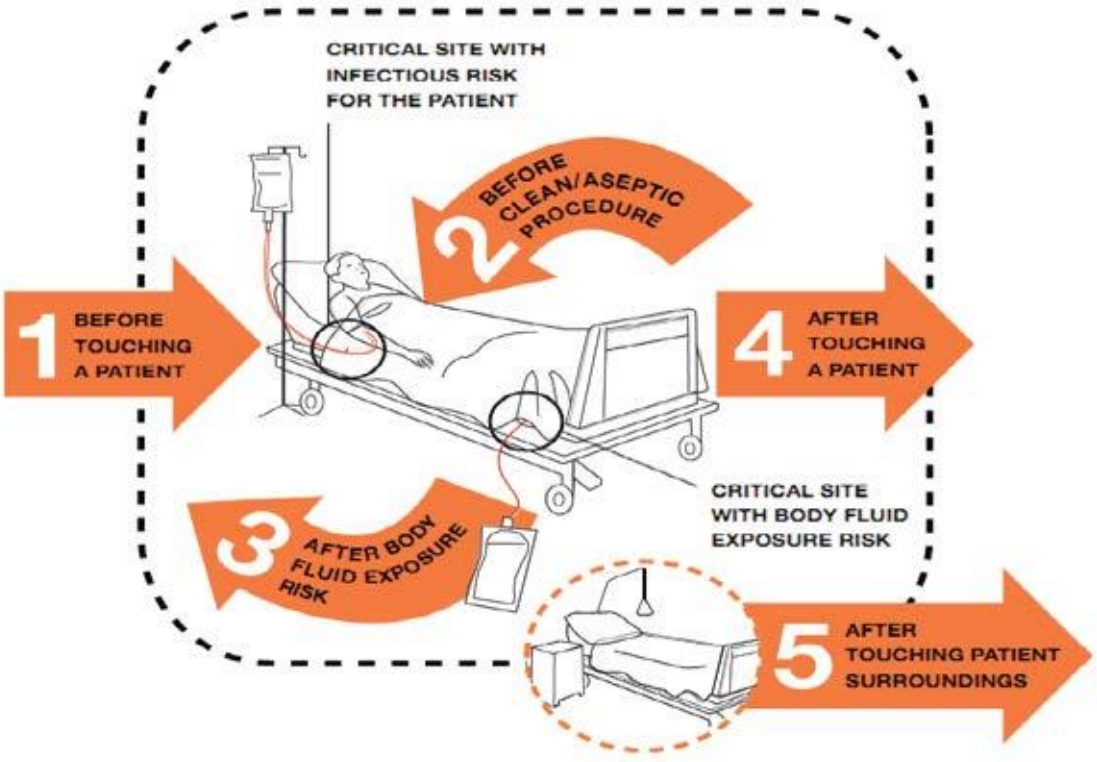


FIGURE 13: CRITICAL MOMENTS OF HAND HYGIENE IN HEALTH CARE FACILITIES

Source: *Guidelines on Hand Hygiene in Health Care (WHO, 2009)*

7.3.2 Other critical moments for hand hygiene

Apart from the moments in handling patients, proper hand washing in HCF environment should be done:

(i) When hands are visibly dirty, or soiled with blood or other body fluids.
(ii) After visiting the toilet
(iii) Before eating
(iv) Before preparing food
(v) Before entering and leaving inpatient wards or any working area of the health facility setting
(vi) After contact with inanimate surfaces and objects (including medical equipment) in the immediate vicinity of the patient
(vii) Before and after feeding a patient
(viii) Before putting on gloves and immediately after removing gloves
(ix) Before and after caring for any patient

Note:

It is a universally acceptable standard to wear gloves during all patient care activities that may involve exposure to blood or body fluids that may be contaminated with blood. However, practice should not replace the need for proper hand washing as gloves do not provide complete protection against hand contamination. Hand contamination may occur in instances where gloves are defective thus allowing some pathogens to gain access to the HCWs hands or by contamination of the hands during the glove removal.

7.4 Hand washing facilities and specifications

Hand washing facilities and materials are important for promotion of hand hygiene practices. Each HCF should have access to hand washing facilities and materials with acceptable WHO specifications.

TABLE 14: WHO SPECIFICATIONS FOR HAND WASHING FACILITIES IN HCFS

HW Facility	Specifications
Hand washing basin	• Should be made of non-porous material, round shape inside with dimensions of 25cm by 35cm depth and without overflow. • Should be of elbow, foot or automatic operating taps, uPVC traps and plastic gadgets
Soap/detergents dispenser	• Should be soap dispenser (manual or automatic)
Hand drying equipment/ materials	• Should be a centered feed hand towel dispenser • Hand drying material should be a disposable paper towel
Water supply	• Both hot and cold water should be provided
Sanitizer	• Should be used when hands are visibly clean
Waste bin	• Should be identified by color base on the waste type for easy segregation; red for maternal waste, yellow for clinical waste and black for general
Hand washing basin for differently abled	• Wheel chair accessible hand wash basin

7.4.1 Surgeon scrub - sinks

These are plumbing fixtures well equipped to enable medical personnel to scrub their hands prior to a surgical procedure. Surgical scrub sinks are essentially used in an operating theater and are designed in a way that promote proper hand washing practices and reduce any possible contamination since all operating tools are sterilized. The sinks are provided with hot and cold water supply which is activated by a knee- action mixing valve or by wrist or foot control.

FIGURE 14: TYPES OF SURGICAL SCRUB SINKS

Source: Tanzania guideline on WASH in health care facilities

7.5 Standard hand hygiene facilities usage and maintenance

(i) Hand hygiene facilities should not be dedicated to any other purpose

(ii) Hand washing facilities should be regularly inspected and cleaned to ensure they remain in good working condition.

(iii) Paper towels and detergents (soap, bleach, Dettol) should be provided at each hand washing sink.

(iv) A current hand washing guide should be posted at each hand washing sink in order to promote proper hand washing

7.5.1 Guidelines for bathroom hygiene

Bathrooms are important infrastructures for both patients and HCWs for preventing and controlling transmission of diseases. To improve hygiene practices within HCFs, it is necessary to have adequate numbers of bathrooms which correspond to the number of bed capacities and staffing levels as per

WHO standard with the ratio of patient per bathroom of 1:6. (see WHO)

A proper bathroom within the HCF should have the basic qualities as outlined below.

Minimum qualities of a bathroom in HCF

- *A minimum surface area of 3.25m^2*
- *Well drained non slippery floor*
- *Impervious walls*
- *Mixture taps for both cold and hot water*
- *Adequate lighting and ventilation for user safety*
- *Furnished with wall mounted seats with functional emergence alarm call system with free room for wheelchair movement.*
- *Bathrooms should be separated for HCWs and patients and clearly labelled to identify the type of users and sex.*
- *Bathrooms should be private and lockable from the inside.*

7.5.2 Guideline for laundry hygiene

In HCFs soiled linen harbors pathogenic microorganisms, and hence the risk of actual disease transmission from soiled linen is inevitable. Proper handling of linen will help to reduce possible risks of transmitting diseases causing microorganisms from contaminated patient linens to HCF workers and also reduce hospital acquired infections from linens to patients.

7.5.2.1 Safe handling of laundry

HCF laundries should be well designed with good drainage system easy to clean and must conform to the standards and procedures.

(i) The laundry should not be located close to the kitchen.

(ii) The laundry design should facilitate the creation of dirty and clean areas to prevent cross contamination.

(iii) A separate hand hygiene sink for staff with wall mounted dispensers for soap and paper towels should be provided.

(iv) All workers at the laundry should be vaccinated against Hepatitis B virus and TT

(v) Appropriate PPE should be worn by laundry staff as required.

(vi) There should be a changing room for staff

(vii) Washable smooth walls, edges, corners and projections with glazed ceramic tiles should be fixed up to 8 inches high.

(viii) The laundry room should have a smooth ceiling, washable surface and enough height to allow installation and repair.

(ix) Laundry containers/skips should be part of a routine cleaning schedule.

7.5.2.2 Basic principles in handling linen

All used linen should be handled with care to avoid dispersal of microorganisms into the environment and to avoid contact with staff clothing. HCFs should therefore comply with the following principles for linen used by all patients regardless of their infectious status:

(i) All used linen should be considered contaminated thus requiring cautious handling.

(ii) Appropriate PPE must be worn during the handling of soiled linen to prevent skin and mucous membrane exposure to blood and body fluids.

(iii) All linen should be disposed into an appropriate linen container at the point of care.

(iv) Linen which is heavily contaminated with blood and/or other body fluids which could leak should be contained by a leak-proof bag and secure prior to transport.

(v) Hand hygiene must be performed following the handling of all used Linen or clothing soiled with blood or body fluids should be placed in an alginate or water soluble bags at the point of care.

(vi) Linen or clothes soiled with blood or body fluids should be machine-washed using soap/detergent at or above 60°C. A biological washing powder is highly recommended.

(vii) Always hold used linen and clothing away to avoid contaminating staff clothing.

(viii) As a precaution measure, laundry service providers should avoid filling the alginate bags more than 2/3 full.

(ix) Rinsing or spraying clothes soiled with blood or body fluids by hand or carrying out manual sluicing should be discouraged.

(x) Sharps objects and other items such as incontinence wear should not be inadvertently discarded into laundry bags.

(xi) Clean and soiled linen should be stored separately.

(xii) Clean soiled mattresses by wiping with 0.5% chlorine solution and letting them dry before putting clean linen on them.

