WASH FIT

A practical guide for improving quality of care through water, sanitation and hygiene in health care facilities

SECOND EDITION

World Health Organization

unicef
for every child

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CONTENTS

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LIST OF ABBREVIATIONS

GEDSI	gender equality, disability and social inclusion
HCWM	health care waste management
IPC	infection prevention and control
LDC	least developed country
NGO	nongovernmental organization
PPE	personal protective equipment
QI	quality improvement
SI	sanitary inspection
SOP	standard operating procedure
UN	United Nations
UNICEF	United Nations Children's Fund
WASH	water, sanitation and hygiene
WASH FIT	Water and Sanitation for Health Facility Improvement Tool
WHO	World Health Organization

1

INTRODUCTION

1.1 BACKGROUND

Fully functioning water, sanitation, hygiene (WASH) and health care waste management services are a critical aspect of infection prevention and control (IPC) practices, and ensuring patient safety and quality of care. Such services are also essential for creating an environment that supports the dignity and human rights of all care seekers, especially mothers, newborns, children and care providers. WASH and waste services are also critical for preventing and effectively responding to disease outbreaks. The COVID-19 pandemic has exposed gaps in these basic services (Box 1). These gaps threaten the safety of patients and caregivers, and have environmental consequences, especially as a result of large increases in plastic health care waste. In short, WASH is a critical foundation for improving quality across the health system *(1)*.

Many facilities lack plans and budgets for WASH, which has impacts on IPC. This lack of services, and of systems to improve them, compromises the ability to provide safe and quality care, and places health care providers and those seeking care at substantial risk of infection and loss of dignity. Unhygienic health care facilities without drinking water or functional toilets are also a disincentive to seeking care and undermine staff morale – these factors can have a critical impact on controlling infectious disease outbreaks.

Climate change and its impacts on WASH and health services, gender-specific needs, and equity in service provision and management all require rigorous attention, adaptable tools and regular monitoring.

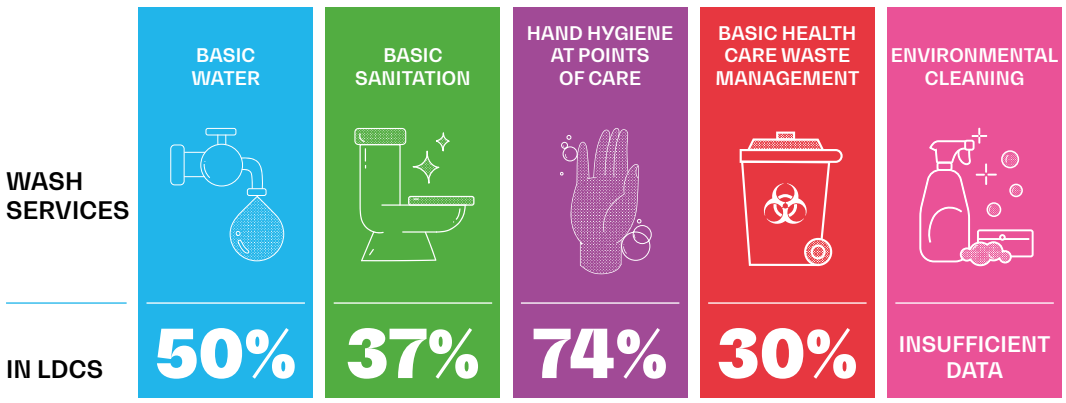
Box 1. Global status of WASH services in health care facilities

One third of health care facilities do not have what is needed to clean hands where care is provided. One in four facilities lack basic water services, and one in 10 have no sanitation services.

Around 1.8 billion people use facilities that lack basic water services, and 800 million use facilities with no toilets.

Across the world's 47 least developed countries, the problem is even greater: half of health care facilities lack basic water services. The extent of the problem in these countries is not fully known because of major gaps in data, especially on environmental cleaning *(2)*.

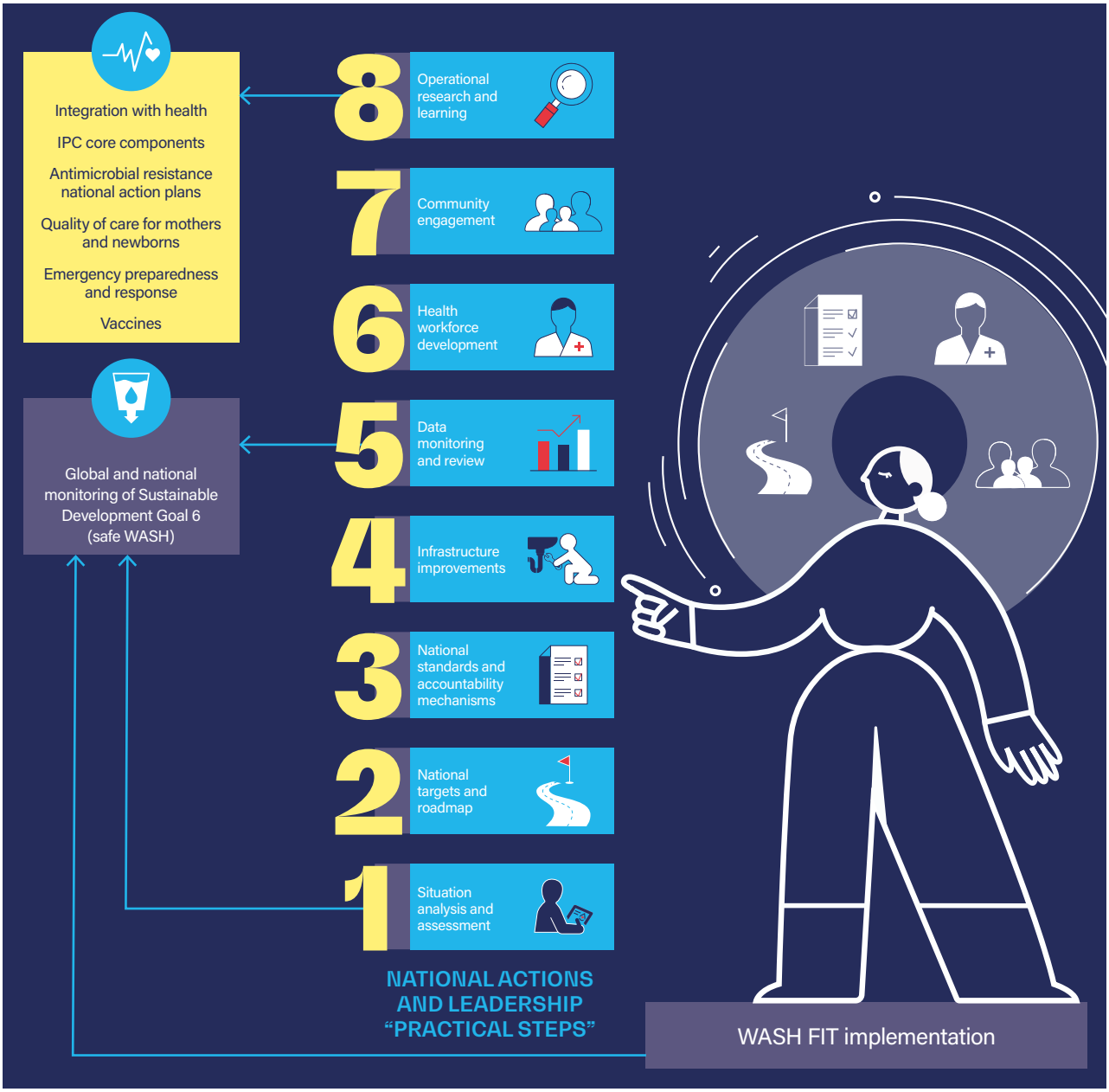
WASH SERVICES IN HEALTH CARE FACILITIES OF LEAST DEVELOPED COUNTRIES (2019)



The 2018 global call to action on WASH in health care facilities by the United Nations (UN) Secretary-General elevated this issue among all UN agencies, partners and Member States. Building on the global call, all 194 World Health Organization (WHO) Member States approved a resolution on WASH in health care facilities at the 2019 World Health Assembly *(3)*. The resolution calls on countries to establish baselines and set targets, embed WASH in key health programmes and budgets, improve and maintain infrastructure, and regularly report on progress. WHO and the United Nations Children's Fund (UNICEF), along with more than 50 partners, have committed to supporting countries in implementing the resolution.

Alongside the resolution, WHO and UNICEF published a set of eight practical steps for improving and sustaining WASH services and practices in health care facilities *(4)*. Step 4 ("Improve and maintain infrastructure") includes use of the Water and Sanitation for Health Facility Improvement Tool (WASH FIT) and other risk-based improvement tools. As of 2022, of the 65 countries reporting progress in implementing the World Health Assembly resolution, half are undertaking infrastructure improvements, through WASH FIT or other improvement programmes (see Fig. 1).

Fig. 1. Linkages between WASH FIT, global monitoring indicators and national actions to improve WASH in health care facilities



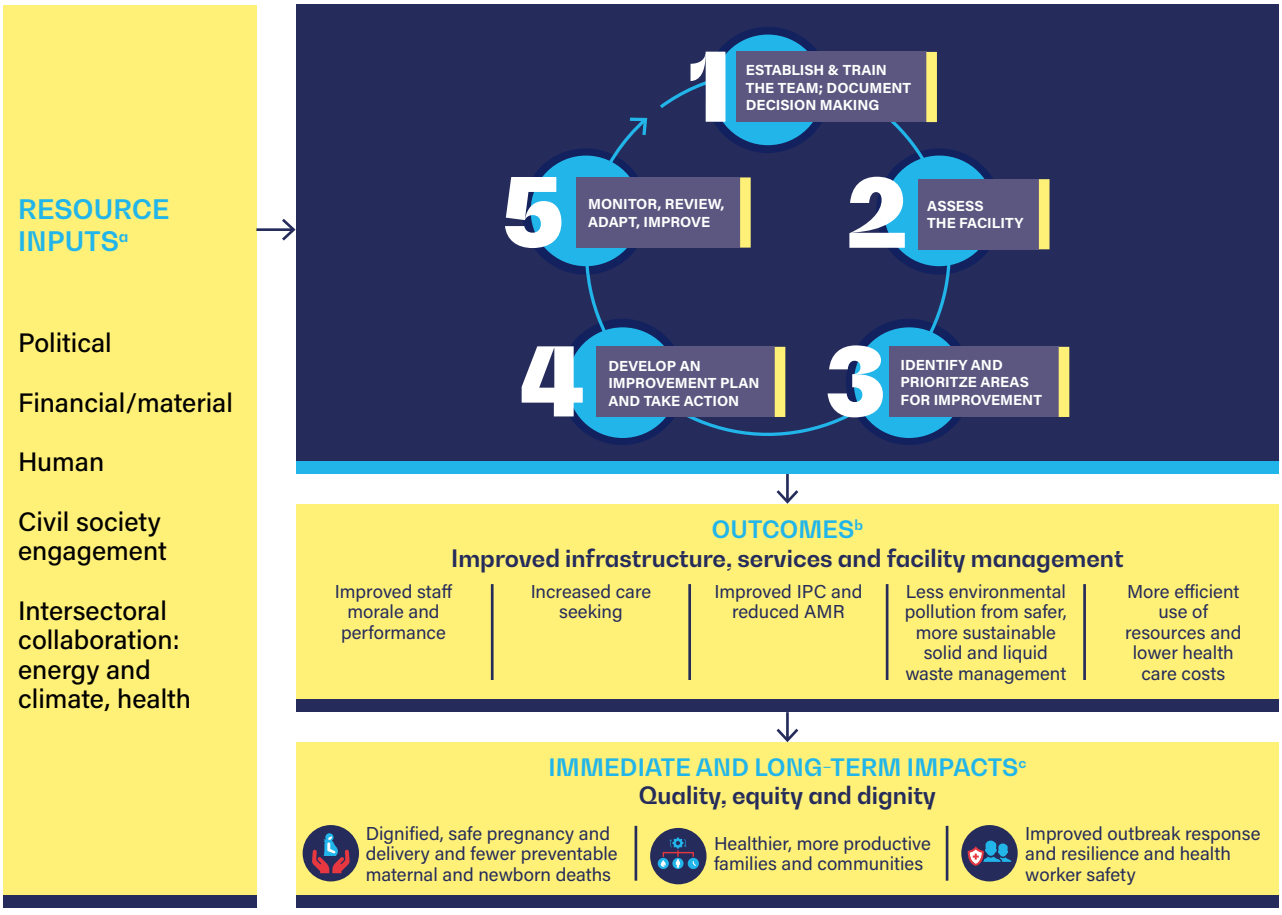
1.2 CONTENT AND PURPOSE

WASH FIT is a risk-based management tool for health care facilities, covering key aspects of WASH services: water; sanitation; hand hygiene; environmental cleaning; health care waste management; and selected aspects of energy, building and facility management.

