National Standard for WASH in Health Care Facilities (HCF) of Nepal

Ministry of Health and Population,

Government of Nepal

Message

Foreword

Acknowledgements

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Abbreviation

HCF- Health care facilities

WASH- Water, Sanitation and Hygiene

WHO- World Health Organization

UNICEF- United Nations Children's Fund

GLAAS- Global Analysis and Assessment of Sanitation and Drinking-Water

PHCC- Primary Health Care Center

HP- Health Post

CGD- Child, Gender and Disable

OPD- Out-patient Department

IPD- In-patient Department

PPE- Personal Protective Equipment

HCWM- Health Care Waste Management

SDG- Sustainable Development Goal

WASHFIT- Water and Sanitation for Health Facility Improvement Tool

Chapter 1

Background

Water, sanitation and hygiene (WASH) in health care facilities are prerequisites for quality health service and people-centered care. If the health care facilities is clean and provide safe health-care facilities, it increases trust and demand for services, improve the experience of care, strengthen staff morale and performance, and emphasize the role of staff as a role model for the community for setting community hygiene norms.

Addressing the problems on WASH in HCF, World Health Organization released the Essential Environmental Health Standards in Health Care in 2008; subsequently UNICEF and WHO along with several partners launched the Global Action Plan on WASH in Healthcare Facilities in 2014, to increase momentum around the issue. Several additional resources have been developed since to support national measures to address infection prevention and control and water, sanitation and hygiene in health care settings. Based on those policies and standards, national policies (National Standard, Manuals, guidelines framework) have been prepared in several countries. A single policy document that responds to the unique context of Nepal is urgently needed. In Nepal, there are different types of health care facilities from center to peripheral and there may be questions on quality of service. In this line, there is no consistency in service delivery due to insufficient and inadequate infrastructure including WASH. For smooth service delivery, there is dearth of minimum national standard and guideline in WASH in Nepal so that it will address the problems and threats created by poor WASH in HCF.

Objective

The National Standards and Guidelines of WASH in Health care facilities has been developed based on WHO's Essential environmental health standards in health care 2008. The standard and guideline major objective is to provide basic standards and their guidelines of water, sanitation and hygiene in different level of health care facilities.

Specifically the standard and guideline will,

- Support health in charge, health care worker, and support staff to ensure WASH services in health care facilities and effectively deliver quality health care services.
- Encourage patients and visitors to utilize health care facilities, and can learn and practice life-long positive hygiene behaviors and contribute WASH standard in their own HCF.

Rational

In low- and middle-income countries, WASH services in many health care facilities are not satisfactory because 38% of health care facilities (HCF) do not have an improved water source, 19% have poor sanitation and 35% unavailability of water and soap for hand washing [1]. The

lack of services compromises the ability to provide safe and quality care. The Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS) is an UN-Water initiative implemented by WHO which reveals that over half (52%) of countries do not have targets for hygiene in health care facilities and over a third do not have targets for sanitation (35%) or water (44%) [2]. The standard of WASH in HCF is directly linked with quality of health service because health-care associated infections affect between 5% and 30% of patients, although the figures could be significantly higher in some contexts [3]. The associated burden of disease is extremely high, which is a significant drain on health-sector and household resources, and disproportionately affects vulnerable members of society. There is a challenge to meet the targets of SDGsl particularly on health, i.e SDG 3 (ensure healthy lives and promote well-being for all at all ages) and WASH i.e. SDG 6 (ensure availability and sustainable management of water and sanitation for all).

Adding to above, better WASH services strengthen the resilience of health systems to prevent disease outbreaks, allow effective responses to emergencies (including natural disasters and outbreaks) and bring emergencies under control when they occur.

HCF would be the role models for hygiene and sanitation and replicate the sanitation movement in Nepal. Standard and guideline of WASH for HCF in the country will make government and civil society accountable and sensitive to provide more resource on WASH to overcome the current situation.

Health-care facilities are environments with a high prevalence of infectious disease agents. Not only the patients, health-workers, carers but also general public who live near the facilities on the routes of the health care wastes face unacceptable risks of infection if environmental health is inadequate. The health-care setting might even become the origin of typhus, diarrhoeal like diseases.

Table 1.1 shows the risks related to environmental health in health-care facilities with some preventive measures. But, this standard will not cover all the environmental determinants, however, only the highlighted under the topic of WASH.

Table: 1.1: Disease risks and preventive measures in health-care settings

Disease risk	Prevention measures
Airborne infections (e.g. *Legionella*, avian influenza, SARS, tuberculosis)	• Ventilation • Space available per patient • Spacing of beds • Use of separate rooms for highly vulnerable or infectious patients • Use of masks and correct incineration of wastes
Water-, food- or handborne infections (e.g. HEV, diarrhoea)	**• Water supply (quality and access)** **• Excreta disposal** **• Hygiene facilities** **• Food hygiene** **• Hand hygiene**
Infection of wounds/surgical incisions from contaminated water, medical devices and	• Use of single-use medical devices and dressings • Pre-disinfection • Cleaning and sterilization of instruments and dressings

dressings (e.g. sepsis)	• **Good-quality water** • Asepsis in surgical or dressings procedures
Bloodborne infections due to contaminated needles and syringes, unsafe blood transfusion (e.g. HBV, HCV, HIV)	• **Health-care waste management and use of single-use needles and syringes** • Safe blood transfusion
Heat- and cold-related stress and discomfort (e.g. higher fever)	• Heating, ventilation, air-conditioning (HVAC) and insulation
Vector-borne disease transmission (e.g. malaria, dengue, leishmaniasis)	• **Control of disease vectors in and around buildings** • Protection of patients • Protection of infrastructure