(xiii) Proper collection and transport of linen should be maintained (see the box below).

7.5.2.4 Basic guidelines for collection and transportation of HCF linen

- Used linen should be transported from the ward to the laundry in leak proof containers with lids or covers, to avoid leaking.

- Ensure extra linen is not left in patients' rooms.
- Items should be checked for cleanliness and rewashed if necessary.
- Washed linen should be placed in clean containers or on clean surfaces.
- Carts, marked trolleys or other leak proof containers are cleaned before taking clean linen back to the wards.
- Clean linen should be covered or wrapped during transportation

7.5.2.6 Standards for operating and maintaining a laundry facility

(i) There should be a working schedule for laundry and cleanliness.

(ii) Staff working in laundry should wipe down the door seals at least once a day to make sure they are dry and clean. This will prevent dirt and grime from accumulating on the door gasket, which can cause leaking.

(iii) Each day laundry staff should check all visible hoses, paying close attention to the water inlet valve hose connection on the machine's backside as well as any chemical connections.

(iv) The lint compartment and screen are to be cleaned on a daily basis. Doing so will allow electrical components to blow, maintaining proper airflow and avoiding overheating.

(v) It is important for staff to check the cylinder daily for such debris to avoid damage to the linens and the equipment.

(vi) It is also important to wipe down the outside surfaces of both washer-extractors and tumble dryers each day. This will significantly reduce the need for additional maintenance and deep cleaning caused by a build-up of lint, debris and chemical remnants.

7.5.2.7 Standard guidelines for kitchen/ canteen hygiene

Food is prone to contamination with disease causing organisms at any point during preparation, and distribution within the kitchens if good hygiene practices are not taken into consideration. Food handlers within HCFs have a role to play to ensure the prepared and served food is safe for consumption.
HCF kitchens should be well designed with good drainage system, ventilation, easy to clean, and should conform to national and international standards and procedures for running food premises.

7.5.2.8 Standard guidelines for mortuary hygiene

This refers to the hygienic maintenance of Mortuary, it specifically highlights guidelines on general cleaning, laundering and disinfection of equipment. It also provides details about the functioning of refrigerators, availability of formalin, use of PPE, vaccination, available post exposure prophylaxis, Health Care Waste Management (HCWM) and information on hand hygiene facilities.

7.6 General cleaning

These includes cleaning of the different areas such as preparation tables, chairs, lights, doors, cupboards, floors, walls, washing sinks, washrooms, fridges and windows. The general cleaning procedures in the mortuary includes:

(i) Cleaning is carried out every day in the morning hours, after every service or whenever necessary.
(ii) All parts of equipment and furniture that was used to provide mortuary services should be cleaned by using disinfectants.
(iii) Linen and mackintosh after post-mortem examination should be changed immediately
(iv) Single use gloves should be worn when handling contaminated re-useable linen and placed in a laundry bag for routine laundering.
(v) Cleaning equipment such as mop and brushes should be cleaned after use. If they are solid they have to soak in Chlorine solution 0.5% for 10 minutes and then dried.

7.6.1 Cleaning and disinfection of essential post-mortem/autopsy equipment

When cleaning and disinfecting of essential equipment for post-mortem and autopsy the following aspects should be seriously taken into consideration:

(i) Cleaning of instruments must be done in a dedicated sink and not the normal hand washing sink
(ii) Personal protective equipment preferably heavy utility gloves should be worn while cleaning
(iii) Instruments used on contact skin should be cleaned and stored in a dry place, but instruments that penetrate the skin must undergo cleaning and sterilization.
(iv) Used items should be removed from their transport containers and sorted out according to the appropriate cleaning method.
(v) If cleaning cannot be performed immediately, then instruments should be covered in warm water to prevent soils from becoming fixed, which would make cleaning difficult
(vi) Instruments should not be soaked for longer than one hour. Instruments that cannot be immersed should be cleaned immediately
(vii) Disinfectant solutions should be labelled appropriately (with the name, date and dilution strength)
(viii) Chemical disinfection should be used only for items for which sterilization and thermal disinfection are not suitable.
(ix) Sufficient and appropriate disinfectant should be 0.1% hypochlorite solution for routine mortuary work, embalming and post-mortems.
(x) Soaking should be done in 0.1% hypochlorite solution in a plastic container for 10 minutes then removed and rinsed with distilled water before being dried and stored.
(xi) Chemical disinfectant solutions should be discarded immediately after use.

(xii) The container should have a close-fitting lid.

7.6.2 Other essential aspects in maintaining mortuary hygiene

In addition to the above guidelines, other critical hygiene practices which each HCF should properly address in the mortuary environment are outlined in Table 15.

TABLE 15: OTHER CRITICAL ASPECTS IN MAINTAINING MORTUARY HYGIENE

Aspect	Precautionary measures
Appropriate PPE	• Mortuary staff and relatives should wear PPE (gloves, plastic aprons, gowns, protective eye wears, face masks covering mouths and noses, boots) when handling of dead bodies • Personal protective equipment should be removed after handling of the dead body, then wash hands with liquid soap and water immediately • Placement of boots and procedures for discarding or washing of clothing must be clearly designated. • Single use PPE must be disposed of as an infectious waste
Instrument processing	• All items must follow instruments processing procedures as laid down by National guidelines and procedures (decontamination, cleaning, high-level disinfection and sterilization)
Body storage	• Bodies should be stored in a functioning refrigerator and must be maintained at a temperature between 2 to 6^{o}C. • If long-term storage is required, the body should be maintained at approximately -20^{o}C • A body suspected of harboring infectious diseases, decomposition, trauma or suspicious deaths should be contained within a body bag which is durable and impermeable to body fluids.
Embalming chemicals	• There should be embalming chemical (formalin) to temporarily prevent decomposition and restore a natural appearance of the body
Washing facilities	• Changing rooms with shower facilities must be provided in the mortuary
Vaccination	• Hepatitis ‘B’ virus and TT vaccines should be provided to all mortuary staff

Accidental exposure to blood or body fluids	• In case of percutaneous injury or mucocutaneous exposure to blood or body fluids of the dead body, the injured or exposed areas should be washed with copious amount of water. • All incidents of percutaneous or mucocutaneous exposure should be reported
Health Care waste management	• Items classified as HCW must be handled and disposed of according to color coding as stipulated in the guidelines of HCWM

TABLE 16: TEMPLATE FOR O & M SCHEDULE FOR HYGIENE/SANITATION FACILITIES IN HCFS

Activity	**Responsible person**	**Frequency**	**Materials, fixture & fitting**	**Material, tools & equipment needed**
Cleaning surrounding areas of hand washing facilities				
Check whether taps are functioning and not leaking				
Check whether there is functioning liquid soap dispensers next to the hand				
Check whether there is soap or detergent next to the hand washing facilities				
Refilling the soap dispenser				
Check cleanliness of toilets and bathrooms				
Check cleanliness and functionality of laundry facility				
Check cleanliness and functionality of kitchen				

CHAPTER EIGHT

8.0 WASH SERVICES IN HCFS DURING EMERGENCY

Emergency situations in this guideline referred to any emerging and re-emerging diseases, or events that disrupt routine functioning of HCFs which need urgent or immediate attention. The disruption may lead to a total or partial suspension of WASH related services. These diseases or events may include; Ebola, SARS, Cholera, Meningitis, H1N1, Measles, flooding, earthquake etc.

This chapter highlights procedures in a stepwise manner to be implemented by the HCFs in collaboration with respective councils, regional level government and other related organizations such as humanitarian agencies, water supply and sewage authorities in addressing WASH issues during emergencies. It sets minimum WASH standards during emergencies regardless of type or size of HCFs in order to maintain their daily operations and patient care services. In other words, it is imperative for HCFs to have in place an emergency plan to respond to and recover from total or partial interruption of WASH services. In addition preparedness and response planning in emergencies is an integral component of WASH in HCF.

8.1 Rationale of WASH in HCFs during emergencies

An overwhelmingly surge in the number of patients resulting from these incidences may significantly increase the risks of infection transmission specifically if there is inadequate water supply, sanitation facilities and hygiene to cope with the influx of the patients. Furthermore, HCFs may find themselves having insufficient numbers of staff to deal with control, cleaning, disinfection and waste collection requirements.

It is a common phenomenon for many HCFs to face challenges and difficulties in meeting the WASH needs during such emergencies mainly due to:

i. Lack of preparedness and mitigation response plans.
ii. Lack of collaborative primary assessment of the event in all hazard approach
iii. Lack of a proper emergency management framework
iv. Inadequate capacity to respond to emergencies

8.2 Preparedness and response planning

The appropriate response to WASH in emergencies will depend on the nature of the emergency and the effectiveness of mitigation measures of the HCFs. This response will be largely determined by the availability of the appropriate response plan that has been validated through various simulations during preparedness phase. Hence, it is very much encouraged to have the response plan detailing roles and responsibilities of various sectors/actors involved.

8.3 Conducting rapid assessment of WASH

A thorough needs assessment is crucial for informing authorities and different actors on the requirements and for a successful emergency response. The needs assessment results will inform the responsible authorities at national, regional and HCF levels of the priorities and the magnitude of the problems/impacts as well as on the needs requiring external support. In this regards, the WASH sub-committee in collaboration with other members from other sub-committee will be responsible to carry out the needs assessment during emergency. This assessment will result in better understanding leading to good decision making done by the emergency response team.