WASH FIT:

- provides a framework to develop, monitor and continuously implement an improvement plan (covering infrastructure, behaviours, and operation and maintenance) and prioritize specific WASH actions that are climate-resilient, equitable and inclusive (Fig. 2);
- guides planning and implementation of WASH improvements as part of wider quality improvement (QI) efforts, and to meet local, national and global standards;
- supports the implementation of IPC standard and transmission-based precautions according to national guidelines and standard operating procedures (SOPs); and
- facilitates multisectoral actions by bringing together all those who share responsibility for providing WASH services, including legislators and policy-makers, district[1] health officers, hospital administrators, water and sanitation engineers, climate and environmental specialists, and users.

Fig. 2. Overview of WASH FIT



AMR: antimicrobial resistance

[a] **INPUTS**: political, financial and material, human and community resources that go into conducting the WASH FIT assessment and developing and implementing a facility-based improvement plan

[b] **OUTCOMES**: direct changes that could occur from the use of WASH FIT, such as infrastructure changes, operational changes, improved cleaning and hand hygiene practices, and resilience to climate change.

[c] **IMPACTS**: broader and longer-term changes, beyond the direct changes to the health care facility, resulting from improving WASH services and hygiene practices.

1. "District" is taken to mean any clearly defined administrative area where local government and administrative structure take on responsibilities from the national government. The nature of a district may vary from country to country.

As of early 2022, WASH FIT has been used in more than 40 countries[2] across all continents, primarily in small, primary care health facilities in low-resource settings. These efforts have ranged in scale and duration, from relatively small-scale efforts led by implementing partners in a few facilities to government-led national efforts, where WASH FIT processes are embedded in health systems monitoring and QI efforts. WHO and UNICEF are working to better understand how WASH FIT is being used and the outcomes of its implementation (see Box 2).

This is the second edition of the WASH FIT guide. It includes new guidance on the national- and facility-level processes for success, updated tools, and a set of fact sheets for addressing safely managed water and sanitation services, hand hygiene and health care waste. Throughout the second edition, there is also a greater emphasis on climate change and gender equality. The guide is accompanied by a training manual and set of training slides.

Box 2. The learning agenda: evaluating and improving WASH FIT

Countries, organizations, facility staff and individuals starting to use WASH FIT may benefit from learning about others' experiences. For this reason, WHO and UNICEF are collecting information on where and how the tool is being used. If you have used WASH FIT and would like to share your experience, please visit www.washinhcf.org/wash-fit.

Updates and news related to WASH FIT, and WASH in health care facilities more generally, is shared through the regular WHO and UNICEF WASH in health care facilities newsletter. To sign up for future editions, visit www.washinhcf.org.

1.3 TARGET AUDIENCE

Table 1 summarizes the target audiences for this guide.

Table 1. Target audiences for the WASH FIT guide

Audience	Typical areas of responsibility
QI teams, WASH and IPC focal points, community WASH and health committees and technical staff (engineers, inspectors, plumbers), WASH FIT team leaders	Undertaking assessments, identifying areas for improvement, and ensuring that improvements are acted upon and WASH FIT is sustained over time
Health care facility managers and other senior managers	Overseeing essential health care facility functions (e.g. budgeting)
Local/district government officials and health offices	Planning, supervising and undertaking budget allocations
National health policy-makers (e.g. ministries of health) and health regulators	Monitoring progress nationally and at a subnational level, developing relevant policies and standards
Infrastructure and WASH financing officials	Prioritizing resources, investments and budgets
WASH and health nongovernmental organizations, civil society and other partners supporting or leading implementation, evaluation and programme planning	Supporting facility staff to assess and identify areas for improvement, advocating for more funding for facilities and supporting government priorities
Environment and climate specialists, planners and advocates	Developing national and local sustainability plans, and meeting global and national climate and sustainability targets

2. For a list of countries, visit www.washinhcf.org/wash-fit.

1.4 STRUCTURE OF THIS GUIDE AND SUPPORTING RESOURCES

This guide (Fig. 3) provides practical step-by-step guidance on adapting and using WASH FIT in a range of contexts.

- Section 2 describes how WASH FIT can be integrated with quality of care, IPC and maternal child health efforts, and how the sustainability and climate resilience of WASH services can be improved.
- Section 3 describes the WASH FIT process, from training and initial implementation to scale-up, and the financing and investments needed to improve and maintain WASH services.
- Section 4 describes some of the factors for success needed at the local and facility levels, including staff and community involvement, and the role of senior leadership.
- Section 5 details the five-step WASH FIT improvement cycle for facilities to assess, maintain and improve services over time.
- Section 6 provides a set of tools and templates to support the five-step cycle.
- Annexes 1–7 include guidance on using and adapting the assessment tool, a set of sanitary inspection forms to assess a facility's water supply and technical fact sheets.

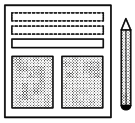
The guide is accompanied by: a training package, consisting of a training manual and a set of MS PowerPoint modules with trainer notes and participatory exercises, as well as further reading around preparation, delivery and evaluation of training, which can be adapted to the local context;[3] and an assessment form and supporting tools.

Fig. 3 WASH FIT package

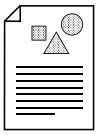
READ THIS FIRST

WASH FIT SECOND ED. PRACTICAL GUIDE
STEP-BY-STEP GUIDANCE

100 pages
50-minute read



Templates
Assessment, hazard and risk analysis tools (support development and implementation of improvemnt plan and ongoing monitoring)



Fact sheets
5 fact sheets (within the WASH FIT Practical Guide)

3-5 pages
5-minute read each

WASH FIT manual for trainers
All the materials for training in one place (slides, speaker notes, assessment & evaluation tools, sample agenda etc.)

30-minute read

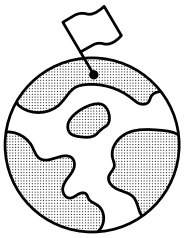
WASH FIT portal
www.washinhcf.org/wash-fit Country examples, case studies and opportunity to share experience WASH FIT helpdesk washinhcf@who.int

[3] Visit www.washinhcf.org/wash-fit for the latest versions.

1.5 PURPOSE AND SCOPE OF WASH FIT

WASH FIT is an iterative QI methodology to improve WASH services. Its ultimate aim is to improve the quality of care and health outcomes through fewer infections, greater uptake of services, and more productive and confident health care staff (see Fig. 2). The approach to QI consists of an analysis of process and outcomes data, and systematic efforts to improve performance *(5)*. It involves every person working to implement iterative, measurable changes to make health services more effective, safe and people centred *(1)*.

WASH FIT involves a continuous process of conducting assessments and spot checks, understanding how gaps in WASH infrastructure and practices may be affecting quality of care, designing an improvement plan to address these gaps, and modifying the improvement plan based on ongoing monitoring and evaluation. It may be more valuable to integrate WASH FIT into existing quality tools and processes rather than to implement WASH FIT separately.



"I thought the way WASH services were managed and the hygiene practices passed on to me by previous health workers from [the facility] were acceptable, and that improvements were not needed or too much effort. But after doing steps 1 and 2 (setting up the team, conducting the assessment), collectively we identified many items that need improving [such as de-clogging drains, increasing ventilation and staff training for waste management]. These are things we can do ourselves that benefit the staff and the clientele we are serving. The time will come for me to be transferred to another facility, I can hand over the facility to the next health worker together with the WASH FIT plan with the overall rating, that he/she can use as the baseline for further improvement."
Nurse, WASH FIT pilot health centre, Northern Manila, the **Philippines**, 2019

2

IMPROVING HEALTH ACTIONS AND OUTCOMES USING WASH FIT

2.1 ENVIRONMENTAL SUSTAINABILITY AND CLIMATE RESILIENCE

With growing health threats associated with climate change and environmental degradation, all health care facilities need to implement measures to strengthen the resilience and improve the sustainability of their WASH and energy services. Indeed, at the 26th UN Climate Change Conference of the Parties in 2021, 52 countries committed to implementing low-carbon, sustainable health systems.

Health care facilities provide services and care to people harmed by extreme weather events and long-term climate hazards. New infrastructure should be designed and operated to ensure continuity of services when they are needed most and with minimal negative impact on the environment. Over time, such adaptations save costs, support effective resource use, and limit environmental waste and contamination (e.g. by carbon emissions; persistent organic pollutants; chemical contaminants in air, water and soil).

The *WHO guidance for climate-resilient and environmentally sustainable health care facilities* sets out four fundamental requirements for providing safe and quality care (Fig. 4). One of these is sustainable and safe management of water, sanitation and health care waste services *(6)*. The WASH FIT methodology takes into account elements of this guidance, including indicators that can be systematically monitored and improved to strengthen adaptation and resilience. WASH systems that are informed by climate risk assessments will be more resilient and are more likely to withstand shocks and stresses. Referring to existing regional climate vulnerability assessments may be useful.

A climate-resilient health system is one that is "capable to anticipate, respond to, cope with, recover from and adapt to climate-related shocks and stress, so as to bring sustained improvements in population health, despite an unstable climate". *(7)*

Examples of interventions and improvements that facilities can make to strengthen climate resilience are provided in Technical fact sheet 1. The UNICEF strategic framework for WASH climate-resilient development provides further information on the main elements to be considered in planning and undertaking actions aimed at building climate-resilient WASH services *(8)*.

Fig. 4. Framework for building climate-resilient and environmentally sustainable health care facilities

Source: Adapted from WHO *(6)*.

Investment in healthier environments provides protection against future disasters and offers some of the best economic and social returns for communities. The WHO manifesto for a healthy recovery from COVID-19 sets out six key prescriptions, including investing in water, sanitation and clean energy in health care facilities *(9)*. In both the ongoing response to the COVID-19 pandemic and preparing for future epidemics, all policies, procurement and resourcing should invest in actions that protect human health, and minimize environmental degradation and climate impacts. Reducing packaging and using more environmentally sustainable packaging, effectively segregating wastes, reducing unnecessary use of gloves and strengthening hand hygiene are examples of such measures.

2.2 GENDER EQUALITY, DISABILITY AND SOCIAL INCLUSION

The design and management of WASH services in health care facilities must consider a variety of user needs. Users include women in labour and menstruating women; infants and children; older people; people with disabilities; individuals with particular religious or cultural practices and beliefs; and people experiencing injury, illness or incontinence. Women are a particularly important and common user group. They form 70% of the global health workforce, comprising the vast majority of frontline nurses, midwives and cleaning staff *(10).* Female patients and staff may face negative impacts of cultural taboos around menstruation and post-birth bleeding. In most cultures, they also have socially prescribed roles as stewards of water and carers for family members; as a result, they are particularly exposed to risk of infection from poor hygiene. They may experience risks to personal safety and security when using WASH in the workplace or as users of health care facilities. The planning, design and management of WASH services in health care facilities must therefore consider the accessibility, safety, privacy, social appropriateness or acceptability, and comfort of these many different users. WASH FIT includes indicators that address issues of gender equality, disability and social inclusion (GEDSI), and guidance to make the WASH FIT process inclusive and equitable (see Technical fact sheet 2).

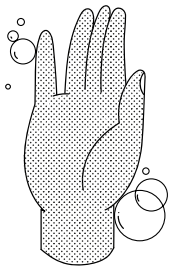
2.3 EMERGENCIES AND PANDEMIC PREPAREDNESS

The COVID-19 pandemic has highlighted that many health systems around the world are underprepared and unable to deliver basic services, rendering them unable to respond to disease outbreaks and deliver quality care.

WASH FIT provides a framework for facilities to meet the requirements for basic services and thereby strengthen preparedness and response capacities for epidemics and pandemics. Existing WHO guidance on the safe management of drinking water, sanitation and health care waste, and recommendations on hand hygiene, all apply to COVID-19. No additional or different measures are needed *(11)*. In emergency settings, users may wish to simplify the assessment form to focus on a smaller set of priority issues. Alternatively, additional indicators relevant to the emergency or outbreak could be added. For example, in **Mali**, indicators agreed by the national COVID-19 taskforce were integrated into the WASH FIT assessment. Guidance on how to do this is in Annex 3.

Emergencies can lead to large increases in numbers of users of health care facilities, and infectious diseases may change how care is delivered. COVID-19 testing, treatment and vaccinations have led to increases in the volume of health care waste in many countries and facilities, overloading limited waste management systems and negatively affecting the environment *(12)*. Technical fact sheet 4 describes specific measures to reduce, recycle, and more safely and sustainably treat health care waste.

2.4 INFECTION PREVENTION AND CONTROL



WHO IPC resources and normative guidance on IPC *(13-15)* emphasize WASH at the health care facility level as both a core component and a minimum requirement for achieving strong and effective IPC programmes. Associated WHO IPC assessment tools and implementation guides are available *(16-18)*. These tools generate valuable complementary data on WASH that, if available, should feed into the WASH FIT cycle. Technical fact sheet 5 provides guidance on how to apply the hand hygiene multimodal improvement strategy within WASH FIT.