HBV, hepatitis B virus; HCV, hepatitis C virus; HEV, hepatitis E virus; HIV, human immunodeficiency virus; SARS, severe acute respiratory syndrome
(Ref: Essential Environmental Health Standards in Health Care, 2008)

Types of health care Settings:

According to *Nepal Health Infrastructure Development Standards 2017,* there are nine different tiers in Healthcare facilities, and in this standard, we have mainly categorized into five and have added outreach service sites and mobile camps. The tiers include both government and private hospitals and clinics as following:

Table: 1.2: Categories of HCF in National WASH standards

Tiers of HCF settings	Category of healthcare facility (from NHIDS-2017)	Services provided by healthcare facility
Large Health care settings	Tertiary hospital, super specialty hospital, Federal health science academy-	• Provides a range of outpatient and inpatient care • Provide referral and specialized services • Disease transmission risks are substantial, given the presence of infectious patients and extended contact with other patients, staff and carers. • Substantial human resources capacity, with medical, nursing, pharmacy and technical services staff potentially able to contribute to infection control
Medium Health care settings	Primary and Secondary Referral Hospital with services like-	• Referral hospital catering basic health services, outpatient and inpatient services, basic plus surgical services, 24 hr emergency services • Disease transmission risks are substantial, given the presence of infectious patients and extended contact with other patients, staff and carers. • Substantial human resources capacity, with medical, nursing, pharmacy and technical services staff potentially able to contribute to infection control
Small health care	Health post, community	• Ward level health facility catering basic

settings	health units, Urban health promotion centre	health services accompanied with birthing centres, SRH. • Provides outpatient care and outreach activities include primary health-care centres in rural, periurban and urban areas. • Support from the health authorities may be inadequate, particularly in remote rural areas and poor peri-urban areas. • There is normally no inpatient care, disease transmission risks are limited.
Outreach services	Outreach Service sites	• Provides outreach services, EPI clinic, PHC-ORC, immunization clinic • There is normally no inpatient care, disease transmission risks are limited.
Mobile camps	Temporary/mobile camps-	• Medical and surgical cases • There is normally no inpatient care, disease transmission risks are limited.

Implementation of the standards:

There are essential steps at federal, provincial, and local level as presented in Table 1.3. The three levels presented in the table are intended as a general illustration of how related activities are required at different levels in context of Nepal.

Table: 1.3: Provision of the implementation of the standards at Federal, Province and Local levels

S. No	Federal	Provincial	Local
1	Review existing national policies and ensure that there is a national policy framework that supports improved conditions in HCSs.	Raise awareness on environmental health in HCFs among key stakeholders at district level.	Mobilize support from health workers, local communities and other local stakeholders to achieve and sustain a healthy health-care environment. Promote a working climate that encourages patient and staff safety.
2	Ensure that national bodies exist for setting and monitoring standards	Ensure that an appropriate body or service exists at district level for overseeing compliance with national standards.	Create and assign responsibility to a local body to oversee the implementation of national standards at HCS level. Promote a working climate that encourages patient and staff safety.
3	Provide national expertise and knowledge through information dissemination mechanisms	Provide expertise and resources for assessment and planning at local level.	Assess existing conditions, consult local stakeholders (including staff and local community) and plan improvements and new developments.
4	Review national standards	Ensure that the national	Define a set of targets, policies

	and add to them if needed. Ensure that there is an effective regulatory framework that encourages and supports compliance.	regulatory framework is reflected in guidance and support for compliance at district level. Develop and use guidelines where national standards do **not exist.**	and procedures for implementing national standards and/or guidelines in a way that reflects local conditions. Define how targets, policies and procedures will be applied.
5	Provide and/or facilitate funding for national programmes	Allocate funding for planned improvements and new developments.	Seek funding for planned improvements and new developments.
6	Monitor progress at national level and promote consistent application of standards in all regions and at all levels.	Ensure oversight of improvements and new developments to ensure the consistent application of **national standards in all HCFs**	Oversee implementation of planned improvements and new developments
7	Produce training and information materials appropriate to a range of health-care settings. Ensure appropriate curriculum for health-care worker training.	Provide appropriate training and information to health-care workers.	Provide advice and training to health-care workers and patients.
8	Periodic review and update of policies, standards, training contents, evaluation and monitoring tools.	Inform key stakeholders at district level on updated environmental health **components in HCFs**	Mobilize support from health workers, local communities and other local stakeholders to improve, achieve and sustain a healthy health-care environment. Promote a working climate that encourages patient and staff **safety.**

Role and Responsibility:
Table 1.4 presents the role and responsibilities of stakeholders at provincial and local levels. It also outlines some of the things they can do to help achieve and maintain adequate sanitary conditions and overall healthy environment in the health-care settings.

Table: 1.4: Role and Responsibilities while implementing the standards

9	Patients	• Comply with the standards and guidelines for use and care of WASH facilities and observe hygiene practice by staff of HCF
10	Patient families and carers	• Comply with the standards for use and care of WASH facilities and observe hygiene practice by staff of HCF
11	Health Facility operation and Maintenance (HFOMC)	• Plan and implement WASH activities for achieving and maintaining the WASH targets • Active and Regularly go through the plans and its achievement and continuous follow up for achieving the WASH targets

12	Health care workers	• Comply the guidelines/standards should be included Carry out disease prevention work such and Hand hygiene, HCWM, consistently and well • Care for and maintain WASH facilities • Encourage patients and care taker to adopt appropriate hygiene behaviours. • Actively participate in achieving and maintaining targets/ goals set on WASH promotion plan
13	HF Incharge	• Comply the standard/guidelines and monitoring/assurance of compliance of standard/guidelines • Plan and implement WASH activities for achieving and maintaining the WASH targets
14	Support staff	• Carry out disease prevention work such and cleanliness of HCF, HCWM, consistently and well • Actively work in achieving and maintaining targets/ goals set on WASH promotion plan
15	National and international funding Bodies	• Provide funding for new HCFs, upgrading or renovation of existing ones and ongoing maintenance of targets.
16	Other Communities	• Participate in disease control sessions through community health • organizations that might exist. • Report on health-care waste found outside HCFs.