8.4 Recommended guidelines for WASH in HCFs during emergencies

8.4.1 Priority response actions

In implementing the immediate emergency response actions, HCFs should aim at addressing the critical and priority needs resulting from an emergency. In this regard, they will be required to itemise the common priority needs depending on the nature of the emergency. First priority response actions should aim at reducing chances of:

1) Infections to health care workers who are providing services at the HCFs or designated emergency centres.
2) Infections amongst the affected communities being attended at the HCF or in designated emergency centres.

8.4.2 Water supply

8.4.2.1 Emergency water supply:

In determining how much water supply (quantity and quality) will be required during the emergency, the HCF should first carry out a water use audit which will involve:

(i) Working out estimates of the quantity of water required to continue with operation of essential functions so as to meet the emergency demands as stipulated in this guideline.
(ii) Identifying which functions are essential to protect patients' safety and should remain in operation. This could include such functions as medical gas and ventilator if compressors are water cooled,
(iii) Identify functions that can be temporarily restricted or eliminated (e.g. elective surgery, routine outpatient clinic visits) in the event of an interruption of the facility's water supply,
(iv) Determining the steps required to restrict or eliminate some functions temporarily. For instance, this could include transferring of new acute patients to unaffected facilities,
(v) Finding out any other available alternative water supplies,

(vi) Identifying other emergency water storage measures.

8.4.3 Water quantity:

HCFs must ensure that sufficient quantities of water are available to meet all the minimum daily requirements such as infection control and medical activities, drinking, laundry, bathing, hand washing, and cleaning. This may require interventions to repair the water supply or power supply if the water system requires power to function. It may also involve the installation of temporary water storage facilities such as demountable steel water tanks, bladder tanks or polyethylene tanks. Table 17 shows the recommended minimum water quantities during emergencies

TABLE 17: RECOMMENDED MINIMUM WATER QUANTITIES FOR HCFS IN EMERGENCIES

Users/ Area	Quantity of Water Required
Staff	5 litres/consultation
Outpatients	5 litres/consultation
Inpatient	40-60 litres/patient /day
	15 litres/carer /day
Operating Theatre or Maternity Unit	100litres /intervention
Dry / Supplementary Feeding Centre	0.5–5 litres/consultation (depend on waiting time)
Wet Supplementary Feeding Centre	15 litres/consultation
Inpatient Therapeutic Feeding Centre	30 litres/patient/day
	15 litres/carer/day
Cholera Treatment Centre	60 litres/patient/day
	15 litres/carer/day
Acute Respiratory or Isolation Ward	100 litres/patient/day
	15 litres/carer/day
Viral Hemorrhagic Fever Isolation Ward	300–400 litres/patient/day
	15 litres/carer/day

Adopted: *Water, sanitation and hygiene in HCFs in emergencies (WHO, 2012)*

8.4.4 Water quality:

Infection control and prevention is of paramount importance in HCFs during emergencies. Except for water specifically prepared for specific medical purposes such as dialysis, all water supplies in the HCFs regardless of their use should therefore be treated with chlorine to drinking water standards. The purpose is to provide microbial safety in emergencies. In case the HCF is dealing with diarrheal epidemic, the

level of residual chlorine should be increased to 1mg/l at end points. However, for other emergencies, the free chlorine residual after each contact time should be between 0.5 and 1.0mg/l.

Similarly, effective disinfection will require that water has a low turbidity. The median turbidity should be below 1 nephelometric turbidity unit (NTU). In emergency cases however, the turbidity level should not exceed 5-NTU otherwise water should be treated to remove suspended matter before disinfection.

8.4.5 Sanitation services emergency control measures:

In times of emergencies, the influx of clients in HCFs is likely to render the existing toilets unsanitary leading some users to resort to open defecation (OD). In order to rectify this situation HCFs should:

(i) Maintain general cleanliness in and around the toilets. This will be effective if the HCF increase the number of cleaners and constant surveillance on the use of toilets.
(ii) Construct additional toilets when required
(iii) Conduct hygiene sensitization regarding the importance on the use of toilets
(iv) Provide temporary emergency WASH facilities such as pit latrines, are provided at the beginning of an emergency or disease outbreak.
(v) Construct improved toilets if the outbreak persists for more than 21days.

TABLE 18: ESSENTIAL EMERGENCY CONTROL MEASURES IN HCFS

Effect suspected	Control measures
Excreta disposal	• Provide sufficient numbers of staff toilets for both male and female • Provide sufficient toilets for patients and caregivers for both male and female • Provide toilets for people with special needs for both male and female • Avoid contamination of water sources • Provide sound drainage system
Wastewater disposal	• Properly dispose wastewater from hand washing facilities, bathing, cleaning and laundering • Provide sound drainage system • Provide properly functioning septic tanks and soakage pit or public sewer
Storm water management	• Design storm water drainage to prevent carrying potentially infectious material away from the HCF into the community • Frequently clean storm water drainage to avoid blockage

Health-care waste management	• Safely segregate, store, collect, transport, treat and dispose of health-care waste. • Provide adequate coloured coded containers with liners and covers for health care waste segregation. • Provide HCWs with appropriate personal protective equipment. • Construct a fence around HCF collection point • Empty collection bins whenever necessary • Orient/ re-orient HCWs on health care waste management best practices

8.4.6 Ratio of users per Stance**:** It is inevitable that due to the influx of people during the emergency the number of toilet units cannot remain one unit per 20 users as recommended in normal situation. In such situation the minimum requirement is one unit per 50 users.

8.4.6.1 Inpatient settings**:** If the HCF experience a rapid increase in the number of patients or other temporary facilities are being installed as a response to the emergency, the initial planning should target for one stance per every 20 users. However, in case a large number of patients are using bed pans, the number of stances can be rationalized accordingly. It is recommended that the number of female to male stances should be 2:1

8.4.6.2 Outpatient settings: The number of toilets will vary from one HCF to another with larger outpatient settings having more toilets than smaller ones. The recommended ratio should be two separate toilets for staff (for female and male users), two for female patients, two for male patients, and two for children (two for female and another for male children).

8.4.6.3 Toilets for people with special needs: These include toilet users who are very sick, under five children, pregnant women, elderly, or differently able individuals. HCFs should reserve at least one emergency toilet for each of these people (one toilet for male and female users).

8.4.6.4 Signposting: All toilets should be signposted to help users to find them much easier and to avoid interference of users.

8.4.7 Personal Protective Equipment (PPE)

The provision of PPE is of paramount significance to all HCWs involved in the mitigation process in order to keep them safe against the established threat. The PPE might empower and give them the needed capacity and capability in saving lives and environment at large. Various PPE might be needed depending

on the nature of the event/emergency, they include gloves, gowns, boots, masks, goggles and other various incident related materials that are known to confer effective protection in the restoration of WASH services.

8.4.8 Establish an operational monitoring system

A key requirement in identifying control measures is that their performance can be monitored. Thus, operational monitoring procedures should be established for each newly identified or existing control measure. Operational monitoring is used to assess the performance of individual control measures to ensure that they are working effectively, as designed. Monitoring frequencies should be compared with the established target in the response plan to ensure the corrective actions are mounted timely to prevent loss of lives and environment. Monitoring should not only be established quantitatively but also qualitatively accomplished to effectively mitigate the situation by doing:

(i) Simulation/exercise
(ii) After action review
(iii)Assessment report

During the response, the coordinating body may ask actors to provide them with frequent (weekly, bi-monthly, monthly – depending on the nature of the response) reports on key WASH indicators so they can track the progress of the overall WASH in health-care facilities response.

CHAPTER NINE

9.0 LANDSCAPING AND VECTOR/VERMIN CONTROL

9.1 Introduction

This chapter deals with two other critical issues related to environmental cleanliness and control of diseases within the HCFs, namely landscaping and vector/vermin control. It will help HCFs to ensure that their environment is kept clean, attractive and pleasing to staff and clients, at the same time minimizing risks of acquiring vector/vermin borne diseases. Walk ways connecting different departments of the facility should be appropriate for both able and differently able persons with roof against rains and extreme conditions.

9.2 Landscaping, gardening and outdoor spaces

Landscaping on one hand, refers to activities that aim at modifying or altering the visible features of land within and around the HCF so that it may become more attractive by adding ornamental features and or planting trees. Landscape should be considered and integrated into any facility design to produce well- planned exterior environment. Landscape should be designed in conjunction with covered waiting areas, taking into account proximity of waiting areas to check-in and diagnostic consultation rooms. Each HCF should designate special room for storing out of order hospital equipment and furniture. HCFs should be fenced for security and privacy, keeping out stray animals as well as limit tress passers to improve outdoor environment and amenity.

Gardening refers to the act or craft of growing plants, flowers or special shrubs with a purpose of creating a beautiful environment within the HCF landscape. Planting of trees and flowers should be used as strategy for providing shade, air purification, dust control, and noise pollution buffering. Cleaning of gardens including drainage should be done on daily basis, to keep the Health Facility clean and conducive for both patients and caregivers.

Attractive outdoor environment in HCFs is said to have psychological and social positive impacts on both HCWs, patients and caregivers. Outdoor spaces play a critical role in the creation of dignified environments for treatment and infection control. Playing areas for recovering children or those accompanying sick parents, should be safe and comfortable for both children and their caregivers. HCFs should allocate and mark a space for parking transport facilities e.g. bicycles, motorcycles and vehicles.