2.5 QUALITY OF CARE

Quality of care is the degree to which health services for individuals and populations increase the likelihood of desired health outcomes. WASH services and practices are fundamental to delivering quality of care and are especially important during childbirth. As outlined in WHO maternal and newborn standards, WASH is necessary not only for IPC but for preserving dignity and respect, and providing a supportive environment *(19, 20)*. WASH indicators should be monitored and WASH interventions supported as part of any effort to improve quality of care. More broadly, efforts should be made to embed WASH activities within initial and ongoing efforts, as detailed in the WHO quality planning guide *(21)*.

2.6 ROLE OF WASH FIT IN HELPING FACILITIES TO ADDRESS THESE PROBLEMS

WASH FIT addresses the issues described in sections 2.1–2.5 by helping facilities to identify needs, develop and track improvement plans, and undertake incremental changes that can be sustained with available resources.

The starting point of the WASH FIT process is a thorough assessment of the facility, based on a set of indicators and targets covering (Box 3):

- five primary WASH domains – water, sanitation, health care waste management, hand hygiene and environmental cleaning;
- two domains that are needed to support WASH infrastructure and practices – energy and environment, and management and personnel; and
- two cross-cutting themes, with indicators integrated across the seven domains – climate resilience, and gender equality and inclusiveness.

Box 3. WASH FIT domains and themes

Five primary WASH domains:

Water – availability, quality, quantity (including strategies to reduce water use), storage.

Sanitation – inclusive toilet facilities (gender separated and with disability access); quantity and quality of toilet facilities; safe collection, storage and treatment of faecal waste.

Health care waste management – segregation, safe storage, treatment and disposal of waste; waste reduction and recycling; competencies of waste personnel.

Hand hygiene – availability of handwashing stations, soap and alcohol-based hand rubs; hygiene messaging; behaviour change; compliance and auditing.

Environmental cleaning – cleaning protocols, frequency of cleaning, availability of supplies (mops, brooms, cleaning detergents, storage facility, personal protective equipment – PPE), staff availability and competency, occupational health of cleaners, budgeting, laundry facilities, selected aspects of food hygiene.

Two domains needed to support WASH infrastructure and practices:

Energy and environment – energy supplies and backup, lighting, energy efficiency, ventilation and airflow, control of vectors and other animals that transmit disease, safe management of wastewater and stormwater, aesthetic appearance of the facility.

Management and personnel – staffing, oversight and coordination, monitoring, reporting, performance review and accountability mechanisms, supportive supervision, training and behaviour change, budgeting, resource mobilization, operation and maintenance.

Two cross-cutting themes, with indicators integrated across the seven domains:

Climate resilience – reduction of water use, safe water storage, resilient infrastructure, renewable/clean energy, environmentally sustainable waste technologies, waste reduction and recycling, SOPs and plans for responding to extreme weather events, sustainable procurement.

Equity and inclusiveness – availability of accessible and safe infrastructure for all users; clean birthing environments (birthing rooms, toilets and showers for women delivering); menstrual hygiene management; inclusion of women's and disadvantaged groups' voices in planning, decision-making and resource allocation.

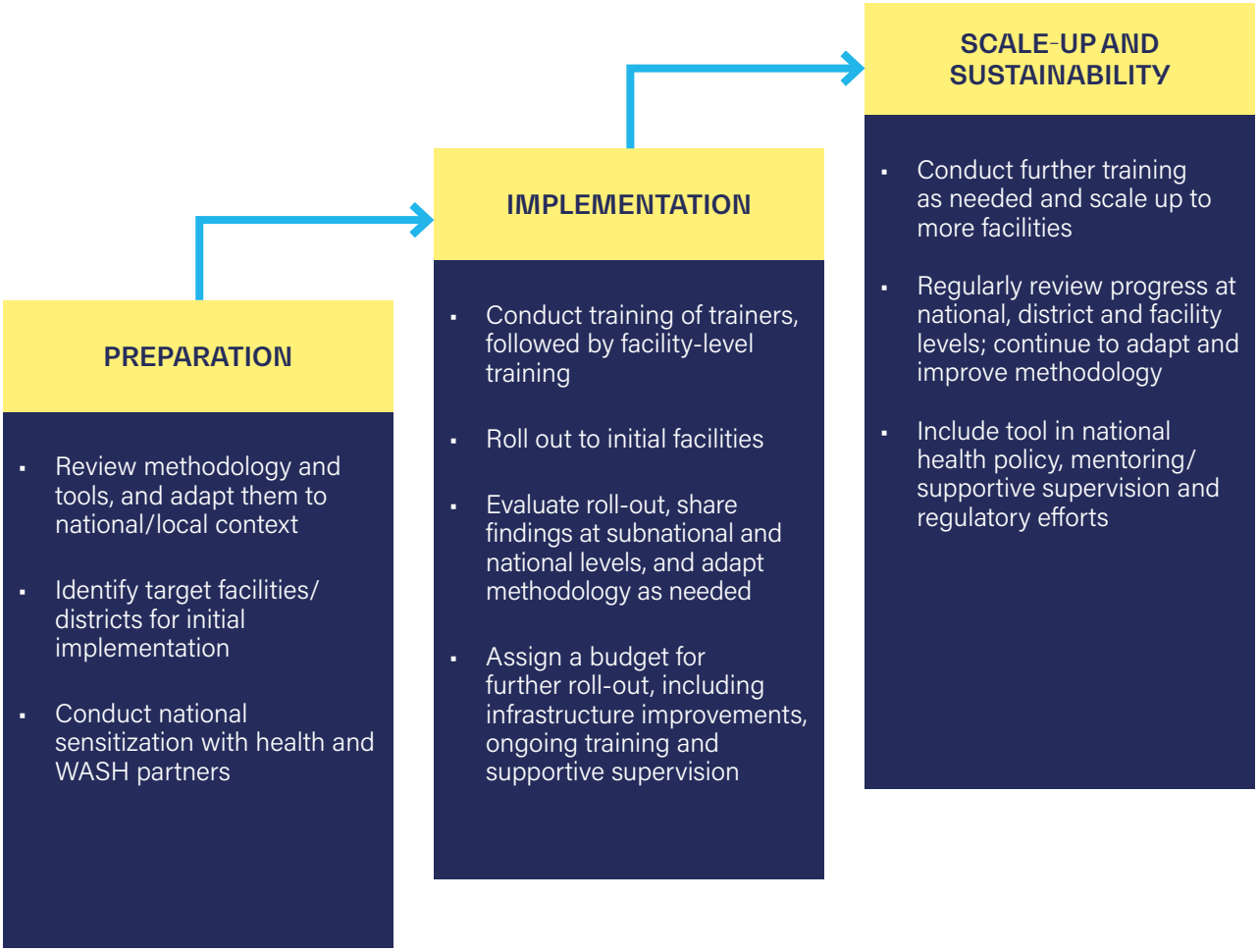
The indicators and targets are derived from the following global norms and standards:

- WHO *Essential environmental health standards in health care (22)*
- WHO *Guidelines for drinking-water quality* (4th edition) *(23)*
- WHO *Guidelines on sanitation and health (24)*
- WHO *Guidelines on core components of infection prevention and control programmes at the national and acute health care facility level (15)*
- WHO *Minimum requirements for infection prevention and control (13)*
- *WHO guidelines on hand hygiene in health care (25)*
- United States Centers for Disease Control and Prevention *Best practices for environmental cleaning in healthcare facilities: in resource-limited settings (26)*
- WHO *Strengthening infection prevention and control in primary care (27)*
- WHO *Safe management of wastes from health care activities (28)*
- WHO *Overview of technologies for the treatment of infectious and sharp waste from health care facilities (29)*
- WHO *Standards for improving quality of maternal and newborn care in health facilities (19)*
- WHO *Standards for improving the quality of care for children and young adolescents in health facilities (20)*
- *WHO guidance for climate-resilient and environmentally sustainable health care facilities (6)*
- WHO *Access to modern energy services for health facilities in resource-constrained settings: a review of status, significance, challenges and measurement (30).*

THE WASH FIT PROCESS: FROM INITIAL IMPLEMENTATION TO NATIONAL ROLL-OUT

This section describes the WASH FIT process – from adoption and initial implementation, to training, sustaining and scaling up, and the financing and investments needed to improve and maintain WASH services. Fig. 5 illustrates the process, although activities may be completed simultaneously or in a different order depending on context.

Fig. 5. WASH FIT process



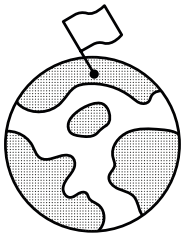
3.1 INITIAL IMPLEMENTATION

Most countries using WASH FIT start in selected districts or a subnational area to demonstrate proof of concept before launching a national WASH FIT programme – that is, "start small, think big". With relatively few resources, WASH FIT implementation can begin in a small number of facilities. Experience from the preliminary roll-out can be used to adapt and improve the tool to suit local needs and capacity, based on what staff felt worked well (and what did not). Documentation of what works and key challenges should be shared with implementing partners, facilities and the ministry of health.

A formal sampling methodology is not needed to select the first facilities to use WASH FIT, since the WASH FIT assessment is not designed to produce statistically rigorous WASH coverage data. Facilities may be selected based on existing data about known gaps, the existence of active partners who are already supporting related community WASH or focused health efforts, or the existence of a particular issue that needs to be addressed (e.g. an area particularly affected by adverse climate events or a cholera hotspot).

3.2 POLITICAL COMMITMENT AND LEADERSHIP

Government leadership throughout the process is important to ensure long-term success, and regular financing, technical support and mentorship. In a number of countries, the government has adopted WASH FIT as *the* national tool that facilities are recommended to use to make improvements, and it is explicitly referenced in national standards, strategies or QI programmes. This government backing encourages or mandates partners to use a common approach to training, assessment, technical design, behaviour change and data sharing.



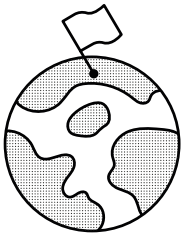
Engaging local authorities is often beneficial. In **Lao People's Democratic Republic**, the deputy director of the local health office was included in the WASH FIT team. After the deputy director advocated for greater investments, the local government provided extra funding for necessary improvements. In **Mali**, after reviewing the results of a WASH FIT assessment, the local municipality provided US$ 4000 to build a new latrine block, with three cabins, including lighting and facilities for menstrual hygiene management and access for people with limited mobility, thus achieving basic sanitation status.

3.3 TRAINING AND CAPACITY-BUILDING

Training may start with national-level sensitization to familiarize government officials and partners with the process and provide them with the skills needed to adapt the tool to the national context. Following this, training of trainers may be run by the ministry of health, with support from partners (commonly WHO and UNICEF) and nongovernmental organizations (NGOs). These trainers may then be responsible for cascading training, from the national level to district level to facility level.

Many facilities, particularly in rural areas, have high turnover of staff. Where this is common, contingency measures for training new staff should be in place to ensure a continuity of skills and knowledge. Having a database of national trainers to continually build local capacity and support WASH FIT roll-out will be helpful.

Refer to the WASH FIT training manual for more information.



In **Liberia** in 2015, the Ministry of Health convened a series of multi-stakeholder meetings to develop a national WASH and environmental health package, which included use of WASH FIT, as part of its strategy to deliver universal WASH services *(31)*. A national WASH FIT training package was developed and rolled out to every district to develop a roster of certified master trainers (see Glossary). This roster was shared with WASH partners to support WASH FIT implementation. District health teams were engaged to follow up on WASH FIT processes, and progress on key WASH indicators was reported back and analysed at the national level. WASH FIT thus provided solid baseline information to inform those involved in developing quality policies and strategies at the national level.

3.4 SUSTAINABLE FINANCING AND INVESTMENT

WASH FIT requires financial resources for training, infrastructure upgrades, continued operation and maintenance of WASH services, hygiene training, and supportive supervision and mentorship. The costs of some improvements may be small – such as putting up signage on existing latrines to safely separate them by gender – so that the improvements can be completed using existing resources. Others may require significant external funds, such as installing an on-site water supply or a new latrine block with septic tanks.

Table 2 provides a summary of per-facility capital and recurrent costs to meet basic WASH and waste service standards in least developed countries (LDCs). Note that there can be large variations in costs between and within countries depending on many factors, including size and location of health care facilities, local availability of technologies, supply chains, economies of scale, and availability and quality of raw water supply.

Table 2. Summary of per-facility capital and recurrent costs to meet basic WASH and waste service standards in the LDCs (2020 US$)

Service area	Facility type or technology	Capital		Recurrent	
		IQR	*N*	IQR	*N*
Water	Piped	2 000–23 750	38	500–5 289	33
	On-site	5 000–28 726	38	500–4 500	25
Sanitation	Sewerage	5 000–24 000	25	150–2 006	21
	On-site, septic	6 000–30 000	40	350–3 500	30
Hygiene	Non-hospital	463–3 500	38	200–950	34
	Hospital	1 107–6 690	34	403–3 000	29
Waste management	Non-hospital	3 000–15 000	38	500–3 918	30
	Hospital	15 000–50 000	34	1 500–10 500	28

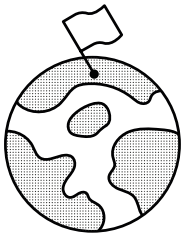
IQR: interquartile range; *N:* number of LDCs for which cost data were reported in the per-facility cost survey.
Note: water and sanitation combine hospital and non-hospital for both on-site and off-site.