Chapter 2

Service levels

National standards on Water, Sanitation and Hygiene in Health Care Facilities has tried to capture the basic and advance service level of water, sanitation and hygiene according to the SDG, have defined some characteristics of advance service level.

Service level	Water in Health Facilities	Sanitation in Health Facilities	Hand Hygiene in Health Facilities	Waste Disposal in Health Facilities
Advanced	To meet all the requirement as defined at WASH guideline for advanced level (section 3)			
Basic	Water from an *improved* source is *available on premises*	Improved toilets are usable, separated for patients and staff, separated for women and allowing menstrual hygiene management, and meet the needs of people with limited mobility	Hand hygiene materials, either a basin with water and soap or alcohol hand rub, are available at points of care and toilets	Waste is safely segregated into at least three bins in the consultation area and sharps and infectious wastes are treated and disposed of safely

Some of the **key definitions**:

S. No	Terms	Definition
1	**Basic Service -Water**	Water from an improved source is available on premises.
2	**Improved Source -Water**	HCF is piped water, boreholes/tubewells, protected wells, protected springs, rainwater, packaged or delivered water
3	**Advanced Service- Water**	Meeting the criteria given in WASH guideline for advanced level
4	**Basic Service – Sanitation**	Improved toilets are usable, separated for patients and staff, separated for women and allowing menstrual hygiene management, and meet the needs of people with limited mobility.
5	**Improved toilets**	Flush/pour flush toilets connected to a piped sewer system, septic tank or pit latrine; pit latrines with slab; ventilated improved pit latrines; and composting toilets.
6	**Advance Service- Sanitation-**	Sanitation facilities include improved toilets (not accessible by flies, rodents etc), hand washing facilities, sluice, laundry, etc connected to a piped sewer system, septic tank or pits that are safely managed and meeting the criteria given in WASH guideline for advanced level.
7	**Basic Service - Hand Hygiene**	Hand hygiene materials, either a basin with water and soap or alcohol handrub, are available at points of care and toilets.
8	**Advance Service- Hand Hygiene-**	Meeting the criteria given in WASH guideline for advanced level

9	**Basic Service – Health care waste**	Waste is safely segregated into at least three (3) different colour coded (green, blue, red) containers {Red for infectious waste, Blue for recyclable waste and Green for biodegradable wastes}. Infectious waste are treated and disposed properly and safely.
10	**Advance Service- Health Care Waste-**	Meeting the criteria given in WASH guideline for advanced level
11	**Alcohol-based hand rubs**[23]	An alcohol-containing preparation (liquid, gel or foam) designed for application to the hands to inactivate microorganisms and/or temporarily suppress their growth. Such preparations may contain one or more types of alcohol, other active ingredients with excipients, and humectants.
12	**Labeling of water quality**	Water points should be labeled as drinking or non-drinking at every outlets.
13	**Water Safety Plan (WSP)**	A water safety plan aimed at assessing and managing water supply systems and ensuring effective operational monitoring should be designed developed and implemented as prevent microbial contamination in water and its ongoing safety. However, water and sanitation for health facility improvement tool (WASH-FIT) can be used as a practical approach for improving quality of care through water sanitation and hygiene in health care facilities within.
14	**Arsenic Test Applicable**	Terai (Shallow Tube well), Kathmandu Valley (Deep Boring)
15	**Hub hospital**	Hospitals identified by government for emergency response purpose
16	**Water quality**	Water for drinking, cooking, personal hygiene, medical activities, cleaning and laundry is safe for the purpose intended.
17	**Water quantity**	Sufficient water is available at all times for drinking, food preparation, personal hygiene, medical activities, cleaning and laundry.
18	**Water facilities and access to water**	Sufficient water-collection points and water-use facilities are available in the health-care setting to allow convenient access to, and use of, water for medical activities, drinking, personal hygiene, food preparation, laundry and cleaning.
19	**Points of care**	OPD. IPD, Emergency room, waiting area
20	**Excreta Disposal**	Adequate, accessible and appropriate toilets are provided for patients, staff and carers.
21	**Wastewater disposal**	Wastewater is disposed of rapidly and safely.
22	**Health care waste disposal**	Health-care waste is segregated, collected, transported, treated and disposed of safely.
23	**Cleaning and laundry**	Laundry and surfaces in the health-care environment are kept clean.
24	**Food storage and preparation**	Food for patients, staff and carers is stored and prepared in a way that minimizes the risk of disease transmission.

25	**Building design, construction and management**	Buildings are designed, constructed and managed to provide a healthy and comfortable environment for patients, staff and carers.
26	**Control of vector-borne disease**	Patients, staff and carers are protected from disease vectors.
27	**Information and hygiene promotion**	Correct use of water, sanitation and waste facilities is encouraged by hygiene promotion and by management of staff, patients and carers
28	**Standard**	Standards are the requirements that must be met to achieve minimum essential environmental health conditions in health-care settings. They must be clear, essential and verifiable statements.
29	**Guideline**	Guidelines are the recommended practices to achieve desirable minimum environmental health standards in health-care settings. They are not law, but should be used as guidance.

WASH guidelines for Standard Level Service

Water, Sanitation and Hygiene guidelines for standard level service is the criteria to be complied with for the different types of health care facilities, where appropriate.