9.3 Operational and maintenance (landscape and garden)

The following actions should be taken in order to maintain the cleanliness of HCF's surroundings;

(i) Cleaning of gardens and drainage on daily basis

(ii) HCFs fences should be well maintained leaving no chance for stray animals such as dogs, pigs, donkeys, goats, sheep and or trespassers to enter the HCF premises.

(iii) All damages on the landscape should be identified timely and measures taken immediately to repair them.

(iv) All wastes (blood and blood products, sharps, bandages, cotton etc.) should be well managed and disposed of properly.

(v) Damage or unused furniture and appliances should be stored properly prior being disposed off.

9.4 Vector and vermin control

Vector and vermin control is an important aspect in the prevention of diseases in HCFs using an integrated approach. Vectors and vermin's can serve as vehicles for the transmission of diseases, therefore there control in health care facility is of paramount importance. For effective control it is important to conduct an assessment before applying vector or vermin control measures to determine the extent of infestation. Fumigation/indoor residual spray should be done at least every six months in order to eliminate vermin and vector. In addition, HCFs should ensure that only certified or registered pesticides are used during fumigation.

TABLE 19: VECTOR /VERMIN CONTROL MEASURES

Vermin/vector	Control measures
Bats	• Roofing of health facilities should be accompanied with clear polycarbonate roofing sheets or transparent roofing sheets • Use light bulb in areas where bats reside as bats tends to escape from light. • Provide tight fitting, weather stripping, screen openings such as windows, doors and chimneys covered with hardware screens. • Use naphthalene beads or pellets to repel
Bed bug	• Maintain cleanliness in all health facility setting • Provide clean clothes to all in patients (IPD)Use insect repellents or insecticides (malathion, lindane) • Plaster/ re-plaster cracked walls.

	• Change bed sheets daily
House flies	• Reduce sources that attract flies from other areas e.g. through proper garbage management, proper covering of pit latrine. Use fly proof screen with plastic coating and openings of 1.5 mm or less
Mosquitoes	• Conduct social mobilization to motivate personal and family protection, health education and community involvement and participation • Remove all long grasses around the HCF, dispose all stagnant water • Conduct daily and weekly environmental cleanliness • Dispose any item likely to cause outdoor water stagnation. • Conduct biannually indoor residual spraying by using WHO recommended insecticides • Reduce human-mosquito contact by using Long Lasting Insecticide treated mosquito Nets and window mosquito screening. • Destruct mosquito larvae by peri-domestic sanitation and conduct larviciding of water surfaces, intermittent irrigation and sluicing.
Termites	• Conduct monthly termite inspection in the HCF premises to determine any presence of infestation • Treat the soil around and beneath the building with termiticide • Don't store firewood, lumber, or other wood debris against the foundation or inside the crawl space. • Use wood or laminated texture-flavored cellulose, impregnated with a toxicant and/or insect growth regulator. • Discourage termite attacks, by building with metal termite shielding and the shielding should extend at least 2 inches out and 2 inches down at a 45° angle from the foundation wall • Ensure proper drainage and repair of plumbing to prevent moisture of HCF building foundations

	• The recommended insecticide for termite control is GLADIATOR 4 TC
Cockroaches	• Reduce sources that attract cockroaches from other areas e.g. through proper garbage management • Eliminate habitat and prevent entry and maintaining hygiene in food stores and kitchen • Use of insecticides and traps
Rats	• Maintain proper sanitation including waste management • Eliminate habitat and prevent entry • Use rodenticides to kill rats and other similar rodents which harbor fleas. • Use pyrethroids, such as permethrin, to kill adult fleas, and pyriproxyfen (Nylar Archer), and methoprene (Precor), to suppress flea eggs, larvae and pupae. • Use rat traps where necessary
Pets & Small Ruminants	• Fencing of HCFs • Kill stray dogs/cats • Prohibit entry of pets

CHAPTER TEN

10.0 PERSONAL HYGIENE

10.1 Introduction

Proper hand washing with soap and running water in health care facility at critical times such as before doing a procedure, after doing a procedure, after using the toilet, before and after preparing food remains a challenge in HCFs. Series of factors have been identified as potential contributors to this poor health behavior, key among them is the limited access to proper hand washing facilities at health care settings. Limited awareness on the importance of hand washing with soap and running water remains a challenge. This unhealthy behavior has led to an increase in the cases of nosocomial infection particularly among staff, patients and caregivers. Other factors that influenced the practice of hand washing in HCFs include availability of running water, hand washing stations, adequate sanitary materials (soap, and detergents).

The importance of basic sanitation is recognized by government of the Gambia and as such stipulated in the NDP 2018-2021; “The availability of basic sanitation facilities for the general population contributes to improvement of the health of the people. Government will therefore mobilise the needed resources, including through private sectors to construct, rehabilitate and upgrade sanitation facilities and hand washing stations for improve access to basic sanitation and ensure good hygiene practices in the communities and institutions. It is equally important to strengthen social and behavioural change communication to improve the socioeconomic wellbeing of the people through mass media, drama, theatre groups on basic sanitation and good hygiene practices sensitization campaign for communities and institutions to adopt, which will enhance improved health of the population and productivity”.

Although most HCFs have an existing hand washing facilities, it is evident that there is no hand washing stations for visitors, caregivers and patients in most cases except in outbreaks, or epidemics situations

Therefore, this tool will serve as a guideline for health care workers, patients and authorities concern in its implementation.

10.2 Personal Hygiene for Health Care Workers in Health Care Facility Setting

Personal hygiene is a necessity of life. Staying clean helps in building relationships, staying healthy, and raises self-esteem for everyone. Practicing a hygienic lifestyle means washing and maintaining all parts of the body that affect appearance and smell with regular bathing, brushing teeth, and the washing of hair.

In a HCF, it is especially important for Health Care Workers to stay clean and take care of their personal hygiene. After all, staying clean helps maintain a healthy environment for patients. In fact, poor hygiene can lead to the spread of diseases.

10.2.1 Tips for personal hygiene for health care professionals:

Bathe before and after every work shift

Bathing before and after every work shift should be part of a health care workers basic personal hygiene routine. Bathing helps prepare one for a busy day at work especially where there's critical need to be clean for patients' health and that of the health care worker. It's best to use unscented soaps while bathing as any lingering scent or perfume could trigger an allergic reaction in some patients. Bathing and washing hair will help prevent the spread of germs and diseases in everyday interactions with patients. Bathing facilities or wash rooms should therefore be provided for health care staff both male and female. To address menstrual hygiene needs for female health care workers, the bath rooms / wash rooms should be equipped with facilities to ensure they are able to take baths within the work environment whenever they need to.

Wash hands with soap and clean water

Health Care Workers should make sure to thoroughly wash their hands throughout the work day in a health care facility setting. Many infections, like the common cold, are caught when unwashed hands that contain germs and bacteria, touch items shared with others. According to the Center for Disease Control and Prevention, hands and wrists should be washed with warm water and soap while rubbing for 15 seconds. It is important for HCWs to remember to wash hands with soap and clean water after each meal and when they encounter each patient. If alcohol-based hand sanitizer is used, rub hands until they are dry. Water and soap (or alcohol based hand rubs) should be made available in all key areas of the facility for ensuring safe hand hygiene practices.

Clean work outfits

A health workers outfit (usually scrubs) will get dirty on many occasions. Spills, bodily fluids, and other matter can get on your clothes when working with patients. Health Workers should ensure to wash their clothes immediately they get home to from their shift to kill germs and get rid of stains right away. Washing clothes right away will help keep their homes germ free, limit the spread of germs to patients, and keeps a health workers appearance tidy.

Brush teeth at least twice daily.

It is very important for health workers to brush teeth at least twice a day as this greatly helps in improving their personal appearance and health. Since health workers interact closely with patients, their families, and co-workers all day, need to be presentable and brushing teeth before a work shift will certainly help them maintain clean teeth and good breath. Smiling is an important social skill for health workers that can help patients feel better hence the need for them to keep their teeth clean at all times for brighter smiles and good appearance all day.

Trim and keep finger Nails short

Health Workers should make sure finger nails are trimmed and presentable at all times because long nails can get in the way of working and they can quickly become unsanitary. They should avoid wearing long acrylic nails, these could get in the way when handling tools or helping patients. Patients and their families may feel more comfortable and confident with someone who takes care of their appearance. Short, well-kept nails will also help hands fit into gloves!

Health care workers represent their HCF so it's necessary for them to look their best. Taking care of one's self shows patients that you know how to care for others and staying hygienic will aid in the healthcare of your patients. Health care workers who feel good about themselves, are likely to feel more confident at their job! Health Care Administrators should therefore ensure that health care workers are reminded to maintain their personal hygiene as a top priority for their own health and that of their patients, care givers and coworkers.

10.3 Personal hygiene for food handlers in Health Care Facility Settings

Good personal hygiene can prevent food poisoning. Bacteria that cause food poisoning can be on everyone – even healthy people and can be spread from someone to the food if they touch their nose, mouth, hair or clothes, and then food. Good personal hygiene also makes good business sense, customers like to see food-handling staff who take hygiene seriously and practice safe food handling.

Thoroughly washing hands with soap reduces the chance of contaminating food with bacteria from someone preparing and serving food. Food handlers in HCF settings should; always wash hands with soap and warm water, not forgetting the back of their hands, wrists, between fingers and under fingernails. Thoroughly dry hands immediately after washing them. Hands should always be dried with a clean towel, disposable paper towel or under an air dryer although swinging them without touching any part of the body is preferred. The important thing is to make sure hands are completely dry. Never use tea towels or clothes to dry hands and this is likely to increase the risk of contamination.
Hands should be washed after:

- Going to the toilet
- Handling raw food
- Blowing the nose
- Handling garbage
- Touching the ears, nose, mouth or other parts of the body
- Smoking
- Every break
- Handling animals.