The cost of meeting targets for WASH in health care facilities in the 46 LDCs is manageable: from 2021 to 2030, US$ 6.5–9.6 billion more will need to be invested, or an average of US$ 650–960 million per year (US$ 0.54–0.79 per capita). These costs are modest compared with overall levels of government spending on health and WASH. Funding needs for annual operation and maintenance in 2030 are equivalent to only 4–6% of recurrent health spending by LDC governments in 2018 *(32)*.

Many low- and middle-income countries may have no, or only minimal, budgets allocated for WASH and energy services. In addition, upfront capital costs for individual facilities may be large, especially for health care waste infrastructure, which is 47% of capital costs and requires coordination between multiple ministries.

Some questions to consider about costs, budgets and financing for WASH FIT are set out in Table 3 and Box 4. Table 4 gives examples of specific items for different cost categories.

Funds for recurrent costs to operate and maintain WASH infrastructure should be budgeted for. They may come from the health facility discretionary budget, the municipality, the district health budget or the national health budget. Costs for supplies, improvements and upgrades should be included in the facility's WASH FIT budget and procurement plan. Costs should also factor in stockpiling certain supplies (e.g. soap or disinfectant) in facilities prone to weather-related shocks, disease outbreaks or emergencies.



The increased attention on the importance of WASH and IPC to prevent and control COVID-19 can help to raise the profile of WASH in health care facilities and lead to mobilization of funds. In **Lao People's Democratic Republic**, more than US$ 2 million was mobilized domestically from government and a number of donors to support WASH improvements, including national roll-out of WASH FIT, as a result of national COVID-19 preparedness and response planning and funding. Similarly, in **Ethiopia** the Ministry of Health mobilized US$ 5 million to support IPC and WASH in 74 high-load hospitals through national COVID-19 efforts *(2)*.

Table 3. Questions to consider regarding costs, budgets and financing for WASH FIT

Area	Question
Financial planning and policy	▪ What are the capital and recurrent costs to carry out each of the identified improvements? How might these costs vary depending on technology choice and lifespan? ▪ How often and at what level does health budget planning and health financing policy and review occur? ▪ What entry points are there to include infrastructure budgets? ▪ What is the role of special programmes and initiatives, such as those focusing on primary health care, maternal and child health or emergency preparedness? ▪ For larger capital investments, what are the master plans for WASH infrastructure in the district or community? How can health care facilities be included and prioritized in the budgeting and financing process?
Sources of revenue	▪ What budget for infrastructure and hygiene behaviour change is available at the provincial and/or national levels? ▪ What, if any, budget is available or could be made available at the facility or community level and how flexible is this budget (e.g. can it be used for any infrastructure or hygiene behaviour change needed)? ▪ What existing, funded programmes are in place (e.g. quality care, vaccinations) and how can they be leveraged to better support WASH and basic IPC measures? ▪ What local mechanisms exist to raise funds to cover recurrent costs? Examples are adding a small "infrastructure tax" to health care user fees, providing water services to the community for a small fee, or using allocations from a municipal budget to cover cleaning supplies or a private cleaning enterprise.
Budget holders and authority	▪ How can baseline information collected using WASH FIT be used to advocate for further funding for WASH in health care facilities? ▪ Who manages each of these budgets, and how and when are decisions made on budget allocation? What initial steps, information and conversations are needed to influence these budgets? ▪ Are the voices of communities and civil society heard, and are they engaged in planning and budgeting WASH improvements?

In one district in **Nepal**, WASH FIT improvement plans have been used in the annual municipal planning and budgeting process, in which a list of priority tasks from facility improvement plans is discussed by the facility and ward representatives. As a result, annual budget allocations were made for five facilities for cleaning supplies and water quality testing kits worth more than US$ 5000.

Table 4. Examples of specific items for each cost category

Area	Immediate low cost or no cost	Longer-term or higher cost	Behaviour change, operation and maintenance considerations
Water	▪ Repair leaking pipes and taps ▪ Install drinking-water stations (covered bucket with tap)	▪ Install solar-powered pump in borehole ▪ Raise water tanks to make them climate-resilient	▪ Regularly inspect system for leaks, compromised water quality, etc. ▪ Ensure regular water treatment (e.g. chlorine dosing)
Sanitation	▪ Install or fix stormwater drains to divert water in flood-prone areas ▪ Install railing in toilets ▪ Provide menstrual hygiene bins ▪ Install locks on doors	▪ Install septic tanks with raised or reinforced walls to protect against floods	▪ Regularly inspect septic tank
Hand hygiene	▪ Ensure rational glove use (e.g. use only when there is a risk of blood or body fluid exposure, as per the glove pyramid *(33)*) through hand hygiene education and training, and behaviour change approaches ▪ Provide hand hygiene reminder posters (and associated resources) ▪ Use covered buckets with taps, soap and towels (or other hand-drying methods) – aim for point of care	▪ Provide sinks with soap and refillable alcohol-based hand rub dispensers	▪ Ensure training and regular monitoring ▪ Regularly engage with leadership
Health care waste	▪ Reduce unnecessary PPE use to reduce waste ▪ Install waste segregation bins and implement training ▪ Provide segregation reminder posters ▪ Fence off waste storage and treatment/disposal infrastructure	▪ Install non-burn technologies ▪ Establish centralized waste treatment systems and regular waste collection	▪ Ensure regular training and support for waste generators, cleaners and operators of incinerators/ autoclaves
Environmental cleaning	▪ Use less toxic and more environmentally friendly detergents and disinfectants[a] ▪ Provide buckets and mops		▪ Ensure regular (annual?) training on cleaning techniques and processes (e.g. cleaning checklist)

[a] See Box 5.

Box 4. Resource considerations for the hand hygiene multimodal improvement strategy

Effectively implementing the multimodal improvement strategy for hand hygiene requires identifying the start-up and ongoing resources needed for each of the five elements: systems change, training and education, monitoring and feedback, reminders and communication, and safety climate and culture change. WHO provides structured guidance for considering the human, programme and infrastructure resource needs for primary and higher-level health care facilities. Although it may not be possible to fully resource all elements, it is important to understand needs and develop an incremental plan to address the elements. Other areas of WASH that have a strong behaviour element, such as cleaning and waste management, may benefit from a similar assessment of resource needs. Refer to Technical fact sheet 5 for more information.

Box 5. Environmentally sustainable and safer cleaning and disinfectant procedures and products

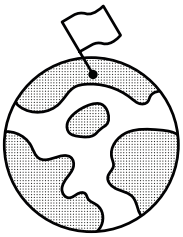
Many traditional detergents and disinfectants contain persistent, toxic chemicals that can cause cancer, respiratory ailments, and eye and skin irritation. They can also contribute to environmental pollution during manufacture, use and disposal.

Health care facilities should plan and schedule cleaning, ensuring that the appropriate methods and processes are applied with the correct frequency. Complete and regular cleaning with water and detergent can reduce the amount of disinfectants required. Some surfaces, such as floors, need to be cleaned regularly, but low-touch areas do not need to be disinfected except in specialist patient areas. Where disinfectants are indicated, they should be matched to the level of disinfection required; avoiding unnecessary use of high-level disinfectants will reduce the potential for worker exposure and environmental contamination. Procedures for cleaning different areas of the facility are provided in guidance from the United States Centers for Disease Control and Prevention *(26)*.

Health procurement entities and facility managers should purchase and use unscented, environmentally safe cleaning products, with minimal and/or environmentally sustainable packaging. Methodical hazard analysis of ingredients in cleaning and disinfectant products helps identify those that are safe and those that should be replaced with a substitute. Disinfectants with active ingredients based on alcohols, hydrogen peroxide and iodine compounds tend to have the least adverse impacts. For more information, see Health Care Without Harm *(34, 35)* and Green Seal *(36)*.

3.5 SUPPORTIVE SUPERVISION AND MENTORING

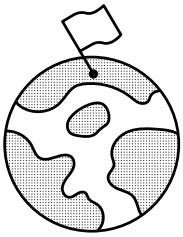
Experience has shown that facilities implementing WASH FIT benefit from continued supportive supervision and mentoring to ensure that they have the technical knowledge and motivation to continue. Mentoring should last at least a year – ideally longer if resources allow. Supportive supervision, which can be provided through existing district health management teams, can be integrated with existing monitoring efforts on quality of care, IPC, child and maternal health or primary health care, thus saving time and money in establishing a separate mentoring scheme. Supervision and mentoring can consist of regular visits to the facility from the district health office, national-level authorities or implementing partners with responsibility for a given facility, to provide training or troubleshoot any issues that have arisen. Some activities, such as analysing data or providing feedback on planned improvements, may be done remotely via teleconference. Learning sessions and exchange between a range of facilities (e.g. district hospitals and primary health care facilities in a catchment area) can help facilities to share best practices, challenges and innovative solutions, and provide peer-to-peer support. Mentoring of facilities that are struggling by high-performing facilities can also be useful. This can also support healthy competition between facilities. In most cases, dedicated funds will be needed for these activities.



In **Lao People's Democratic Republic** and **Togo**, regular supportive supervisory visits to facilities, which offered an opportunity to provide technical support to WASH FIT implementers, was a crucial factor in maintaining progress *(37)*. In **Mali**, regional health authorities organize periodic meetings with all facility management committees and mayors in their region. WASH FIT assessment data and results of WASH FIT improvement plans are reviewed with support from Terre des hommes, a local implementing partner. Learning about the process through success stories helps create a demand for WASH FIT in other health districts.

3.6 SHARING DATA TO IMPROVE RESOURCE ALLOCATION

Facilities that are using WASH FIT should regularly share data collected through routine assessments, as well as other WASH FIT documentation (e.g. the improvement plan), with the district health office and/or authorities at the national level. This information should then be consolidated and shared with relevant decision-makers at the national level. Partners supporting facilities to use WASH FIT also have an obligation to share data and information. The frequency of sharing of data will vary but could be quarterly or biannually.



In **Liberia**, WASH FIT was adopted at the national level in 2015, and nationwide roll-out began in 2016. District health teams, as part of their regular quality mentoring visits to health care facilities, review WASH FIT progress and provide immediate support for corrective action. In 2016, 5% of the country's 770 facilities were surveyed, with an average "WASH FIT compliance score" of 53%. As of 2021, 60% of facilities are implementing WASH FIT. The huge increase (55%) since 2016 is due to collaborative efforts and joint supportive supervision at both national and subnational levels, making use of county health teams and environmental health technicians, and other NGOs and community-based organizations.

Data collected are entered into a national database. The data are analysed and presented annually at health sector review meetings, where priorities are discussed and key needs, such as health care waste management, are identified.

Data management at the central government level may also help shift ownership towards governments. For example, in **Zimbabwe**, several partners support the Ministry of Health in data collection and roll-out of WASH FIT, using a centralized server for remote data collection. Improving access to electronic data collection means that WASH FIT assessments can be easily saved, shared, analysed and used to track trends. Free data collection platforms such as Kobo Toolbox and visualization software such as Power BI can be used in the absence of formal national databases.

FACILITY-LEVEL FACTORS TO MAKE WASH FIT A SUCCESS

4.1 FACILITY PERSONNEL

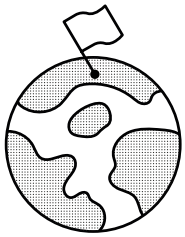
WASH FIT needs committed facility staff with the necessary technical expertise and leadership skills to sustain improvements. Staff should have clear job descriptions and receive regular salaries for their efforts. WASH FIT may be led by a WASH or IPC focal point, supported by any of the following staff members (depending on the size of the facility and the number of staff):

- chief medical officer, to provide leadership;
- financial administrator, to oversee budget and expenditure;
- clinical staff, to advocate for better services and identify problems that may affect quality of care; and
- people in charge of managing water, waste and cleaning, to identify problems and provide technical know-how.

Stakeholders with particular expertise in climate can provide inputs on risk assessments by identifying climate-friendly improvements, and disseminating knowledge at local and national levels. A gender balance and representation of diverse users of WASH, including people who experience marginalization, are also important. For more information on who should be involved, refer to Step 1 and Technical fact sheet 2.

4.2 A CULTURE OF QUALITY AND THE ROLE OF SENIOR MANAGEMENT

Leadership from senior managers who understand WASH problems and their implications, and who dedicate time and resources to WASH improvements is important for the success of WASH FIT. The role of the leader or senior manager is to ensure that problems identified are followed up and acted upon by staff, and that the WASH FIT team is supported in its work.



In **Chad**, following training of staff in cholera hotspot communities, facilities with leaders committed to the WASH FIT process made greater progress than those without. Improvements were seen in overall cleanliness of the facility, sanitation services and hand hygiene facilities. In **Ethiopia**, facilities whose senior managers were actively involved in the national Clean and Safe Hospitals (CASH) initiative (a risk-based improvement methodology similar to WASH FIT) saw the greatest improvements. CASH team members had a range of skills and expertise, with a mixture of health and non-health professionals who could contribute to quality improvements *(38)*.