1. **Water**
   a. **Water Source:**

- Health care facilities must have an improved source on the premises that supplies water at all times (i.e. water available throughout the year and not affected by seasonality, power outages, etc.). Improved water sources include piped water, borehole well, protected well, protected spring, rainwater and packaged or delivered water from a licensed supplier.

- A functional water collection point should be available at all points of care (e.g. consulting rooms, delivery rooms, etc.).

- A functional water collection point and water use facility should be available to allow convenient access to water for drinking, handwashing, toilets, personal hygiene, food preparation, laundry, cleaning, gardening and medical purposes.

- Water piping must be functional (i.e. no major leaks, all end points are connected to an available water supply).

- Drinking water should be made available to staff, caregivers and patients, including children and people with limited mobility (every story of multi-story building), at all times.

- A health care facility should have a secondary improved water source that can be used in case of interruptions to the primary water source.

b. Water Quantity:

According to WHO's Essential Environmental Health Standards in Healthcare, 2008 & Water, Sanitation and Hygiene (WASH) in health-care facilities in emergencies, 2012 below is the table stating water requirement for all purposes such as hand hygiene, cleaning, laundry, drinking and cooking according to the critical areas:

Table 2.1 Water Requirement

Critical areas	Water quantity
Outpatient Department	5 litres/consultation
Inpatients Department	40-60 litres/patient/day
	15 litres/ cares/day
Operation Theatre/ Maternity Unit	100 litres/intervention
Dry or Supplementary Feeding Center	0.5-5 litres/consultation depending upon waiting time
Wet supplementary feeding center	15 litres/consultation
Inpatient Therapeutic feeding center	30 litres/patient/day
	15 liters/carers/day
Cholera treatment center*	60 litres/patient/day
	15 liters/carers/day
Severe acute respiratory diseases*	100 litres/patient/day
Viral haemorrhagic fever isolation center*	300-400 litres/patient/day
	15 liters/carers/day
Pathology lab	10 litres/test
Emergency camp / hub hospital (Intensive management of water supply is required to protect staffs, carers and patients from disease such as cholera and viral haemorrhagic fever.)	Backup of water supply system for emergency camp/hub hospital of capacity equivalent to existing daily supply quantity.
Backup in case of supply failure	Minimum 2 days backup should be provisioned in case of supply system failure for all health facilities.

Note: The actual quantities of water required will depend on a number of factors, such as climate, availability and type of water use facilities (including type of toilet), level of care and local water use practices.

* These account for few hospitalizations and it is in very rare conditions

c. Water Storage

- HCF should have safe, secure water storage on its premises. The storage tank should have the reserve capacity to supply the health care facilities with two full day of back up water in case of interruptions in main water supply. Water storage should be covered to prevent contamination and cleaned on a regular basis. The storage should be free from any cracks and leakages.

d. Water quality

- Drinking water quality should meet the National Drinking Water Quality Standards, 2005, (Annex1) If the HCF is using jar water then it should meet the national standard for processed drinking water likewise for tanker water, it should follow the tanker directives/ Nirdeshika 2073. However, it is not practical to monitor all the parameters of the supplied water in a regular basis, hence the following selected parameters need to be monitored in a regular basis and meet the target:

    - Drinking water should have appropriate free residual chlorine (FRC, 0.2 mg/L or 0.5 mg/L at emergency or free of *Escherichia coli* or thermo-tolerant coliform bacteria in any 100 mL sample. Other Physical/chemical parameters as per national/WHO guideline.

    - Drinking water should be accessible to all staff, patients, and caretakers esp. friendly for child and person with disability.

    - The system from where water is being supplied needs to implement Water Safety Plans (WSP), and water quality surveillance need to be integrated as a part of the verification.

    - Within HCF, a regular monitoring mechanism should be in place (WASH FIT could be the best option for this).

    - Drinking water should not any tastes, odours or colours, this would discourage consumption of the water

- Drinking water points should be provided separately from water provided for hand washing and other purposes, even if it the same supply.

- Water that is not of drinking-water quality is used only for cleaning, laundry and sanitation.

- Water used for medical purpose should be at least of drinking water quality or should be of higher quality in case of extreme cases dealing with patients for haemodialysis or baby bathing, cleaning – as there is a risk, for example, of pseudomonas aeruginosa and/or legionella (which are resistant to low doses of chlorine used as water disinfectant).

2. Sanitation

a. Improved toilets

- HCF should have adequate functional and accessible improved sanitation facilities for health care workers, support staff, patient and caretakers
- HCF improved sanitation facilities should be Child , Gender and Disable friendly

Table 2.2 :CGD Friendly Characteristics

Child Friendly	○ Door handle and seat are within reach of child
Gender Friendly	○ Segregated Male and female toilets ○ Availability of dustbin with cover in female toilets
Disable Friendly	○ Accessible without stairs or steps, and include an unobstructed pathway from the health care facilities (if outside the building). ○ Fitted with handrails for support attached either to the floor or sidewalls. ○ Built with sufficient room within the cubicle/stall for a wheelchair to turn around. ○ Built with a door that is at least 80 cm wide. ○ Door handle, rails and seat are within reach of people using wheelchairs or crutches/sticks. ○ Other elements should be added when appropriate (e.g. guide rope for people with a visual impairment).

- HCF improved sanitation facilities should ensure privacy; toilets should have a door and should be lockable from the inside.