10.3.1 Personal hygiene tips for food handlers

To prevent food poisoning using good personal hygiene, the following tips should be followed:

- Hands should be washed and dried thoroughly before handling food, and wash and dry them again frequently during work. Water and soap should be available in all key areas (kitchen and cafeteria) for ensuring safe hand hygiene practices.
- Dry hands with a clean towel, disposable paper towel or under an air dryer
- Avoid smoking, chewing gum, spitting, changing a baby's nappy or eating in a food handling or food storage area
- Do not cough or sneeze over food, or where food is being prepared or stored
- Food handlers should wear clean protective clothing, such as aprons while preparing food.
- Spare clothes and other personal items (including mobile phones) should be kept away from where food is stored and prepared.
- Food handlers should keep their short, tied back or covered at all times.
- Fingernails should be kept short so they are easy to clean, and don't wear nail polish because it can chip into the food
- Food handlers should avoid wearing jewelry, or only wear plain-banded rings and sleeper earrings.
- Care should be taken to completely cover all cuts and wounds with a wound strip or bandage (brightly colored waterproof bandages are recommended)
- Food handlers should wear disposable gloves over the top of the wound strip if they have wounds on their hands and change disposable gloves regularly.
- Food handlers should inform their supervisor if they feel unwell, and don't handle food.

10.4 Personal Hygiene Facilities required for HCF settings

10.4.1 Bathing facilities

For in-patient settings, bathing facilities should be made available for staff and patients in order to address personal hygiene needs. Bathing facilities should meet the following requirements:

- Bathing facilities should be provided at a ratio of one facility for every 40 users, which includes staff, patients and visitors.
- Separate bathing facilities should be available for staff and patients/visitors.
- Patient/visitor bathing facilities should be separate for males and females.
- Bathing facilities should be private and lockable from the inside.
- Bathing facilities should include chairs, railings and other aids to ensure accessibility and usability of those with limited mobility.
- Water in bathing facilities should be sufficient and from an improved water source.
- Bathing areas should be adequately lit, including at night.

CHAPTER ELEVEN

11.0 COMMUNICATION ISSUES TO ADDRESS WASH IN HCFS

The provision, promotion and utilization of WASH service cannot be achieved without blended with some form of behavior change communication. Therefore, below are some WASH communication issue to be discussed at HCFs for adaptation.

Communication issue

11.1 Improper hand washing in HCFs

Current Behaviors

- Non adherence to universal safety precautions at facility level (washing hands before and after doing a procedure.)
- Mothers and care givers clean their children without soap and running water.
- Poor attitude of staff, patient and caregivers towards proper hand washing and personal hygiene.eg long finger nails.

Ideal Behaviors

- Wash hands with soap and running water before and after every procedure.
- Mothers and care givers should wash their hands properly after cleaning their children with soap and running water.
- Improved attitude of staff, patient and caregivers towards proper hand washing and personal hygiene.eg cutting finger nails short.
- The availability and usage of paper towel for drying hands.

Barriers to Ideal Behaviors

- The unavailability of hand washing station in critical points at HCFs.
- The inadequate supply of soap and detergents.
- Inadequate supply of portable water in HCFs.
- Attitudes of heath care workers, patients and caregivers
- Low awareness on the benefits of proper hand washing for caregivers and patients.
- Non cutting of finger nails by healthcare workers, patients and caregivers.

Target audience (program participants)

Primary	***Secondary***	***Tertiary***
Health care workers, Patients, caregivers and visitors	Health facility administration, health center management committee, Catchment Area Committee.	Local Government Authorities (Chiefs and Alkalos, Area Council), Regional Health Directorates, Department of Water Resources.

Key Messages

- *Hand washing with soap and running water after using the toilet, before preparing food and before feeding a child will help to remove the germs from your hands and prevent diarrhea and worm infestation*
- Wash hands with soap and running water before and after every procedure.
- *Wash your hands separately under running water with soap to remove dirt*
- *Frequent washing of hands with soap and running water can save life*
- *Adhere to proper hand washing practices at all levels in HCFs.*
- *Regular communication on proper hand washing practices with patients, caregivers, visitors and care givers*

Enabling factors

- Availability of soap, detergents and running water at all times and at all critical points.
- Access to information about the importance of proper hand-washing
- Administrative and financial support.
- Availability of SOPs on hand washing techniques at HCFs.

Channel/medium of delivery

Communication strategy	**Channel/Medium of delivery**
Interpersonal Communication	Posters, discussion cards SOPs and flip charts pre-clinic health talks on proper hand washing.
Communication and Social Mobilization	Radio and TV programs, leaflets, billboards, Administration, Health Facility Management Committee, Catchment Area Committee, Local Government Authorities Regional Health Directorate, Department of Water Resources.

Communication issue

11.2 Poor management of toilet facilities in health care settings.

Current Behaviors

- Poor up keeping or management of toilets in our HCFs.
- Delay in emptying and maintenance of septic tanks.
- In adequate toilets in some HCFs.

Ideal Behaviors

- Regular cleaning and maintenance of toilets particularly public toilet in health care settings.
- Emptying and proper management of septic tanks.
- Seeking advice and support from relevant authorities in the provision and construction of toilets for HCFs.
- Providing latrines with covers/proper doors to avoid flies access.
- Latrines at strategic location to be accessed by all in a health care setting.

Barriers to Ideal Behaviors

- Not enough toilets available.
- Improper up keeping or maintenance of the latrines (foul odour /over flow of septic tanks) especially public toilets.
- Number of users not proportionate to the number of latrines available
- Infant faeces and control of children diapers.

Target audience (program participants)

Primary	***Secondary***	***Tertiary***
Health care workers, Patients, caregivers and visitors	Health facility administration, health center management committee, Catchment Area Committee.	Local Government Authorities (Chiefs and Alkalulos, Area Council), Regional Health Directorates, Department of Water Resources.

Key Messages

- *Human faeces contain harmful germs that can contaminate the surrounding and cause diseases*
- *Latrines should be built at strategic location to be accessed by all in HCFs*
- *Public latrines for caregivers and visitors are everybody's property. Therefore, it should be properly manage and maintain to prevent contamination of the environment.*
- *Latrine must have features like: good concave washable slab with good footrest, a cover, a superstructure that provide privacy for users, a vent pipe, door, no risk contaminating underground water.*
- *Latrines should be sited 30 metres away from water source and at least 10 metres from a kitchen.*
- *Hand washing stations, soap, detergents, basin should be available at health facilities*

Enabling factors

- Availability of toilet facilities at all health facility levels
- Availability of soap and detergents at all times
- Access to information about the importance of proper hand-washing
- Administrative support
- Availability of clean portable water

Channel/medium of delivery

Communication strategy	**Channel/Medium of delivery**
Interpersonal Communication	Posters, discussion cards SOPs and flip charts pre-clinic health talks on proper hand washing.
Communication and Social Mobilization	Radio and TV programs, leaflets, billboards, Administration ,Health Facility Management Committee, Catchment Area Committee, Local Government Authorities Regional Health Directorate, Department of Water Resources.

Communication issue

11.3 Poor solid waste management

Current Behaviors

- Littering by health workers, visitors, caregivers and patients
- Allowing waste receptacles to over flow
- Delay in the collection of healthcare waste by orderlies, heath laborers and the cleansing services
- Use of inappropriate waste receptacles
- Lack of organized waste management systems in health facilities(e.g. inadequate/lack of color coded waste plastic bags)
- Dumping of waste at undesignated sites (drains, abandoned wells, empty lands etc.)
- Not sorting waste at the point of generation
- Burning of inorganic waste in the health facilities (plastics)

Ideal Behaviors

- Hygienic management of solid waste in HCFs
- Identifying designated dump sites for solid waste disposal
- Sorting waste at generation stage
- Identifying appropriate waste disposal receptacles
- Placing waste bins at strategic locations in the health facilities

Barriers to ideal Behaviors

- Inadequate knowledge on proper waste management
- Inadequate designated sites for waste disposal in the HCFs
- Inadequate appropriate waste disposal receptacles
- Attitudinal behavior towards waste disposal
- Irregular and untimely collection of waste

Target audience (program participants)

Primary	***Secondary***	***Tertiary***
Health care workers, Patients, caregivers and visitors	Health facility administration, health center management committee, Catchment Area Committee.	Local Government Authorities (Chiefs and Alkalos, Area Council), Regional Health Directorates, Department of Water Resources.