Leaders are also needed to create a **culture of quality** (see Box 6), which facilitates sustainable and meaningful change. Although there is no single definition of a culture of quality, it is generally understood to mean an inherent and explicit recognition of the value of efforts to improve the quality of health services provided – and that such efforts are systematically promoted within an enabling environment that encourages engagement, dialogue, openness and accountability *(21)*. Delivering reforms that are inclusive and equitable, and promote a culture of improvement, requires that clinical and managerial teams responsible for implementation reflect these principles in their own approach and values. This is central to the sustainability of QI efforts and WASH FIT.

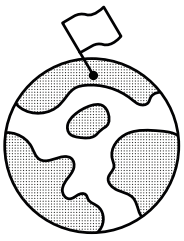
Box 6. Key features of a culture of quality

- Leadership for quality at all levels
- Allocation of sufficient resources and funds
- Openness and transparency
- Emphasis on teamwork
- Accountability at all levels
- Learning embedded in the system
- Active feedback loops for improvement
- Meaningful, comprehensive and sustainable engagement of staff, service users and the community
- Empowering individuals and groups while recognizing complex adaptive systems
- Alignment of professional, organizational and individual values
- Fostering pride in care
- Valuing compassionate care
- Coherence between QI efforts, service organization and planning

Source: adapted from WHO *(21)*.

4.3 COMMUNITY PARTICIPATION

In many resource-limited settings, family members or visitors provide care to patients and play an important role in demanding quality services *(39)*. Community participation in the WASH FIT process and as part of the WASH FIT team serves a dual purpose: to increase awareness of staff, patient and visitor safety; and to encourage community buy-in to the WASH FIT process and ultimately increase care-seeking from community members. As well as people contributing labour, equipment and other resources to the WASH infrastructure at the health facility, community participation aims to promote the active involvement and engagement of all sections of a community in project planning and decision-making. It encourages people to take responsibility for the process and outcomes, both short and long term, of WASH FIT. The WASH FIT team should include at least one community representative, local leader or influencer to hold the facility accountable for good governance of WASH infrastructure. Community representatives may also help identify areas for improvement that may otherwise be overlooked.



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In **Ghana**, the community plays an active role in demanding better services through a community score card, which is filled in and reviewed monthly by the community and district health officials; follow-up actions are then planned and taken. Communities themselves take on some actions (e.g. building a fence around the waste area) and hold the government accountable for others (e.g. installing a safer and more reliable water supply). The results are included in the online health management information system (DHIS-2) and available for any health systems official to view. Community engagement may be done through outreach activities, via community health workers, through comment boxes or books at the facility or town hall meetings (as in **Ethiopia**, see photo).

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In **Mali**, a public hearing was held to present the findings of a WASH FIT assessment, where the community successfully demanded investment in improvement plans from the municipality. It is important to ensure that feedback mechanisms take into account members of the community with low literacy. Feedback should involve a loop, where input is reviewed, discussed and acted upon.

4.4 RESPONSIBILITY FOR MONITORING AND MAKING IMPROVEMENTS

Monitoring and reporting progress are important parts of WASH FIT, by indicating which facilities need additional support and mentoring, providing examples of good practice and helping facilities to keep on track. Assigning clear responsibilities for each of these tasks helps to address the issue of accountability.

In **Kenya**, responsibilities were allocated according to specific indicators *(40)*. For this process, a team familiar with the Kenyan health care system and its management examined all WASH FIT indicators to understand how they related to one another and to assign them to the people or offices who would be responsible for action to improve them. Indicators were assigned to three levels:

- the county government, responsible for indicators that are beyond the control of hospital leadership; this might be a national government, where health resources are not decentralized;
- the hospital management team (medical superintendent, health administrative officer, nursing officer in charge and departmental heads); and
- the hospital IPC committee.

In **Bhutan**, each level of the health system (local, district and national) was assigned a specific role for monitoring and sharing data to sustain WASH FIT (Table 5).

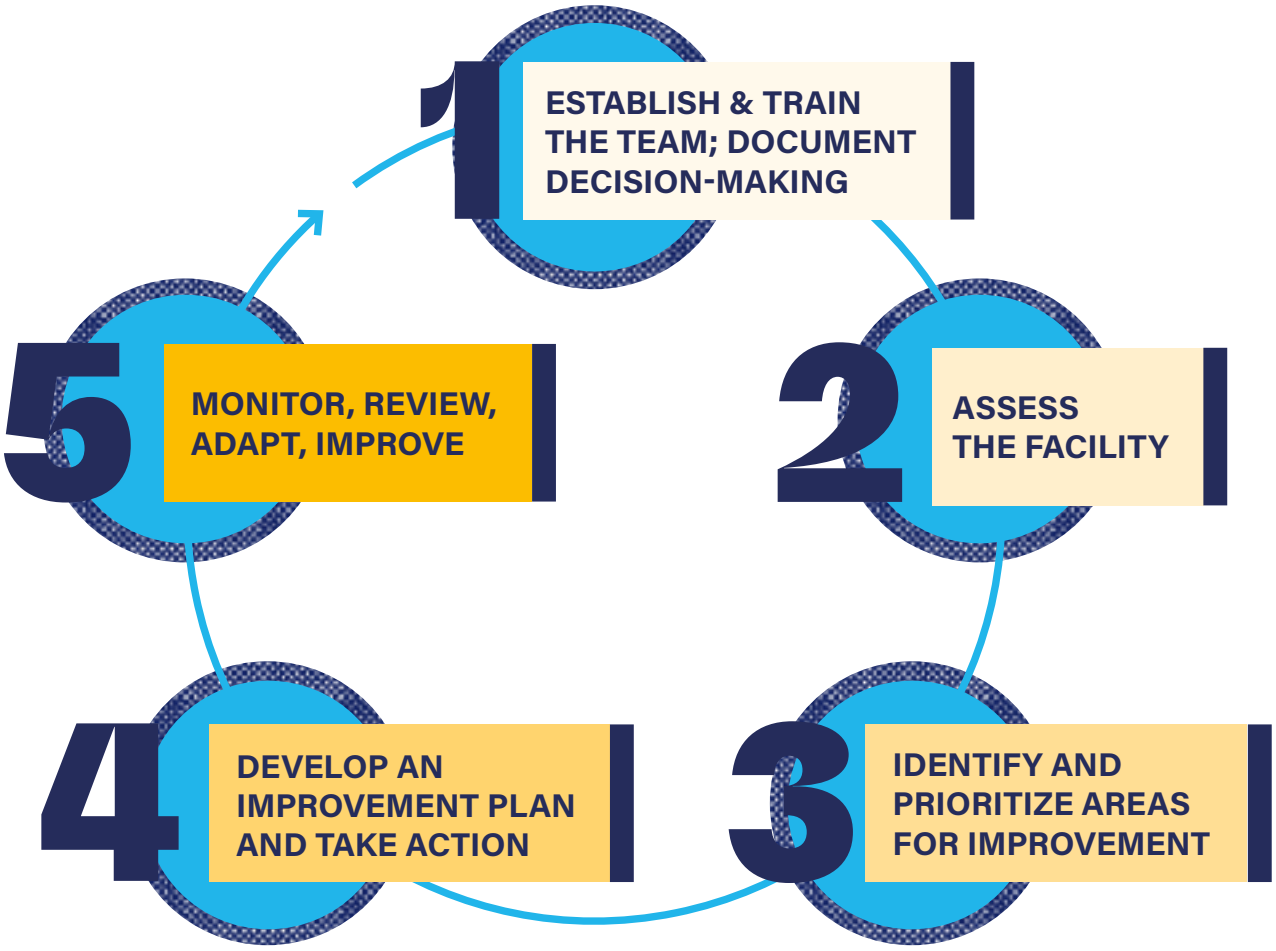
Table 5. Bhutanese system for WASH FIT data sharing and monitoring

Level	Responsible	Specific monitoring and follow-up tasks
Primary health care facility (local)	▪ Head of facility ▪ WASH FIT Committee lead and members	▪ Establish in-house routine monitoring and follow-up ▪ Monitor WASH services within health care facilities and implementation of remedial actions (e.g. repairs and maintenance of WASH facilities) ▪ Coordinate monitoring process within health care facilities ▪ Collect data using Bhutan-specific WASH FIT tools ▪ Submit data to District Health Office for validation ▪ Propose budget for implementation of remedial actions (e.g. repairs and maintenance of WASH facilities at subdistrict level)
District health sector (district)	District Health Office, administration	▪ Provide oversight of monitoring activities in all health care facilities within the district/municipality and provide technical support where needed ▪ Compile and validate data from all health care facilities in the district and submit to Public Health Engineering Department (Ministry of Health) ▪ Make periodic follow-up visits to health care facilities within the district/ municipality to monitor WASH status ▪ Allocate funds for WASH services, and implementation of repairs and maintenance
Public Health Engineering Department (Ministry of Health) (national)	Public Health Engineering Department (Ministry of Health); Royal Centre for Disease Control; Quality Assurance and Standardization Division; Policy and Planning Division	▪ Develop national monitoring framework, including monitoring indicators and standards ▪ Provide technical advice, and build capacity of districts and health care facilities on monitoring and follow-up processes ▪ Review monitoring reports from districts; compile and maintain national performance data from health care facilities ▪ Undertake periodic spot visits for quality assurance of monitoring process ▪ Organize national review meetings for key stakeholders

THE WASH FIT IMPROVEMENT CYCLE

The WASH FIT improvement cycle consists of five steps that are undertaken by the facility (Fig. 6). This section describes the key outputs and tasks required for each step and the templates available to support the team. These activities should take place only once the foundations have been laid (see sections 3 and 4) – for example, training has been conducted, templates have been adapted to the local context and initial funds have been secured.

Fig. 6. **The five WASH FIT steps**



5.1 STEP 1: ESTABLISH AND TRAIN THE TEAM, AND DOCUMENT DECISIONS

Key outputs

- A team responsible for WASH FIT and QI; the team has been trained, has a set of clear roles and responsibilities, and meets regularly to assess progress, prioritize tasks and sustain progress.
- Documentation of team meetings and decisions (may include key decisions, records of written reports, photos and videos).

Tasks Start-up tasks

- Identify a group of people (staff and community members) with the necessary expertise and commitment to form a WASH FIT team.
- Train team members using the training manual.
- Identify relevant QI initiatives under way and build on these experiences.
- Agree on the scope of WASH FIT (i.e. whole facility versus selected wards/ departments).

Ongoing tasks

- Make managers, other facility staff, users and the community aware that QI activities are under way at the facility and invite them to have their say through staff, patient and community feedback mechanisms (e.g. surveys, leaflets, bulletins, newsletters, local media).
- Conduct regular meetings with these staff (this may be as part of an existing facility team, such as the QI team or IPC committee) to discuss WASH FIT results and processes.
- Document results and decisions taken under steps 2–5.
- Conduct annual refresher training for the team, especially as new members join.

Tools and documentation required for step 1

- A simple form to record the roles and responsibilities of WASH FIT team members (Template 1A).
- A record of WASH FIT team meetings (Template 1B).
- Training manual and associated resources.

Assigning responsibilities for WASH FIT: a typical WASH FIT team

In larger facilities, there may already be an existing team or structure responsible for overall management of the facility, QI, WASH or IPC (and cleaning). If so, WASH FIT should be integrated into that team's activities. Smaller primary health care facilities (particularly in low-resource settings) often provide limited services and have few staff, with many responsibilities. In such settings, the team will be smaller – possibly only two or three people. Table 6 provides two examples; note that these examples are indicative, and every facility will be different.

A participatory and empowering approach should be taken throughout the WASH FIT process, seeking input from diverse users, including staff directly providing care and those involved with other functions (e.g. cleaners, health care waste managers, plumbers), those seeking care and those accompanying them. Any quality and WASH improvements should be inclusive and try to avoid excluding groups or perpetuating other harmful social norms. For guidance on how to do this, refer to Technical fact sheet 2.

Table 6. Example WASH FIT teams

Primary health care facility	District or national hospital
Facility manager, doctor or clinician Nurse or health assistant Community engineer or technician Community leader or focal point District health authority or district health officer (may not attend every WASH FIT meeting)	Member of senior management Quality lead Nurse or other clinician IPC or IPC/WASH focal point District health officer representative Engineer with WASH and energy skills (ideally with climate expertise) Health care waste technician and/or cleaner Community and/or patient groups Local authority representative

Note: depending on the size of the facility, there may be multiple people for some of these roles from different wards.

Key principles for team members' roles and responsibilities are as follows:

- A leader is nominated to drive the process, with full support from senior management.
- The team has diversity and gender balance, and involves clinical and non-clinical or auxiliary staff.
- The team reflects the diversity of the community, particularly users who are more likely to have specific WASH requirements or face constraints (e.g. members of disability groups). Women's groups, human rights activists and civil society are engaged and speak up for marginalized and indigenous groups.
- Community and local government representatives are involved and provide broader community context.
- All team members have specific roles and responsibilities that are clearly defined at the start, recorded and endorsed by senior management.