- HCF toilets should be well ventilated with net and lights

b. Cleaning and maintenance of toilet

- Toilets should be clean as noted by absence of waste, visible dirt, excreta, insects and stagnant water.
- Cleaning materials (i.e. water, soap, disinfectant, mops, scrub brushes, etc.) should be made available for performing regular cleaning.
- A regular cleaning and maintenance schedule should be in place for sanitation facilities to ensure its cleanliness and functionality at all times.
- Cleaners should understand their important role and be trained on cleaning practices, including making disinfectant solution. They should be provided with adequate cleaning supplies and personal protective equipment.
- At a minimum, personal protective equipment for cleaners should include rubber gloves, rubber boots and an impermeable apron. When there is a risk of splash in the face, cleaners must wear eye protection and surgical masks.
- A maintenance programme should be in place to ensure functionality at all times.
- There should be no major holes, cracks or leaks in the toilet structure.
- Toilets should be maintained to ensure there is no blockage.

Table 2.3 General Characteristics of Toilet

Toilet block- male	1 low urinal (child and adult friendly)
Toilet block and separate females- female	Covered bin for menstrual pad in every toilet cubicle
Common male/female toilet	1 low urinal, 1 handwashing station
Unisex disabled and child-friendly toilet	Ramp with rail; braille floor; handles upto toilet; Handles on either side of toilet Low wash basin (child, wheel chair) Desirable: Baby napping changing area
Handwashing basin	Linked to drainage system Hot and cold water
Greywater	Separate pipe and soak pit In health post, can combine with toilet septic tank if water use is low
Septic tanks	Double chamber 48 hours retention period. Emptied every 5 years Sludge taken to treatment plant or buried Personal protective equipment worn at time of emptying.
Direct toilet pits	In terai: Lateral distance to groundwater well minimum 10m, distance between bottom of pit and groundwater minimum 1.5m Emptied every 3 years. In hill/mountains, new pit made when full Sludge taken to treatment plant or buried Personal protective equipment worn at time of emptying.

3. Hygiene

- HCF should have functional hand hygiene facilities which are available in all critical areas such as OPD, IPD, Emergency, waiting area, lab, maternity unit and all toilets. Hand hygiene facilities include handwashing basins/ station (sink, bucket with lid, tap and with drainage facilities with soap.

- HCF should have accessible hand washing facilities for child and person with limited mobility in or nearby toilets, and waiting area, maternity unit.

- Bathing facilities, either within the sanitation facilities or in a separate building, should be available for staff and patients to address personal hygiene in Tertiary, Secondary, Primary hospitals

4. Health Care Waste Management

- HCF should follow Health care Waste Management Guideline, Nepal 2014 Table 6, 7, and 8 according to the different level of health care facilities pg (45- 49)

- Chief of HCF, concerned health workers, authorized person, HCWM committee members and concerned palika should take the responsibilities of health care waste management

5. **Infection Prevention and Control**

- Everyone who works at and, receives care or visits a HCF is at risk of infections. Thus infection prevention is the responsibility of everyone.
- HCF should work for preventing infections by taking following standard precautions
    - Wash Hands (using 6 steps).
    - Wear PPE, such as gloves, eye protection, mask, apron
    - Maintain correct environmental cleanliness and waste-disposal practices
    - Prevent injuries from sharps

Chapter 3

Standards of WASH for HealthCare Facilities

Below is the list of WASH parameters with its advance standard value or reference according to different level of HCF. There are domains such as Water, Sanitation, Hygiene, Healthcare Waste Management, according to which standards are defined

Table 3.1 Water Quality Standard for Healthcare facilities

Quality of water to be supplied	Reference	Verification	Frequency
Medium standard for drinking water, hand washing, medical purpose. **(Level I)**	NDWQS 2005	Water quality testing of parameters described in NDWQS 2005	As described in NDWQS 2005 implementation guideline
High standard for special circumstances (haemodialysis, intensive care unit, and neonetal intensive care unit, neurological and cardiovascular operations, plastic surgery etc) **(Level II)**	DWQG-WHO 2011	Water quality testing of parameters described in WHO guideline 2011	Water quality testing of parameters described in DWQG-WHO 2011
Water that is below drinking water quality can be used only for Cleaning, laundry, sanitation.	WHO 2008		

Table 3.2 Sanitation standards for Healthcare facilities

Location	Advanced (Level I)	Advance (Level II)
Compound (outside main building)	<u>All people:</u> 1 male block (1 toilet, 3 urinals, double HW basin) 1 female block (3 toilets, double HW basin) 1 unisex disabled toilet	Number of toilets in a ratio of 1:100 for male 2:100 for female. Number of urinals in a ratio of 1:50 for male Wash Basin in a ratio of 1:100 for male 2:100 for female
Registration/waiting area	one common toilet	<u>For all people</u> 1 male block (1 toilet, 3 urinals, double HW basin) 1 female block (3 toilets, double HW basin)
OPD (each dept/block)	<u>Clients:</u> 1 male block (2 toilets, 3 urinals, double HW basin) 1 female block (5 toilets, double handwashing basin) 1 unisex disabled toilet	<u>Clients</u> Number of toilets in a ratio of 1:100 for male 2:100 for female. Number of urinals in a ratio of 1:50.for male Wash Basin in a ratio of 1:100 for male 2:100 for female <u>Staff</u> 1 male toilet with HW 1 female toilet with HWS
Inpatient- ward	<u>Clients:</u> 1 male block (1 toilet, 3 urinals, 1 shower, double handwashing basin) 1 female block (4 toilets, 1 shower, double handwashing basin)	<u>Clients</u> 1 toilet for 8 beds for male and 1 for 6 beds for female 1 showers for 8 beds 2 basins upto 30 beds and 1 additional for