Key Messages

- *Indiscriminate dumping of solid waste is unhygienic because it can spread diseases and exposed people to other hazards*
- *Dump sites should be at least one 30m away from ward/staff quarters and should be well kept by the healthcare facility staff or attendants.*
- *Participate in the national cleansing days for a clean and healthy nation*
- *All healthcare waste should be put in a good and appropriate waste receptacle.*
- *The standard galvanized metal or plastic bin with tight fitting lid is the best receptacle.*
- *Open dumping attracts flies and other vermin such as rats, snakes, scavenging birds, pigs and dogs.*
- *Open dumping can also contaminate our wells and other sources of water.*
- *Open dumps can become a nuisance when the wind blows (foul odor)*
- *Organic waste (papers, leaves, clothes and grass) can be burnt or buried.*
- *Waste receptacles should not over flow or leak to cause health hazards*
- *Regular and timely collection can prevent waste accumulation and reduce risk of transmitting disease.*
- *Healthcare waste should be segregated for proper disposal*

Enabling factors

- Waste bins should be located in strategic locations in healthcare facilities
- Designated dump site identified in healthcare facilities
- Continuous awareness campaigns on solid waste management
- Increased public-private sector partnership on solid waste management
- Regular conduct of national cleansing exercises (set-setal)
- Refuse collecting vehicles available at the levels of Municipal/Area Councils
- Presence of Anti-Littering Act
- Availability of a National Sanitation and Hygiene Policy and WASH guideline on healthcare facilities
- Regular supervision by concern authorities (NEA and MoH&SW)

Channel/medium of delivery

Communication strategy	Channel/Medium of delivery
Interpersonal Communication	Posters, discussion cards SOPs and flip charts pre-clinic health talks on proper hand washing.
Communication and Social Mobilization	Radio and TV programs, leaflets, billboards, Administration, Health Facility Management Committee, Catchment Area Committee, Local Government Authorities Regional Health Directorate, Department of Water Resources.

Communication Issue

11.4 Poor liquid waste management

Current Behaviors

- Waste water from bathroom stagnating in the surroundings.
- Noxious water flowing from premises of the health facilities causing bad odor
- Water Stagnating within the health facility premises particularly during the raining season
- Indiscriminate disposal of liquid waste at health facility levels
- Indiscriminate disposal of waste water used for washing children nappies/clothes/diapers
- Stagnation /backflow of waste water within health facility

Ideal Behaviors

- Healthcare facility should ensure that all waste water from water closets empty into good sewage system such as septic tanks or cesspools
- Water from bathroom/enclosures must drain into a well-constructed soak-away
- Timely disposal of water waste in receptacles.
- Health Care Management Committee (HCMC)/Catchment Area Committee (CAC) taking ownership of health facility environment and collectively protect it.

Barriers to Ideal Behaviors

- Inadequate capacity of septic tanks
- Inadequate fund for operation and management of waste water
- Inadequate knowledge on proper liquid waste management
- Attitudinal behavior towards liquid waste disposal

Target audience (program participants)

Primary	***Secondary***	***Tertiary***
Health care workers, Patients, caregivers and visitors	Health facility administration, health center management committee, Catchment Area Committee.	Local Government Authorities (Chiefs and Alkalos, Area Council), Regional Health Directorates, Department of Water Resources.

Key Messages

- *Allowing waste water from bathroom to the surroundings is unhygienic and can cause the spread of diseases.*
- *MoH, HCMC, CAC should ensure that soak-away are provided to facilitate drainage*
- *Stagnant water around water sources can contaminate underground water*
- *Consumption of contaminated water is hazardous to health*
- *Disposal of waste water into open pits is an unhygienic practice*
- *It can attract flies, contaminate the surrounding and emit noxious odor.*
- *Stagnant water can be an ideal ground for the breeding of disease carrying insects like mosquitoes*

Enabling factors

- Availability of soak away/septic tank/cesspool emptier by business companies
- CAC/HCMC taking ownership
- Increasing the level of awareness
- NEMA Act, Public health act, Healthcare waste management plan
- Enforcement of the anti-littering law by the councils
- Compound inspection by Public Health Officers and NEA Officers
- Continuous awareness campaigns on liquid waste management
- Increased public-private sector partnership on liquid waste management
- Regular conduct of national cleansing exercises (set-setal)
- Refuse collecting vehicles available at the levels of Municipal/Area Councils
- Presence of the Public Health Act
- Availability of a National Sanitation and Hygiene Policy
- Regular supervision by concern authorities (NEA and MoH)

Channel/medium of delivery

Communication strategy	Channel/Medium of delivery
Interpersonal Communication	Traditional Communicators, Community Drama Groups, Village Support Groups
Communication and Social Mobilization	Radio and TV programs, posters, leaflets, billboards, Village Development Committees, District Authorities, Women Groups

11.5 Poor cleansing and sterilization of working tools, children's toys and the environment in HCFs

Current Behaviors

- The inadequate or poor cleaning of working tools. E.g. trays, suction tubes, delivery trays, dressing sets, laboratory tools, children's toys etc.
- Improper sterilization methods/techniques of working tools in HCFs.
- Improper cleaning of our work places and environment in the health care settings.
- Lack of cleansing exercises due to inadequate cleansing material and personnel in HCFs
- Health care units like Center for Surgical Sterilization Department(CSSD),Infection Control Unit are responsible for sterilization activities and awareness

Ideal Behaviors

- Health care facility should be free from dirt's, bushes/grasses and stagnation.
- The health care facility should be clean regularly with detergents and disinfectants.
- Hospital beds, trays, trolleys, mattresses, linens, toys and wards should be washed, disinfected and fumigated routinely.
- Dressing tray, drums, delivery trays, operation gowns and other surgical sets must be sterilized at CSSD.

Barriers to Ideal Behaviors

- In adequate staffing, old aged staffing.
- Poor staff motivation,
- Inadequate working tools
- Inadequate capacity building (training and retraining) of the staff.
- Poor occupational health and safety measures in the HCFs.

Target audience (programs participants)

Primary	***Secondary***	***Tertiary***
Health care workers, Patients, caregivers and visitors	Health facility administration, health center management committee, Catchment Area Committee.	Local Government Authorities (Chiefs and Alkalos, Area Council), Regional Health Directorates, Department of Water Resources.

Key Messages

- Maintaining the cleanliness and hygiene of a health care facility is a pre-requisite for the delivery of quality health care services
- Adequate human resources are catalyst for proper health care service delivery.
- Maintaining a clean environment every ones responsibility.
- Surgical materials in the HCFs should always be washed clean and sterilized before usage.
- Health care facility theatres, admission wards, and labour wards should be fumigated on a quarterly basis.
- Vaccination of all health care workers against Hepatitis B, C and other vaccine preventable disease.

Enabling factors

- Availability of soap, detergents and running water at all times and at all critical points.
- Provide information, education and communication, self-explanatory posters including SOPs on hygiene behaviors in ward walls, notice boards and offices in HCFs.
- Administrative and financial support.
- Availability of working tools in the HCFs.

Channel/medium of delivery

Communication strategy	Channel/Medium of delivery
Interpersonal Communication	Posters, discussion cards SOPs and flip charts pre-clinic health talks on proper hand washing.
Communication and Social Mobilization	Radio and TV programs, leaflets, billboards, Administration ,Health Facility Management Committee, Catchment Area Committee, Local Government Authorities Regional Health Directorate, Department of Water Resources.

Communication issue

11.6 General cleaning and disinfection of essential post-mortem/autopsy equipment and mortuary.

Current Behaviors

- Lack of mortuary, mortuary staff and equipment's in most health care facility.
- The inadequate or poor cleaning and disinfection of post mortem/autopsy equipment's in most HCFs.
- The inadequate supply of water and electricity in the mortuary of the health care facility
- Lack of SOPs in mortuary operation and management HCFs

Ideal Behaviors

- Mortuary should be special built, equipped and adequately spaced for the proper service delivery.
- Health care mortuary and its equipment's should be disinfected and fumigated routinely.
- Mortuary attendants should be adequately trained and skilled in handling corpse.
- There should be adequate water and electricity supply in the health care facility mortuary.

Barriers to Ideal Behaviors

- In adequate specially built, equipped and a spacious mortuary for hygienic and safe keeping.
- Inadequate routine disinfection and fumigation of health care mortuary.
- Inadequate training of mortuary attendants in the handling of corpse.
- Inadequate water and electricity supply in mortuary in HCFs.
- Lack of proper sanitary facilities for mortuaries in the HCFs.
- Lack of Personal Protective Equipment's in mortuary services.

Target audience (program participants)

Primary	***Secondary***	***Tertiary***
Health care workers, Patients, caregivers and visitors	Health facility administration, health center management committee, Catchment Area Committee.	Local Government Authorities (Chiefs and Alkalos, Area Council), Regional Health Directorates, Department of Water Resources.

Key Messages

- Maintaining the cleanliness and hygiene of a health care facility mortuary is a pre-requisite for the delivery of quality health care services
- Adequate water supply and electricity should be available at all times.
- Maintaining a cleanliness of a mortuary is every ones responsibility.
- Mortuary materials in the HCFs should always be washed clean and disinfected.
- The sewage water from the mortuary should be properly disposed
- Vaccination as per guideline for all mortuary attendants.

Enabling factors

- Vaccination as per guideline for all mortuary attendants e.g. Hepatitis B.
- Availability of soap, detergents and running water at all times.
- Availability of SOPs Self-explanatory charts in mortuary services.
- Administrative and financial support for mortuary.
- Availability of working tools (PPE) in the HCFs mortuary.

Channel/medium of delivery

Communication strategy	**Channel/Medium of delivery**
Interpersonal Communication	Posters, discussion cards SOPs and flip charts pre-clinic health talks on proper hand washing.
Communication and Social Mobilization	Radio and TV programs, leaflets, billboards, Administration, Health Facility Management Committee, Catchment Area Committee, Local Government Authorities Regional Health Directorate, Department of Water Resources.

11.7 WASH services in emergency

Current Behaviors

- Lack of WASH in Emergency preparedness and mitigation response plans for HCFs
- Lack of proper WASH in emergency management framework
- Lack of collaborative primary assessment of events in all hazard approach.
- HCFs are not prepared for any emergency
- Lack of simulation exercises in WASH in emergency.