Skills, knowledge and expertise needed for WASH FIT

The skills, knowledge and expertise needed for WASH FIT are as follows.

- Engineering and design – water supply, water quality, plumbing, sanitation systems, health care waste technologies and infrastructure, energy systems.
- IPC – cleaning, hand hygiene, health care waste management, appropriate use of PPE.
- Asset management – management of infrastructure, budgeting and financing to build, rehabilitate and maintain infrastructure.
- Management – planning, data collection, task allocation and follow-up on progress, documentation and data sharing, monitoring, budgeting, leadership.
- User types, preferences and needs – people with diverse needs who use and benefit from WASH facilities and services.

Additional specific expertise may also be needed (Box 7).

Box 7. Additional specific expertise for WASH FIT

External advisers may be engaged for selected technical issues at key stages of WASH FIT, rather than continuously as members of the WASH FIT team. This helps to keep the main team focused and support efficient decision-making.

The additional areas of expertise are as follows.

Climate and environmental expertise – to understand local climate risks and how they may affect a facility's WASH services. The WASH FIT team should engage on an ad hoc basis with individuals whose expertise could add value when considering climate-related risks, including:

- climatologists specializing in localized impacts from climate projections;
- hydrologists or hydrometeorologists to advise on possible impacts on water resources for the region of interest;
- public health or water quality specialists who can advise on the health impacts of projected climate-related water quality changes;
- emergency planning or civil protection experts to advise on disaster or emergency plans and responses;
- adaptation planners with experience in a region that has a similar current climate to that likely to be faced in future by the facility;
- water resources specialists with experience in water resources development across sectors and strategic water supply planning;
- waste management specialists with expertise in environmentally friendly waste management solutions; and
- other specialists, as required, to assist with the risk assessment for any elements of infrastructure under consideration.

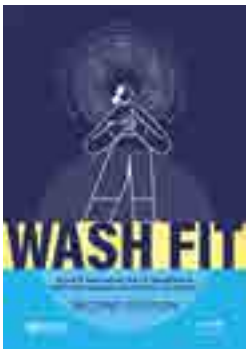
Local representatives who champion gender equality, disability and social inclusion – local women's and disability groups are consulted on WASH upgrades and designs to ensure that improvements meet the needs of women and people with disabilities. The WASH FIT team should include representation of these groups. For further information, refer to Technical fact sheet 2.

Team meetings

The frequency of meetings will depend on the size of the facility and the scope of improvements needed. It is recommended, where possible, that staff responsible for WASH FIT meet once a month, and that a longer meeting, with more in-depth review of progress, is held every 6 months. Discussions on WASH FIT may be agenda items added to existing meetings. In smaller facilities, meetings might be less frequent (e.g. once every 2–3 months). Some tasks, such as checking that toilets are clean and functioning and that hand hygiene materials are available, may need to be done more regularly (e.g. daily). When a facility is starting to use WASH FIT, more frequent meetings may be needed until the process is well established.

Documentation

The team should keep a record of progress over time by documenting team meeting discussions, decisions made and a timeline for all planned activities. This will increase accountability, and is helpful for district and national-level evaluation of WASH FIT. Photos and videos may also be used. Results from the assessment and, in particular, plans for improvements should be shared with the rest of the facility staff to seek input and foster ownership. They should also be shared with district and national health authorities in a timely manner. Using electronic versions of the WASH FIT templates makes data sharing quicker and easier.



Accompanying resource: WASH FIT manual for trainers

A WASH FIT training manual accompanies this guide. The manual outlines all of the materials required to undertake training according to the WASH FIT Guide, including background documents, training modules and training evaluation approaches. The modular approach enables trainers to decide on aspects that are most useful to support the delivery of targeted training at the local level. The manual is structured around three sections to support the user in 1) preparing, 2) delivering and 3) evaluating training. This is outlined in figure 2. Each section describes the actions/ activities that aim to support users to be ready to deliver their training plan effectively.

Box 8. Summary of WASH FIT manual for trainers

Section 1

Preparing

- an outline of the usefulness of training needs assessments and local fact-finding missions
- a list of considerations related to the people required to run a successful training session
- an overview of the considerations for face-to-face and virtual training
- some examples of country efforts
- some prompts to consider when addressing resources and budgets for training

Section 2

Delivering

- an outline of the training modules that comprise WASH FIT, with reference to an overview of each of the modules (found in the annexes)
- reference to example training agendas, face to face or virtual (found in the annexes)
- some additional prompts to consider as you start to deliver the training
- prompts to address adaptation of WASH FIT modules
- lessons identified from countries–potential barriers and mitigations

Section 2

Evaluating

- test and evaluation suggestions (sample pre-and post-test and evaluation forms found in the annexes)
- how to use a certificate of completion (example found in the annexes)
- an outline of how to address sustainability post-training
- a list of summary action checks

5.2 STEP 2: UNDERTAKE AN ASSESSMENT OF THE FACILITY

Key outputs

- An adapted version of the assessment form, tailored to the facility's needs.
- Regularly completed assessment and records of previous assessments to determine progress.

Tasks

- Review and adapt the assessment form to the local or facility context.
- Regularly conduct an assessment of the facility to provide the basis for improvement planning.

Tools and documentation required for step 2

- Assessment form (see Template 2, and Annexes 2 and 3).
- Sanitary inspection (SI) forms (see Annex 7).

Purpose and structure of assessment

The WASH FIT assessment includes a list of indicators to allow a comprehensive assessment of the WASH infrastructure and services, and related areas in a facility. The form has seven domains: water, sanitation, health care waste, hand hygiene, environmental cleaning, energy and environment, and facility management and health workforce. The indicators are based on global norms, standards and indicators for monitoring, and are measured using a three-point scoring system: facility meets the target *(2)*, partially meets the target *(1)* or does not meet the target *(0)*. Alternative rating systems – for example, a traffic light system (i.e. green, yellow, red) or star rating – may also be used. Explanatory notes provide further information and related reference documents.

The complete assessment form has more than 90 indicators; however, not all are relevant for all facilities. Some may only apply in primary health care facilities and some only in hospitals. Some apply to specific types of infrastructure (e.g. sewered systems versus septic tanks) and so may not be applicable in facilities that use simple latrines. Some apply to the facility as a whole (e.g. availability of improved water source on premises), whereas others are assessed by specific wards (e.g. presence of hand hygiene stations at points of care) and may need to be measured in multiple locations within a facility. In some facilities, additional context-specific indicators may be needed; these can be added before starting the assessment. Depending on the size of the facility, the number of indicators used and how familiar staff are with WASH FIT, a full assessment can usually be completed in 1–3 hours.

Photos may be used as an information supplement and are helpful to document the "before" and "after". Some indicators involve information that is not available at the facility (e.g. water quality testing results from the municipal supplier), and extra effort will be needed to source this information.

Sanitary inspection forms: assessing the water supply in more detail

To complete the assessment of the water supply (see Box 9), one or more of the four SI forms should be used (see Box 10). SI forms help to evaluate actual and potential

sources of contamination for different types of water sources. They allow facilities to undertake a detailed evaluation of their water supply to inform specific measures to be taken to reduce the risk of water contamination and shortages. Where facilities have more than one type of water source (e.g. piped water and rainwater) or more than one source of a given type (e.g. two different storage reservoirs), multiple SI forms should be completed. The SI risk score will be an average of the scores from all SI forms. Full instructions are provided in Annex 7.

Box 9. Embedding water safety planning processes within WASH FIT

The WASH FIT framework is based on water safety planning. Water safety planning is recommended by WHO as the most effective means of consistently ensuring the safety of a drinking-water supply *(41, 42)*. It is a proactive, risk-based approach, with a strong focus on operations and maintenance, and monitoring – elements that can be applied to health care facilities to ensure safe drinking-water delivery.

Countries and communities already implementing water safety plans (WSPs) are encouraged to continue and to expand these efforts to health care facilities. This means, in practice, that the water domain within the WASH FIT assessment will incorporate more detailed indicators for additional elements of water safety planning, including:

- describing the entire water supply system;
- monitoring the system
  - monitoring control measures through operational monitoring plans
  - monitoring water quality for compliance with regulatory requirements or internal water quality targets (through compliance monitoring);
- developing management procedures (i.e. SOPs for key operations and maintenance activities, and emergency response plans); and
- engaging with the appropriate authorities on water quality surveillance.

Auditing of WSPs can also be conducted in health care facilities. Auditing provides an opportunity to thoroughly understand what has (or has not) been adequately implemented and what is (or is not) effective, and ensures that the WSP is complete. Auditing supports WSP verification (including reviewing risk management, operational procedures and practices, and monitoring data) and underpins the continuous improvement and sustainability of water safety planning. Audit results can be shared with health facility staff, and water regulators and suppliers to improve actions and ultimately water safety.

Box 10. Use of SI forms for sanitation systems

WHO has recently developed SI forms based on recommendations in the WHO Guidelines on Sanitation and Health *(24)*. Similar to sanitary inspections for water supplies, the forms are short - standardized observation checklists to assess risk factors at or near sanitation facilities and identify appropriate actions to safeguard public health. Sanitation inspections are complemente d by a set of management advice sheets that provide guidance on operation and maintenance of sanitation systems and possible remedial actions for the risks identified. Using the SI forms can be especially useful for those facilities that desire to focus in more detail on sanitation. The forms for various types of sanitation technologies and management sheets can be found at: https://www.who.int/teams/environment-climate-change-and-health/water-sanitation-and-health/sanitation-safety/sanitation-inspection-packages.

Adapting the assessment

The assessment provides the basis on which all other decisions will be made. It should be adapted to reflect national standards and guidelines, the facility situation or particular priority issues before WASH FIT is rolled out (see Boxes 11 and 12). This process is usually done first at the national level, with further adaptations made by the facility team. For guidance on how to adapt the assessment, refer to Annex 3.

Box 11. WASH FIT in a hospital: start by focusing on a smaller area before scaling up

In larger facilities where there are multiple problems to address, it may be better to begin by focusing on a particular ward (e.g. maternity ward) or technical area (e.g. water supply). A department should be chosen that has obvious needs, motivated staff, large health risks and limited WASH. For example, the maternity, labour, delivery and paediatric departments are often poorly served, and any improvements made will have an important impact on maternal, neonatal and child mortality, and quality of care more broadly. Consideration should be given to selecting wards that reflect and represent any potential variation within the facility. Refer to Annex 3 for additional guidance on assessing indicators in specific departments.

Box 12. **Ensure** that the assessment addresses gender equality, disability and social inclusion

To ensure that the assessment addresses GEDSI, it is important to:

- ensure that special attention is given during the facility assessment to the delivery rooms, neonatal care unit and postnatal care rooms; check for female-specific facilities and infrastructure;
- speak to health care workers and facility management to understand and challenge harmful attitudes about, and discrimination against, certain groups; and
- recognize that not all staff will feel comfortable highlighting problems due to power imbalances, and that some problems may not be immediately obvious (e.g. problems in supplies of PPE).

Frequency of assessment

A full facility assessment should ideally be conducted every 6–12 months, depending on the size of the facility. This regular assessment will highlight where additional improvements are needed or if new problems have arisen. Ideally, the same people should conduct the assessment each time to ensure consistency. Some problems may not be resolved between assessments, but it is still important for regular assessments to be done to sustain momentum. Additional weekly or monthly spot checks will also be needed as part of regular progress monitoring (refer to Step 5 and Annex 5).

Calculating the facility score

To understand how well the facility is performing, a WASH FIT score is calculated. This may be calculated across the whole facility, or for one domain or ward. Scores allow comparison of WASH services between facilities and between different areas within a facility, and show progress over time. It is important to remember that, even if the overall score improves, the score for some important indicators may decrease during the same period.

Because all indicators are weighted the same, the score is a relatively crude measure. Facilities may wish to apply their own weighting to indicators.

The WASH FIT score is calculated using the equation:

$$\frac{\text{Numerator: total scored across all indicators}}{\text{Denominator: maximum possible score (total number of indicators} \times 2)}$$

The scores can be used to categorize facilities into different levels of performance. These levels may be decided on a national or local basis. Suggested cut-off points are as follows:

- **<67% (red)** – major efforts and resources are needed for improvements across all domains;
- **67–75% (yellow)** – additional efforts and ongoing maintenance are needed; and
- **>75% (green)** – the facility is doing well, but a small number of indicators could still be improved, and ongoing maintenance is also needed.

Table 7 shows an example of the scoring system used in the Philippines.

Table 7. Philippines WASH FIT scoring system used for action planning

Rating	Remarks	Action required
Three star	Fully meets the standards of all 34 national indicators, and at least 75% of 16 global indicators.	Maintain your rating. Do the next assessment after 12 months.
Two star	Fully meets the standards of all 34 national indicators, and at least 30% of 16 global indicators.	Continue making improvements to fully meet the minimum national standards. Do the next assessment after 6 months.
One star	Partially meets the standards of all 34 national indicators and one global indicator.	Additional improvements are needed to fully meet the minimum national standards. Do the next assessment after 6 months.
No star	At least one national indicator scored zero or does not meet the standards.	Critical changes are needed immediately. Address indicators that do not meet minimum national standards to come up with an improvement plan and to guide you in implementing these changes. Do the next assessment after 3 months.