	1 unisex disabled toilet	every 30 beds 1 urinal for every 12 beds Bathing facility in disabled toilet
Consultation room and Duty Room, and Nursing station, private rooms,	Attached toilet with HW	Wheel chair friendly and handles
Laundary room	1 common toilet for male and female with wash basin	1 toilet with wash basin separate for male and female
USG room	One toilet with hand washing in proximity	Wheel chair friendly and handles
Operation Room	Scrub area in Operation Room Attached sluice	
Pathology Block	One toilet with hand washing in proximity	Wheel chair friendly and handles
Labour room/Post Partum Room	1 toilet with hand washing facility	
Delivery Room	Sluice with separate exit route adjoin delivery room	
Handwashing basin at all points of services- emergency, Consultation room, lab, labour room, mortuary, nursing station, in inpatient wards	1 basin	
Mortuary	1 common toilet	Bathroom
Laboratory	1 wash basin for each compartment	
Laundry service	Central Laundry Washing machine Semi-covered drying	
Janitor's Closet in every department	Designated room Drainage platform for mops with water tap	

Table 3.3 Hygiene Standards for Healthcare Facilities

S/N	Parameters/Sub-parameters	Advance (Level I)	Advance (Level II)
1	**Toilet / Bathing Hygiene**		
1.1	Number	IPD: 1 toilet for every 20 users OPD: 1 toilet for every 25 users	
1.3	Functional	Lock; flow of water 24*7	
1.4	Baby Pot for babies	2 pot / facility	
1.5	Dustbin with cover (lined with plastic bag)	1/female toilet (For final disposal, refer to HCWM section)	
1.6	Bathing facilities	Separate for male and female; at least 1 shower per inpatient facility or minimum 1 shower for 40 users in inpatient setting (users includes patients, HCW, Carers)	
1.7	Disable friendly	Refer to above chapter 2 section; Table 2.2	
2	**Hand Hygiene**		
2.1	Hand washing station (***alternate such as	IPD: one for every 12 beds; One in each section as listed below- Operating theater;	

S/N	Parameters/Sub-parameters	Advance (Level I)	Advance (Level II)
	use of bucket in case of issues with supply of water)	Wards; Consulting rooms; Dressing rooms; Sterilization area; Laboratory; Kitchen; Laundry; Bathing area; Toilets Waste zone; Mortuary; Refer to water standard;	
2.2	Soap	IPD: one for every 12 beds; One in each section as listed below- Operating theater; Wards; Consulting rooms; Dressing rooms; Sterilization area; Laboratory; Kitchen; Laundry; Bathing area; Toilets Waste zone; Mortuary	
2.3	Hand drying	Paper Towel (Napkin)/ Electric Hand dryer machine	Electric Hand dryer
2.4	Handwashing during patient handling	IPD: after every patient/depends on the department and condition OPD: Refer IP guideline; after 10 clients	
3	**Laundry Hygiene**		
3.1	Changing linen	OPD-Daily Birthing Center - After each case Change between each patient	
3.2	Handling linen	Separate container for used linen; Laundry facilities available (with proper drying facilities); Washed linen placed in clean container;	
4	**Personal Hygiene and Protective Equipments (Service Providers) * Occupational health hazards * refer to Pg 70; Vol2- health building infrastructure assessment**		
4.1	Apron	While providing service	
4.2	Mask	While performing a procedure and dealing with infectious disease	
4.3	Cap	While performing a procedure and dealing with infectious disease	
4.4	Boot/Slipper	While dressing, OT, Radiology, Birthing center, slippers when applicable	
4.6	Gloves	While performing a procedure, physical examination and dealing with infectious disease	
5	**Personal Hygiene and Protective Equipments (Cleaning Staffs) * Occupational health hazards**		
5.1	Apron	Should adopt as per the nature of cleaning task	
5.2	Mask		
5.3	Cap		
5.4	Boot		
5.5	Gloves		
6	**Menstrual Hygiene Management**		
6.1	Adequate toilets and water supplies	Addressed above	
6.2	as mentioned above		
6.3	Dustbin with lid		
6.4	Water flow		
7	**Food Hygiene (Observation)**		
7.1	Hand washing with soap and water before handling food	Yes/No	
7.2	Wash and sanitise all surfaces and equipement used for food preparation	Spot check	
7.3	Comply with national	Yes/No	

S/N	Parameters/Sub-parameters	Advance (Level I)	Advance (Level II)
	food act and regulation (DFTQC)	If yes - refer to the report If no - recommend and f/u is needed	
7.4	Gloves and caps used during serving/preparation	Yes/No	
7.5	Food is well covered during storage, transfer and serving to the patients	Yes/No	
8	**Mortuary Hygiene (only applicable in hospitals with mortuary facilities)**		
8.1	Equipment cleaning	After each post-mortem	
8.2	General cleaning	Regularly	
8.3	Space	at least 1 mortuary in hospitals with more than 100 beds.	
8.4	Freezer and embalming chemicals	Functional technology available to maintain the temperation between 2-6 degree; There should be embalming chemical (formalin) to temporarily prevent decomposition and restore natural appearance of the body	
8.5	Location	Within Hospital compound; separate structure; Doesn't impact neighbourhood	
9	**Messaging and Hygiene Promotion ******	Should be elaborated in guideline on effective messaging on Hygiene at specific locations for patients, carers and service providers and Hygiene promotion integrated with all service delivery Messages such as Handwashing with soap, baby and young infants care practices, etc is essential to display at right place	
10	**Vector and Rodent control ******	Should be elaborated in guideline to control vector and rodent in HCF	
11	**Capacity Building**	Should be conducted on IPC and importance of WASH to staff of HCF	
12	**Environment Hygiene / Sanitation**	Should be greenery and for waste management refer to HCWM Guideline 2014	

Table 3.4: Healthcare Waste Management

For methods of Health care Waste Management at different levels of Healthcare facilities refer, National Health Care Waste Management Guideline, 2014 (Page 45-51) (Advanced Level)