Ideal Behaviors

- Provision of WASH in Emergency preparedness and mitigation response plans for HCFs
- Provision of proper WASH in emergency management framework
- Prepositioning of essential WASH packages before emergency.
- Collaborative primary assessment of events in all hazard approach.
- HCFs should be prepared for any emergency at all times.
- Ensure simulation exercises of WASH services in HCFs before emergency.

Barriers to Ideal Behaviors

- Unavailability of WASH in Emergency preparedness and mitigation response plans for HCFs
- No WASH in emergency management framework
- Prepositioning of essential WASH packages before emergency.
- No collaborative primary assessment of events in all hazard approach.
- HCFs are not prepared for any emergency at all.
- No simulation exercises of WASH services in HCFs before emergency.

Target audience (program participants)

Primary	***Secondary***	***Tertiary***
Health care workers, Patients, caregivers and visitors	Health facility administration, health center management committee, Catchment Area Committee.	Local Government Authorities (Chiefs and Alkalos, Area Council), Regional Health Directorates, Department of Water Resources.

Key Messages

- HCFs should be prepared for emergency services at all times
- Prepositioning of essential WASH package before emergency can save life.
- Live you save might be your own before and during emergencies.

Enabling factors

- Availability of WASH in Emergency preparedness and mitigation response plans for HCFs
- Availability of proper WASH in emergency management framework
- Prepositioning of essential WASH packages before emergency.
- Timely collaborative primary assessment of events in all hazard approach

Channel/medium of delivery

Communication strategy	**Channel/Medium of delivery**
Interpersonal Communication	Posters, discussion cards SOPs and flip charts pre-clinic health talks on proper hand washing.
Communication and Social Mobilization	Radio and TV programs, leaflets, billboards, Administration, Health Facility Management Committee, Catchment Area Committee, Local Government Authorities Regional Health Directorate, Department of Water Resources.

CHAPTER TWELVE

12.0 MONITORING OF WASH IN HEALTH CAREFACILITIES

12.1 Introduction

Improving and managing WASH services requires strong and consistent monitoring mechanisms to measure progress and direct efforts where needs are greatest. This chapter provides guidance on how to prepare and conduct monitoring of the implementation of WASH interventions in HCFs. It accounts the rationale for conducting monitoring, indicators to be monitored in emergencies and during routine monitoring.

In addition, the chapter provides the tools to be used for collecting data during monitoring activities at different levels such as national, regional and facility levels. Furthermore, timeline for data collection, persons responsible at each levels, as well as steps for data quality management, reporting frequency and development of monitoring plan are detailed.

12.2 Rationale for the monitoring of WASH services in HCFs

The primary objective of monitoring WASH services in HCFs is to measure the extent to which the set guidelines, (i.e. according to WHO minimum WASH standards in HCFs) are adhered to. Through the process of monitoring key stakeholders at different levels, HCF, regional and national levels will be informed of the WASH status and actions needed for improvement. The periodic feedback on the WASH status in HCFs is critical in making informed decisions aimed at maintaining improved WASH in HCFs in the country.

In this context, monitoring will involve:

(i) Measuring the level of adherence by the HCFs in maintaining the minimum standards of WASH services as prescribed in this guidelines

(ii) Identifying any shortfalls in the O&M of WASH facilities

(iii) Alerting actors at different levels of the needed remedial actions either in the design construction or use of the WASH facilities

12.3 Monitoring WASH system in Emergency

A key requirement in identifying control measures is that performance are monitored. Thus, operational monitoring procedures should be established for each newly identified or existing control measure. Operational monitoring is used to assess the performance of individual control measures to ensure that

they are working effectively as designed. Monitoring frequencies should be compared with the established target in the response plan to ensure the corrective actions are mounted timely to prevent loss of lives. Monitoring should not only be established quantitatively but also qualitatively accomplished to effectively mitigate adverse emerging, therefore the following shall be periodically reviewed:

(i) Simulation/exercise
(ii) After action review
(iii) Assessment report

During the emergency response, the coordinating body may ask actors to provide weekly reports on key WASH indicators so as to track progress of the overall WASH in health-care facilities response.

Routine monitoring of WASH interventions HCFs

12.3.1 What to monitor?

Monitoring of WASH in HCFs will be regular, primarily aim at providing the HCF Management Teams and other stakeholders with information on the provision of minimum standards of WASH services. In order to achieve this, several indicators have been developed to guide the monitors on what they should look for during the process. In this regards, indicators have been developed around key aspects of WASH namely; water availability and accessibility, adequate accessible sanitation and hygiene facilities, vector/vermin control systems and Communication issues in HCFs.

12.3.2 Who monitors and when?

Institutionally, the health sector under the stewardship of the M&E Unit is responsible for monitoring and following up of implementation and progress as well as status of WASH services in all HCFs in the country. However, in order to ensure ownership of the process a bottom-up participatory approach will be adopted in accessing the data, starting from HCFs, regional and eventually through national level. The monitoring is schedule weekly, monthly and quarterly by the facility team, regional team, and national team respectively.

WASH monitoring will therefore be undertaken at three levels namely; HCF, regional and central or national level. In this way monitoring teams will be structured in a cascading manner from the HCF to the national level.

TABLE 20: KEY ACTORS INVOLVED IN MONITORING OF WASH IN HCFS

Level	Involved Actors	Specific Monitoring/Follow up Tasks
HCF Level	• In charge of HCF/ Chief Executive Officers • Designated health care staff.ie. PHO • SMT • HCF Management Committee/CAC • Infection control unit • Community Health Structures: CBC/VHW, VSGs &VDC • CHN/VHS (Max-6 members)	• Establish in-house routine monitoring and follow up of WASH services within HCF and implementation of remedial actions e.g. repairs and maintenance of WASH facilities • Coordinate monitoring process within HCFs • Collect data using the provided tools • Submission of collected data to WASH/MoH&SW for validation through RHD • Provision of health education on WASH during RCH and on discharge • Responsible for all operations in the facility including community mobilization for action at the facility. • Fund approval and allocation of non-professional operations
Regional Level	• RHD • ALL Officers in-charge of Health facilities or Chief Executive Officers • ALL Desk Officers (PHO) • Department of Water Resources • DCD	• Establish a team for overseeing data collection on WASH status in all HCFs within the region • Provide oversight on the monitoring process of WASH status in HCFs within area of administration • Validate and compile collected data for submission to MoH&SW through WASH Unit • Oversee health services in the regions
National Level	• WASH Unit • M&E Unit • ICT • Water Quality Unit • Water Resources • Environment Unit • Stakeholders (UNICEF, WHO)	• Design, refine and review national monitoring framework for WASH in HCFs • Define monitoring indicators and standards of WASH in HCFs • Store national performance data on WASH from different HCFs and regions • Provide technical advice to HCF and RHD on monitoring and follow up process of WASH in HCFs • Review monitoring reports from regions • Under take periodic visits for quality assurance of monitoring process • Organize national review meetings for key stakeholders (Biannual) • Compile/aggregate data on national level WASH status in HCFs

NB: ***The National WASH Technical Working Group to be setup and launched with clear TOR.***

12.4 Reporting

Reporting of progress in the implementation of WASH interventions in HCFs should be done by the different actors at different levels in the following manner:

12.4.1 Facility Level

Endorsed report from the Health Officers/OIC or Team, should be submitted monthly to the RHD.

12.4.2 Regional level

RHD shall review the facility reports and send narrative summary of the regional consolidated report to WASH Unit and copy MoH/M&E by the Tenth day of the first month of the following quarter using the standard reporting template. The team should verify the data in the system and against the hard copies submitted by Hospital or Health Facility Level Officer. Quarterly, the RHD to physically visit all facilities within the region and ascertain WASH service conditions.

12.4.3 National Level

Provide comprehensive national WASH in HCFs report compiled from the regional reports to depict the realities of WASH in HCF in The Gambia. This report should be produce biannually/annually and timely shared with key stakeholders.

12.5 Selection of WASH Core Indicators:

12.5.1 Water supply Monitoring

Water is available from an improved source located on premises.

- Proportion of HCF with an improved water supply on premises
- Proportion of HCF with an improved water supply with water available

12.5.2 Sanitation Monitoring

Improved sanitation facilities are usable for staff, patients and caregivers. Provide at least three separated toilet sets (for male, female and differently able) for staff, in-patients as well as for out-patients. According to WHO recommendations each toilet serve a maximum of 20-25 persons per toilet. Basic service Waste is safely segregated into at least three bins and sharps and infectious waste are treated and disposed of safely.

- Proportion of HCF with improved toilets which are usable
- Proportion of HCF with improved toilets which are sex-separated

12.5.3 Hygiene Monitoring

Basic service Functional hand hygiene facilities (with water and soap and/or alcohol based hand rub) are available at points of care, and within 2 meters of toilets.

- Proportion of HCF with hand hygiene facilities at points of care with water and soap and/or alcohol hand rub available
- Proportion of HCF with hand washing facilities within 2 meters of toilets with water and soap available

12.5.4 Waste Water Monitoring

Basic service Basic protocols for cleaning available, and staff with cleaning responsibilities have all received training.

- Proportion of HCF with infectious waste safely treated/disposed
- Proportion of HCF with sharps waste safely treated/ disposed

12.5.5 SBCC Monitoring

- Availability of instructions for staff, patients and caregivers on hygiene and sanitation
- Evidence of WASH issues discussed at HCF meetings

CHAPTER THIRTEEN

12.0 Sustainability of WASH in HCFs.

Sustainability is a concept used to ensure that activities – regardless of the place or the time they happen – result in a long-term positive impact on the environment and its inhabitants, or at least do not have negative impacts.