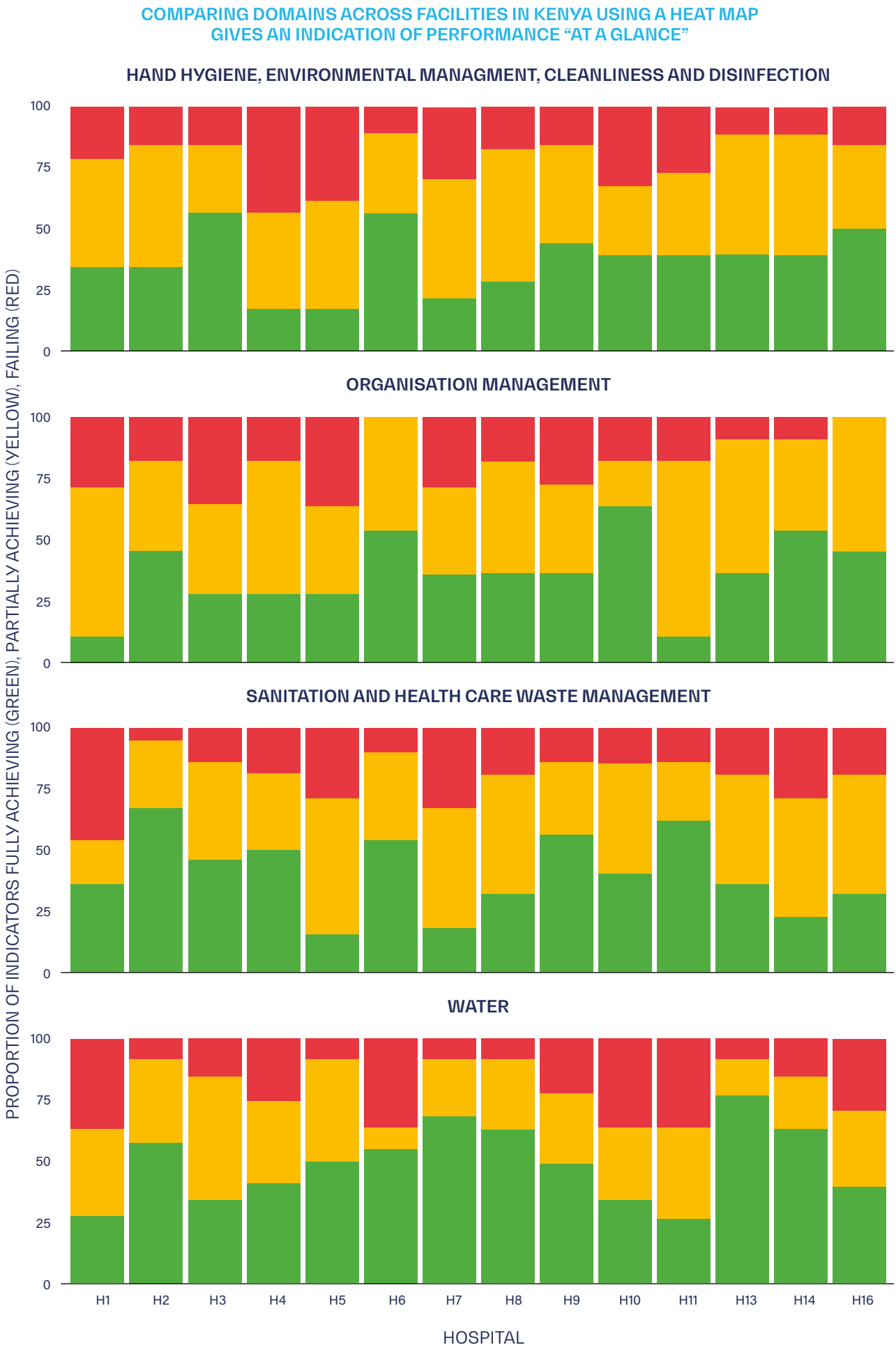
Summarizing, presenting and sharing data

Creating a dashboard or visualization of the data can be helpful for decision-making (see Fig. 7). The results of the assessment may be shared with the district health office, with a local implementing partner or at the national level. The first example in Fig. 7 is from Kenya and was used to identify inequities in supplies and services within a health care facility (between wards) and between facilities.

The second example, from Guatemala, was developed by Engineers without Borders (EWB) using Power BI to compare the water, sanitation, hygiene and energy services across 58 facilities. Five NGOs working across Guatemala contributed data, which EWB consolidated and entered into the dashboard. These data were then shared with the Ministry of Health, local government and NGOs. The data helped raise awareness about the poor WASH conditions, helped prioritize needs, and facilitated joint ownership and collaboration between the government and implementing partners. The data also helped match resources – for example, identifying water storage needs and soliciting tank donations to match these needs. Following review of the data, the government provided additional investment to certain facilities. At the time of writing, a follow-up of all facilities is planned to ensure that investments are translated into sustainable improvements.

In the Philippines (see Fig. 7) a dashboard was created to share real-time assessment of WASH services in a health care facility using WASH FIT. The dashboard gives local government officials and the general public access to consolidated data at municipal, provincial, regional and national levels. This information is used to inform decisions on funding critical WASH facilities and capacity-building requirements. Plans are under way to roll out the use of the tool and the dashboard among all public hospitals and primary health care facilities.

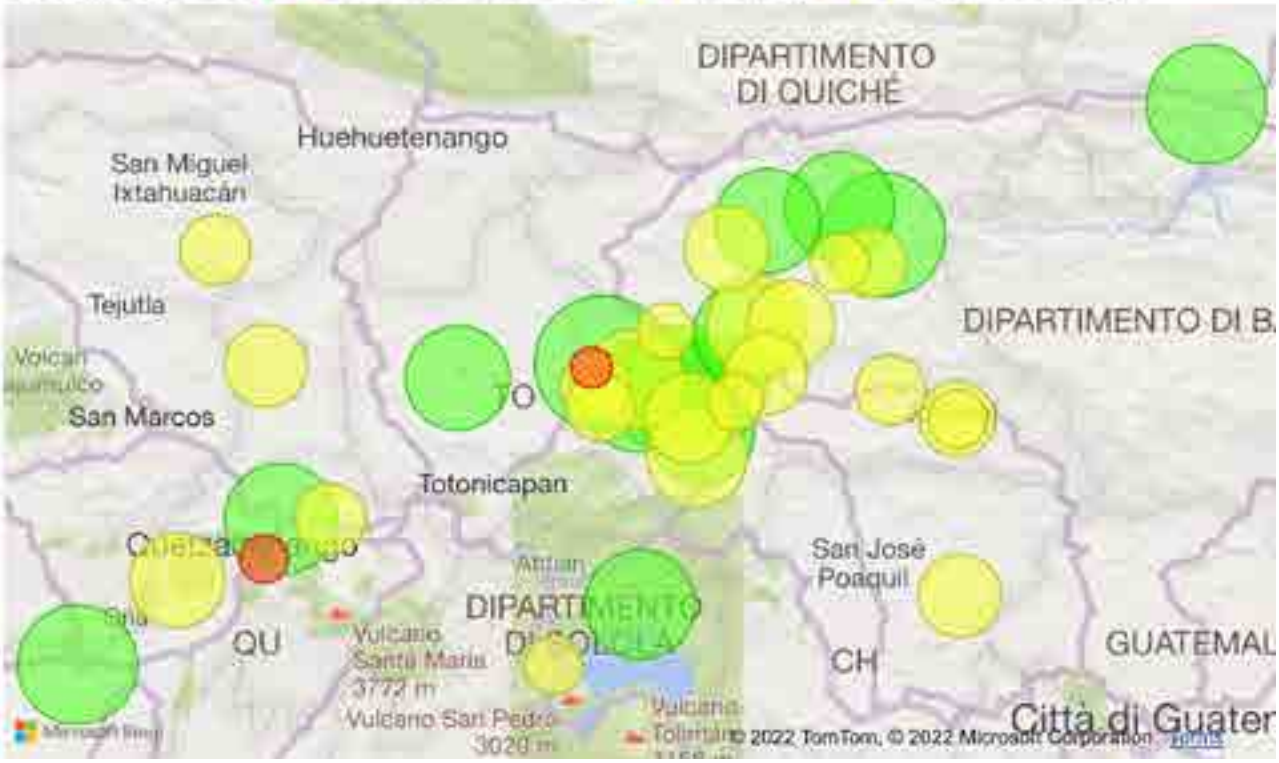
Fig. 7. **Visualization of data from facility assessment**



Facility Score By Discipline

Map - Overall Score

Overall Score Level Does Not Meet Target Meets Target Partially Meets Target



Department

Tutte

% Meeting Target by Discipline

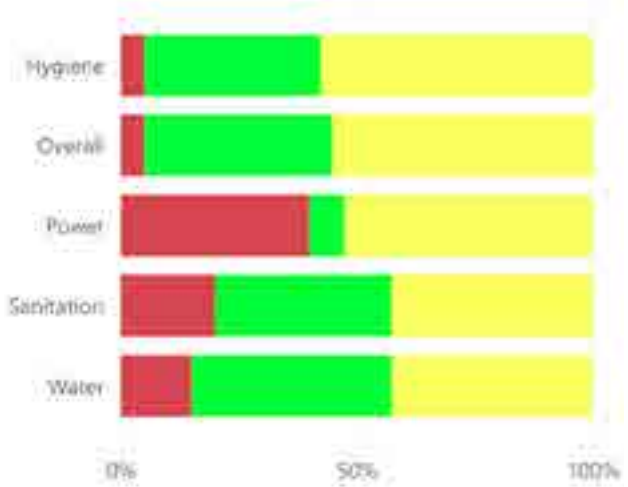
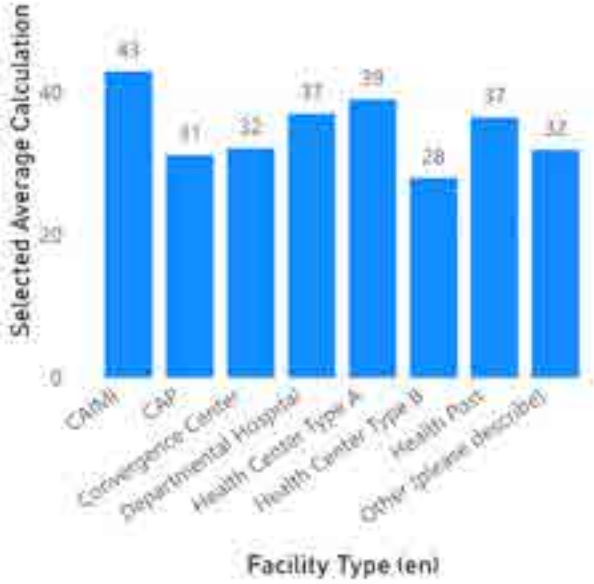


Table-Overall by Facility Type (Goal 58)



VISUALIZATION IN THE PHILIPPINES, USING POWER BI AND A SEPARATE PRIVATE DASHBOARD FOR REGULATORS

Using the WASH FIT assessment to calculate service levels

The WASH FIT assessment includes all the core WHO/UNICEF[4] global indicators for WASH in health care facilities (water, sanitation, hand hygiene, health care waste and environmental cleaning). The global core indicators are intended for harmonized national-level assessments and monitoring. They can be used to compare the conditions of WASH in health care facilities within and between countries, to track national progress over time, and to combine national data to produce regional and global estimates. WASH FIT is more focused on qualitative analysis and progressive improvement, for which objective values and comparison between facilities or countries are less important, and for which additional indicators beyond the global indicators are necessary. WASH FIT indicators are scored using a three-point scale (red/yellow/green or 0/1/2) to inspire facilities to make incremental improvements. Responses to the core global questions are yes/no (allowing estimation of coverage). See Annex 4 for an explanation of how WASH FIT indicators can be used to calculate service levels.

4. The WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene is the official entity to monitor progress on UN Sustainable Development Goal 6 (clean water and sanitation). It regularly produces updates of service levels in households, schools and health care facilities. Further information about the indicators for health care facilities is available at https://washdata.org/monitoring/health-care-facilities.

5.3 STEP 3: CONDUCT A RISK ASSESSMENT TO IDENTIFY AND PRIORITIZE AREAS FOR IMPROVEMENT

Key outputs

- A list of problems and gaps identified during the facility assessment.
- An understanding of the risks associated with each of these problems, ranked according to the severity of the risks.
- A list of problems that are sorted in order of the priority needed to address them.

Tasks

- Review the results of the assessment and identify all the indicators that do not meet the targets (across the facility, ward or domain), which constitute problems or gaps.
- Identify where things are working well in the facility (all indicators that meet the targets) to recognize progress.
- For each problem identified, consider the possible consequences for health and dignity, and the environment and climate.
- Determine the level of risk associated with each problem.
- Rank the problems according to their risk score to show which to prioritize for improvements.