Parameters
Use a needle cutter (100%)
Segregation of waste must take place at the bed site, at the operation theater, at ward, at laboratory, wherever it is generated
Segregation and transport of waste properly from ward level to final disposal area as per HCWM 2014
Use of biogas plant/ composting (in a pit) for biodegradable waste (left over food, vegetables, fruits etc)
Use of non burn technology(e.g. autoclave, microwave etc) for infectious waste (gloves, syringes, IV sets, blood bags, sharps etc)
Provision of chemicals (eg. 5% Sodium hypochlorite etc.) for laboratory highly infectious waste and use of these chemicals before disposing waste as per laboratory guidelines "Standard Operating Procedure of Laboratory Biosafety for Infection Control in Nepal 2073"
Separate and adequate space for collection/storage and treatment (e.g. autoclaving) of waste.
Availability and use of personal protective equipment (PPE) (mask, cap, boot, apron, utility gloves etc)
Proper and safe disposal of non-risk waste and risk waste after proper treatment, in municipal container/ private collector or recycling agents or any designated area
Information on HCWM should be visible for Health Workers, patients and visitors
Formation of HCWM committee and regular meeting in the HCF. Orientation / training of HCWM atleast once a year.
Adequate amount of budget for HCWM

Reference: Healthcare Waste Management Guideline 2014

Table : 3.5 WASH standards for different type of Healthcare facilities

Type of HCFs	Water	Sanitation	Hygiene	HCWM
Large HCF	A	A Level II	A	A (Refer HCWMG 2014)
Medium	A	A Level II	A	A (Refer HCWMG 2014)
Small	A	A Level I	A	A (Refer HCWMG 2014)
Outreach	B	B	B	B
Mobile	B	B	B	Refer below paragraph

A= Advanced

B= Basic

Healthcare Waste Management- For mobile camps

Mobile/temporary HCF may vary, depending upon the services provided. Hence, HCWM is applicable as per the service provided in the specified category of the HCF, for example if the temporary HF provides secondary hospital level service then HCWM standard should comply the same level.

Annex 1: Nepal's Drinking Water Quality Standards

Nepal's Drinking Water Quality Standards

Group	Parameter	Unit	Maximum Concentration Limits
Physical and chemicals	Turbidity	NTU	5 (10)**
	pH		6.5-8.5*
	Color	TCU	5 (15)**
	Taste & Odor		Would not be objectionable
	Total Dissolved Solids	mg/l	1000
	Electrical Conductivity	µc/cm	1500
	Iron	mg/l	0.3 (3)**
	Manganese	mg/l	0.2
	Arsenic	mg/l	0.05
	Cadmium	mg/l	0.003
	Chromium	mg/l	0.05
	Cyanide	mg/l	0.07
	Fluoride	mg/l	0.5-1.5*
	Lead	mg/l	0.01
	Ammonia	mg/l	1.5
	Chloride	mg/l	250
	Sulphate	mg/l	250
	Nitrate	mg/l	50
	Copper	mg/l	1
	Total Hardness	mg/l	500
	Calcium	mg/l	200
	Zinc	mg/l	3
	Mercury	mg/l	0.001
	Aluminum	mg/l	0.2
	Residual Chlorine	mg/l	0.1-0.2*
Micro Germs	E-Coli	MPN/100ml	0
	Total Coli form	MPN/100ml	95 % in sample

Note : * These standards indicate the maximum and minimum limits.
** Figures in parenthesis are upper range of the standards recommended.

Sources:
-Environment Statistics of Nepal 2008, Government of Nepal, National Planning Commission Secretariat, Central Bureau of Statistics, Kathmandu, Nepal

Annex 2: Existing National Policy, Strategy and Guidelines

- Constitution of Nepal 2072: 35d has stated Every citizen have the right to access safe water and sanitation
- Nepal Health Policy 2014 has stated improvement in health outcomes requires efforts across several sectors – not just health. Such as expanding access to clean water and sanitation, waste management, etc.
- Nepal Health Sector Strategy III has stated promoting healthy lifestyles and healthy environment through multi-sectoral action by expanding access to clean water, water conservation, including waste management, while building code for HF. And basic services in the strategy have included counselling services on hygiene and sanitation for free of cost.
- Nepal, Guideline for Health Institutions Established, Upgrade Standards 2070 has stated on water, sanitation and hygiene in hospital having 25 or more beds. Such as provisions of 24 hour drinking water supply for patients and care taker, water quality monitoring on regular basis, gender segregated toilets, hand washing station with water and soap available nearby toilets, cleanliness of toilets and hospital premises, waste management
- Nepal Government Health Care Waste Management guideline 2014 has stated on managing health care waste safely
- Nepal, Hospital Management Strengthening Program, 2072 is a checklist for minimum service standards for district hospital, where water, sanitation, hygiene, and infection prevention control has been stated as minimum standards for any district level government hospital.