The issues regarding sustainability of improved WASH services in HCFs should not be overlooked during planning and designing. The purpose is to ensure that the constructed facilities and capacities built continue to provide the intended services for a longer period. Therefore, a clear sustainability strategy should be embedded in the WASH plans so that the facilities are properly looked at after construction. The sustainability strategy should include continuous awareness raising, capacity building, O&M plans and reliable sources of funding for WASH facilities in HCFs.

There are five key principles of sustainability that need to be addressed to achieve structural impact of these guidelines.

12.1 Principles of sustainability

12.1.1 Institutional sustainability

Institutional sustainability in the WASH sector means that WASH systems, institutions, policies and procedures at the local level are functional and meet the demand of users of WASH services. Households and other WASH service users, authorities and service providers at the local and the national level are clear on their own roles, tasks and responsibilities, are capable of fulfilling these roles effectively and are transparent to each other. WASH stakeholders should work together in the WASH chain through a multi-stakeholder approach to ensure that an enabling environment is provided for smooth provision of WASH services in HCF's at all times.

12.1.2 Technical sustainability

Technological sustainability of WASH services is reached when the technology or hardware needed for the services continues to function is maintained, repaired and replaced by local people and it is not depleting the (natural) resources on which it depends for its functioning. Hospital Directors, Boards, HCF personnel, local Authorities and communities benefitting from HCF should be empowered to properly use, maintain, repair and replace WASH facilities for effective functionality.

To achieve these WASH interventions in HCFs should adopt to locally available technology and hardware which is understood by local mechanics. Trainings should be offered for local technicians and

masons especially training of trainers to ensure human resource is in place to provide services for O&M of WASH facilities.

12.1.3 Environmental sustainability

The element of environmental sustainability implies placing WASH interventions in the wider context of the natural environment and implementing an approach of integrated and sustainable management of water and waste (-water) flows and resources. WASH interventions connect to and affect the natural environment and hence people's livelihood. Focus areas should include among others the promotion of safe and environmentally sound health care waste management and leveraging on clean energy technologies (e.g. solar power) for piped water systems to enhance quality, accessibility and safety of health care services.

12.1.4 Social sustainability

Social sustainability refers to ensuring that the appropriate social conditions and prerequisites are realized and sustained so the current and future society is able to create healthy and liveable communities. Social sustainable intervention is demand-driven, inclusive (equity), gender equal, culturally sensitive and needs-based. For WASH in HCF, health care workers, patients, caregivers and surrounding communities should be empowered to lobby and advocate for basic WASH services where these are lacking and improved services where necessary.

To achieve Social sustainability, capacity building and awareness creation through sensitization of various stakeholders on their roles and responsibilities in ensuring HCFs have basic WASH services in place to enhance safety, quality and accessibility of health care services.

Creating a culture of continuous improvement makes everyone responsible for monitoring and achieving the highest level of cleanliness and quality of care. Staff can be motivated to improve WASH in each facility through coaching, ongoing learning, recognition and incentives.

Each health facility needs someone responsible for system operation, maintenance and environmental sanitation; that person requires training, adequate compensation, and a budget for repairs. Ideally, that person is empowered to take steps to improve the system, including changes in staff behaviour. For this reason, it is helpful to build the skills and credibility of support staff, and to ensure they are represented at higher levels of management. HCF directors who recognize the importance of WASH and are accountable for it help ensure compliance and continuous improvement.

12.1.5 Financial sustainability

Financial Sustainability means that continuity in the delivery of products and services related to water, sanitation and hygiene is assured, because the activities are locally financed (e.g. taxes, local fees, local financing) and do not depend on external (foreign) subsidies. To ensure that WASH services in HCFs are sustained, duty bearers (Ministry of Health and Social Welfare), hospital boards, regional administrators, hospital directors etc. need to plan and budget for WASH service needs and have them embedded in government plans for rolling funds to be apportioned on an annual basis.

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Annex 2: Monitoring Framework for WASH Implementation and Performance

Topic	Indicator	Frequency	Key Issues to Monitor	Means of Verification	Who to Interview	Data Collector
Water	Water availability within 50 meters	Quarterly	Within 50 meters Between 50 to 100 meters; 100 meters and beyond These include the following: piped, public tap, standpipe, tube well/borehole, protected dug well, protected spring, rain water	Observation	Health Facility in charge	Public Health Officer/SMT
Water Access (distance to Source)	If no piped water on-site HF, what is the average walking time to and from the main source of water? (including waiting time)	Quarterly	Minutes		Health Facility in charge	Public Health Officer/ SMT
Water reliability	During the past 3 months, how many times was the water supply from this source interrupted for more than two hours at a time?	Quarterly	Number of incidents	Facility record	Health Facility in charge	Public Health Officer
	Is there water storage tank	Quarterly	Available with storage capacity enough for use more than three days	Observation	Health Facility in charge	Public Health Officer
Water quality assessment	Is water for drinking or cleaning treated	Weekly	Is water for medical use and drinking have chlorine residue of between 0.2 to 0.5mg		Water quality unit	Public Health Officer

Topic	Indicator	Frequency	Key Issues to Monitor	Means of Verification	Who to Interview	Data Collector
Sanitation Access	Is there a toilet in functioning condition that is available for general outpatient client use?	Quarterly	These include the following: Flush/pour flush to piped sewer system or septic tank or pit latrine, (ventilated improved pit (VIP) or other) with slab, composting toilet.		Health Facility in charge	Public Health Officer
Sanitation	How many of the mentioned (outpatient) toilets are currently functioning?	Quarterly	No functioning toilet=1,Improvedtraditionaltoilet		Health	Public Health Officer/SMT
	Is there toilet for special needs male and female	Quarterly	Number of toilets for category		Health Facility in charge	Public Health Officer
Hygiene	Soap and running water or sanitizers based hand rub	Monthly	1 – observed; 2- reported, not seen; 3 – not available	Signed cleaning roster	Health Facility in charge	Public Health Officer/SMT

Topic	Indicator	Frequency	Key Issues to Monitor	Means of Verification	Who to Interview	Data Collector
Disinfectant	Disinfectant	Monthly	Chlorine-based or other disinfectant used for environmental disinfection.	Signed refill roster	Health Facility in charge	Ward Environmental Health Officer
Drainage	All waste water re- moved rapidly and safely	Quarterly	1–observed;2-reported,notseen;3–not available		Health Facility in charge	Ward Environmental Health Officer
Laundry	Sound drainage sys-tem(no stagnant water)	Quarterly	1–observed;2-reported,notseen;3–not available		Health Facility in charge	Ward Environmental Health Officer
Health Care Waste Management	Segregation and Collection procedures	Quarterly	Availability of color-coded waste-bin Unavailability of color-coded waste-bin	observation	Health Facility in charge	Ward Environmental Health Officer
	Elimination of Health Care waste	Quarterly	Availability of functional incinerator	Observation	MOHSW	Ward Environmental Health Officer
Vector and vermin control	Absence of disease vector and vermin	Quarterly	1–observed;2-reported,notseen;3–not available		Health Facility in charge	Ward Environmental Health Officer

Annex 3: Quick checklist for HCF

Index	Check For:	Mark as appropriate	Remarks
Water supply	Within the HCF		
	Outside the HCF		
	Improved source		
	Unimproved source		
Sanitation	Number of toilet facilities for		
	staff		
	inpatients		
	Outpatients		
Hygiene	No of hand washing facilities		
	No in good condition		
	No not in good condition		
	No of waste bins		
liquid	No with/ without covers		
	Presence of stagnating water		
vector	Species/types infestation		
Pets			

Annex 4: Detail construction of a boreholes

Mechanical methods are used to develop boreholes. Below are the steps to be followed in constructing boreholes:

❖ **Selection of the water well site*:*** This is a preliminary stage of investigations involving hydro-geological survey in order to access information on the composition of the ground, water discharges and quality. In order to undertake hydro-geological survey, HCFs will have to use specialized professionals from respective Councils or Water Resources Offices (WROs) who will execute the survey and interpret the results. As a matter of practice, boreholes should not be drilled within a short distance so as to avoid sharing the same aquifer. The recommended distance from one borehole to another should be 300 m apart unless there is acceptable data indicating the contrary.

❖ **Actual drilling*:*** There are several drilling methods which can be applied depending on the location of the HCF and the geological formations of the area such as type of terrain, nature of aquifer and above all the financial implications. Generally, percussion and rotary drilling methods are the most applicable techniques for drilling in igneous and metamorphic rocks.

❖ **Water well development*:*** This activity is commonly done before the pumping test is carried out and it aims at removing all finer particles which can block easy movement of water in the well so as to attain the maximum yield.

❖ **Wate*r* well completion*:*** This step is a preparation of a well for use which will include installation of casing, screen and gravel pack in order to ensure sand-free operation at maximum yield, pump testing, and water sampling and installation of a water-lifting device to raise groundwater into a reservoir tank. The major factors which should be considered in well completion will include:

(i) Concreting the area and capping the borehole

(ii) Protecting the area against pollution, risk of flooding and other possible sources of contamination

(iii) Ensuring that the well head design will prevent the borehole from being flooded

(iv) Filling the completion form explaining clearly the lithological column

(v) Formal registration of the borehole by WBO

(vi) Commissioning of the borehole and labeling