Annex 3: Nepal Health Care Facilities Structure

S. No		Level of local government in Nepal	Type of health service delivery institution	Service to be discharged
1		Local Level: Ward	Health Post	In each ward, at least one health institution

		level at Village or Urban Municipality	and Community Health Unit	shall be established with the following services: Immunization, family planning, antenatal care, normal delivery, newborn care, nutrition counseling, Treatment of TB and other common communicable diseases and conditions, management of epidemic, basic mental health service, counseling, screening and primary treatment of non-communicable diseases, medicine distribution, pathology lab and other diagnostic services, promotion and prevention of eye/sight and dental problems; and other diagnostic, curative , promotive and preventive basic health services defined by federal Ministry of Health.
2		Local level: Ward of sub/ Metropolitician city	Urban Health Promotion (Janata Swasthya Kendra)	Immunization; nutrition counseling; promotion and prevention and primary treatment of non-communicable diseases; Family planning; Adolescent reproductive and sexual health services; Psychological counseling; geriatric counseling; Health Inspection Services to protect and promote the health and environment; and other services prescribed by Ministry of Health, Government of Nepal
3		Local level: Rural municipality	Primary Hospital, Class B	The size of a hospital will be determined by the catchment population and the geography of the place. The following services will be provided by Primary Hospital, Class B <u>Basic Health Services</u> Immunization, family planning, antenatal care, normal delivery, new-born care, nutrition counseling, Treatment of TB and other common communicable diseases and conditions, management of epidemic, basic mental health service, counseling, screening and primary treatment of non-communicable diseases, medicine distribution, pathology lab and other diagnostic services, promotion and prevention of eye/sight and dental problems; and other diagnostic, curative, promotive, and preventive basic health services defined by the federal Ministry of Health. Social Service Unit <u>Medical Services</u> Common gynecological and obstetric services; Outpatient Department Services (OPD); Comprehensive emergency obstetric and neonatal care (CEONC);

				Basic Surgery Services; Primary treatment for eye/sight and dental problems; 24-hour emergency service.
4		Local level: Municipality or sub-metropolitan or Metropolitan city	Primary Hospital, Class A	The size of a hospital may be small or big depending on the size of the population and geography of the catchment area. The following services will be provided by Primary Hospital, Class A <u>Basic health services</u> • Immunization, family planning, ante-natal care, normal delivery, new-born care, nutrition counseling, Treatment of TB and other common communicable diseases and conditions, management of epidemic, basic mental health service, counseling, screening and primary treatment of non-communicable diseases, medicine distribution, pathology lab and other diagnostic services, promotion and prevention of eye/sight and dental problems; and other diagnostic, curative, promotive, and preventive basic health services defined by the federal Ministry of Health. • Social Service Unit <u>Medical Services</u> • Out Patient Service: General Medicine, Gynecology and Obstetrics, Pediatric and Orthopedic Services • 24-hour emergency service; • Treatment for eye/sight and dental problems; Comprehensive emergency obstetric and neonatal care (CEONC), specialized and major Surgery Services including Orthopedic Surgeries.
5		Province level	Secondary Hospital	The Secondary Hospitals will provide services to the referred cases from Primary and other lower level health institutions and the services will include the following: **Public health services:** • Immunization, family planning, ante-natal care, normal delivery, new-born care, nutrition counseling, Treatment of TB and other common communicable diseases and conditions, management of epidemic, basic mental health service, counseling, screening and primary treatment of non-communicable diseases, medicine distribution, pathology lab and other diagnostic, curative, promotive, and

				preventive basic federal Ministry of Health • Social Service Unit **Medical services:** • General physician services • General Surgery Services, • Gynecological and Obstetric services • Pediatric Services • Dental services, • Orthopedic services • Ophthalmological services **Departments and wards:** Urology, dermatology, gyne/obs., orthopedics, pediatric, psychiatric, ear, nose and throat (ENT) **Emergency services:** 24-hour emergency with surgery services; **Promotion and preventive services** **Surgical services:** Simple surgeries, gynecological or obstetric Surgeries, ENT and orthopedic Surgeries Others: Hemodialysis, intensive care unit, neonatal intensive care unit.
			Provincial Health Science Academy	There will be at least one Provincial Health Science Academy established and managed in each province. They will be required to operate and manage a tertiary level hospital. The academies will also be responsible for conducting academic research and other academic related activities in all Secondary hospitals in the respective province.
6		Federal level	Tertiary Hospital	Tertiary hospitals will provide referral and specialized services. The following services will be available in these hospitals: **Public health services:** • Immunization, family planning ante-natal care, normal delivery, new-born care, nutrition counseling, Treatment of TB and other common communicable diseases and conditions, management of epidemic, basic mental health service, counseling, screening and primary treatment of non-communicable diseases, medicine distribution, pathology lab and other diagnostic services, promotion and prevention of eye/sight and dental problems;and other diagnostic, curative, promotive, and preventive basic health services defined by the federal Ministry of Health

				• Social Service Unit **Medical services, departments or wards:** General physician services, general surgery services, Gynecological and Obstetric Services, new-born care, pediatric services, dental services, orthopedic services, ophthalmological services, urology services, dermatology services, psychiatric services, ENT services, cardiovascular, neurology services and other specialized services; **Emergency services:** 24-hour emergency with surgery services **Promotion and preventive services** **Surgery services:** General Surgeries, gynecological or Obstetric Surgeries, ENT Surgeries, Ophthalmic Surgeries and orthopedic Surgeries; **Others:** Hemodialysis, intensive care unit, neonatal intensive care unit. **Other possible service extension:** Neurological and cardiovascular operations, plastic surgery, etc.
			Super-specialty Hospital	Super Specialty Hospitals will be managed by the federal government. These hospitals will provide specialized services for specific diseases or speciality and will take referrals from the primary, secondary and tertiary hospitals. The federal government will invest and promote them as "Centers of Excellence."
			Federal Health Science Academy	The federal government may operate Health Sciences Academies with a tertiary hospital. The academy will also be responsible for conducting academic research and related academic activities in Super Specialty and Tertiary Hospitals managed by the federal government.

(*Source: Nepal Health Infrastructure Development Standards 2017)*

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Issues to be addressed:

"detection of undernutrition and treatment"- what level of HCF deals with such issue, after looking at

Wanted to know how will the destruction of expired drugs take place????, we need to include something on destructing the expired drugs also.. One of the feedback