Tools required for step 3

- Risk assessment and prioritization template (Template 3).

Reviewing the results of the assessment

As a team, review the results of the assessment (step 2) and make a note of all indicators that do not meet the targets (i.e. that have a score of 0 or 1). It may help to group indicators according to domain (e.g. all water-related problems) or by area in a facility (e.g. all problems found in the outpatient department). Whichever approach seems most logical and convenient for the facility should be used – there is no right or wrong way to do it. Listing all the problems in this way encourages a more holistic approach to QI than considering problems in isolation. If this exercise is done using Excel, the list can be easily sorted according to domain, facility areas, and so on.

Risk assessment

The team should assess the risk associated with each problem. Two categories are suggested:

- severity of consequences for facility users, and the environment or climate, associated with the threat; and
- likelihood of occurrence.

Table 8 sets out a scoring system for the risk assessment based on predefined criteria. Context-appropriate criteria may also be developed by the team, ensuring that the principle of safeguarding public health is never compromised.

Table 8. Scoring system for risk assessment

Category	Range	Score	Description
Severity of consequences to facility users (patients, staff and visitors) and environment/ climate	0–10	**0–3 = low severity**	No major health effects are anticipated and no urgent attention is required, but improvements are needed to reach standards and to improve quality of care.
		4–6 = medium severity	It is likely that there will be moderate negative health effects, discomfort from unsatisfactory services (e.g. unpleasant odours, unsatisfactory working conditions, potential for minor injuries), impact on staff morale and performance, or impact on the environment.
		7–10 = high severity	The problem is very likely to result in injuries, illness or infection in staff, patients and visitors, and an inability to provide essential services. It affects the dignity and safety of all facility users. There may be significant environmental contamination and impact on surrounding communities.
Likelihood of occurrence	0–10	**0–3 = likely to occur only rarely**	The problem is likely to occur only rarely.
		4–6 = may occur half the time	The problem is somewhat likely to occur.
		7–10 = highly likely to occur	The problem is constant and ongoing, and has a very high likelihood of occurring.
Total score[a]	0–20	**0–7 = low risk**	The risk is low and associated with minimal harm to humans or the environment.
		8–14 = medium risk	The risk is medium, and some harm will occur to humans and/or the environment.
		15–20 = high risk	The risk is high, and significant harm is likely to humans and/or the environment.

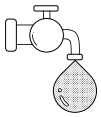
[a] Other criteria (scored 0–10) could be added and the total risk score adjusted accordingly.

For each indicator, the score and the reason behind it should be recorded as a reminder to the team when revisiting the results at a later stage. The list of problems should then be sorted according to the risk score (highest to lowest) to determine which problems need to be addressed first and how scarce resources should be prioritized.

Alternative risk assessment methodologies may also be developed by facility teams – for example, a set of simple qualitative criteria for low, medium or high risk (see example in Box 13). Some examples of how risk may be scored in a range of circumstances are shown in Tables 9–12. It is important to remember that climate change may also affect the risk assessment over time and due consideration for this should be included in the risk assessment (see Box 14).

Examples

Table 9. No improved water supply on premises



Category	Score	Notes
Severity of risk to facility users and environment/climate	9	There is no improved water source on premises, and facility staff and care seekers must carry water to the facility. This limits the ability to regularly and safely carry out core hygiene and IPC practices, including hand hygiene and environmental cleaning. As well, no drinking water is available. Water quantity is limited, and water quality is questionable.
Likelihood of occurrence	10	The water service can only be improved with considerable effort. Risks to all facility users are considerable and ongoing.
Total score	**19**	**High risk**

Table 10. No functioning waste treatment technology (autoclave broken)

Category	Score	Notes
Severity of risk to facility users and environment/climate	8	There is no waste infrastructure available: all waste is burned together in an open pit, resulting in release of dioxins and furans, and placing waste workers at risks of burns and poor air quality. The surrounding neighbourhood is also exposed to poor air quality and unpleasant smells.
Likelihood of occurrence	10	Fixing the autoclave requires spare parts that can only be purchased in the capital city. The problem is immediate and ongoing. Additional waste is generated daily by the facility, which needs to be treated and disposed of immediately.
Total score	**18**	**High risk**

Table 11. Safe faecal waste management is inadequate

Category	Score	Notes
Severity of risk to facility users and environment/climate	8	Faecal waste is collected in a septic tank that is not regularly emptied or functioning properly. When heavy rains occur, the tank overflows. Untreated sewage then contaminates the nearby field and eventually flows into a local river, which is used for fishing, irrigation, bathing and, in some situations, household water.
Likelihood of occurrence	6	Emptying of the septic tank depends on available budget, which is influenced by user fees at the facility and allocation from local government. This budget is sporadic. Heavy rains are also very variable: some recent years have had drought-like conditions and other years heavy rains. When rains do come, they occur for a short time with a large volume.
Total score	**14**	**Medium risk**

Table 12. Lack of lighting in toilets

Category	Score	Notes
Severity of risk to facility users and environment/climate	4	Some light fittings are missing bulbs, and other light fittings are broken. People using toilets at night must carry a torch because lighting is insufficient. Thus safety is a concern (especially for women and children), as is risk of falling. No related environmental risk.
Likelihood of occurrence	3	Risks to facility users are only relevant when the facility is open at night (e.g. emergency birth) when natural light is not available.
Total score	**7**	**Low risk**

Box 13. Alternative risk assessment method: ranking problems according to perceived relative risk

In this alternative methodology, developed by a team in Indonesia, indicators that did not meet targets are sorted by relative risk – from lowest to highest risk – without assigning a score. This can be done by writing all problems on small pieces of paper and sorting them into a line (see photo). The top third may be considered the highest risk and addressed first, the middle third medium risk and the bottom third lowest risk.

Risk ranking in Indonesia

Box 14. How will climate change affect the risk assessment?

Climate variability and climate change will potentially result in new problems being experienced, as well as changes in the risks associated with existing problems. Both the likelihood of problems and the severity of the consequences are likely to change as a result of climate variability and climate change.

Risk is not simply an assessment of what has occurred in the past; it includes envisaging what might occur in the future. The past can be a good guide to the future, but it is not a perfect one, particularly when new trends may emerge. Climate change itself will not change the basic nature of threats to WASH services but it will change their likelihood and severity, and potentially the geographical range of some threats.

A simple approach to incorporate climate change in the risk assessment is to assess, on the basis of climate change scenarios, the likely change in the risk over time. This may simply be an indication of direction, such as whether the risk is likely to increase or decrease. In some circumstances, knowledge of the nature of climate change is too uncertain to assign even a direction of change. In these cases, it is worth considering the level of risk that is deemed acceptable and identifying improvements that will reduce risks under all potential future climate change scenarios. WASH FIT teams can use information from existing regional climate vulnerability assessments to consider how these larger-scale patterns are likely to impact their facility.

Some problems will be more likely in the future than they were in the past. For example, contamination of source waters due to high-intensity rainfall may have been rare in the past and unlikely in a specific context, but might become more frequent in the future.

In addition to the risk ranking, the team must consider the feasibility of addressing the problem (and thus reducing the risk). This forms the basis of the improvement planning process in Step 4.

5.4 STEP 4: DEVELOP AN INCREMENTAL IMPROVEMENT PLAN AND TAKE ACTION

Key outputs

- An incremental improvement plan with a set of time-bound activities, agreed by the team and endorsed by senior management.
- Timely action on activities listed in the plan.

Tasks

- Based on the results of the risk assessment, develop a detailed incremental improvement plan with a defined improvement aim and specific, time-limited activities, outlining what improvements will be made within a given time frame.
- Identify measures that improve management of current climate risks and will help to manage long-term future risks and resilience.
- Implement the improvement plan in a timely manner, including ongoing operation and maintenance of infrastructure.

Tools required for step 4

- Improvement plan template (Template 4).

Improvement planning

Improvement planning should achieve stepwise, incremental improvement. Priority should be given to the highest-risk problems, so that limited resources can be used most effectively. A stepwise approach to full implementation of an optimal solution is often needed because of resource constraints and/or budgetary planning cycles. Such an approach should consider what can be done immediately to reduce the risk level given the available resources (often referred to as "quick wins"). This may provide a small but immediate reduction in risk. Longer-term improvement measures can be planned and delivered in parallel, reducing the risk level to the desired and acceptable level over time.

The plan should reflect all the activities that will be undertaken, including small ones that can be undertaken straight away and larger ones that are identified as important, even though the required resources may not be immediately available. Priority should be given to the highest-risk problems (noting that some of these may be costly or time-consuming to address) and to quick wins (i.e. improvements that can be undertaken quickly with a facility's own resources and expertise).

Writing the improvement plan

The team should come up with a set of specific, realistic and time-limited activities to be undertaken to address each of the problems identified – the improvement plan. For each activity, the team should record what actions are required (both immediate and longer term), an estimated budget (and source of funding) for required consumables or resources, who should be responsible and a deadline for completion. At each review of the plan, the current status (activity completed, ongoing or delayed by *n*) should be recorded, as well as how much has been spent to address the problem so far. This information will be useful for calculating a budget for future improvements, and ongoing operation and maintenance.

Types of improvement

Activities could include building new infrastructure; repairing or upgrading existing infrastructure to be climate-resilient; applying to district and national authorities for financial or technical support; writing new protocols or SOPs; conducting short, targeted training to improve staff hygiene behaviours; undertaking regular monitoring of cleanliness and processes across the facility, or training and mentoring staff in a new technique or initiative. Questions to consider include:

- How have neighbouring facilities responded to similar issues?
- Are there local or national examples to learn from?
- Does the facility need to bring in external expertise (e.g. an engineer) to help develop solutions and/or carry out the improvements?

Taking an incremental approach to improvements

Some problems can be addressed immediately, whereas others require a longer-term approach, involving multiple institutions, multiple levels of government and substantial funds. For problems that are more difficult to address and may take longer than 6 months to complete (e.g. installing a new well, rehabilitating an existing on-site water supply), tasks may be broken down into smaller, incremental activities (see Box 15 for examples).

Ongoing implementation

Implementation should be ongoing. It is important that any improvements continue to be monitored and assessed to ensure proper maintenance and regular upkeep; that infrastructure is replaced at the end of its life with the most cost-effective and environmentally sustainable option; and that any emerging issues and threats, especially linked to climate (see Box 16) and GEDSI (see Box 17), are considered.

Table 13 provides an example of improvement planning from the Philippines.

Box 15. Examples of health care waste improvements

Problem
No waste segregation. Waste is combined and burned together in an open pit in the facility grounds.

Risk
Severity of risk to facility users and the environment has a score of 8 – risk of needlestick injury from untreated needles, waste workers exposed to hazardous waste and smoke from waste burning, environmental contamination from waste that is dumped after burning.
Likelihood of occurrence has a score of 10 – problem is immediate and ongoing. Additional waste is generated daily by the facility, which needs to be treated and disposed of immediately.

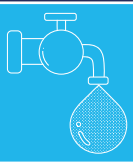
Long-term improvement needed
Waste is minimized, correctly segregated, safely treated and disposed of in a centralized treatment plant using a non-burn technology.

Low-cost, quick win improvements
- Train and regularly mentor health care staff about effective waste segregation and rational use of PPE.
- Provide reminders about effective waste segregation at points of care (these can be hand-drawn if access to official posters is not available).
- Purchase additional bins for points of care with waste bin liners and label them correctly.
- Move the waste burning area away from housing, considering the prevalent wind direction.
- Fence the waste treatment area to prevent unauthorized access.
- Dig new placenta pits, and manage and cover them appropriately.
- Place additional general waste bins for care seekers and visitors in key common areas and regularly empty them.

Medium term
- Build a lockable, covered storage area for waste where it can be stored safely before treatment.
- Build a locally constructed, low-cost De Montfort incinerator as an interim solution for treatment of infectious and sharps waste, and an ash pit to protect the soil and water from contamination.

Longer term
- Develop a reverse logistics system so that waste is collected regularly and safely transported to a centralized waste treatment plant that uses non-burn technologies and provides opportunities to recycle plastic waste.

Table 13. Selected tasks taken from an improvement plan in the Philippines (2020)

Indicator	Specific improvement action	Responsible	Resources needed	Budget	Source of budget	Target date	Status
Water 							
1.1[a]	Install chlorine dosing pump using sodium hypochlorite	Municipal Health Officer	Chlorine dosing pump unit with complete parts and fixtures Sodium hypochlorite solution	Lump sum = US$ 400/unit with sodium hypochlorite	Annual operational budget	2nd quarter 2021	Delayed 3 months
1.10	Procure chlorine test kits	Head of facility	Residual chlorine comparator kit Chlorine tablets for free chlorine	US$ 70/kit US$ 50/100 tablets	Annual operational budget	2nd quarter 2021	Completed
Sanitation 							
2.8	Submit proposal to install on-site wastewater treatment	Head of facility, municipal engineer	Engineer expertise		To be determined	To be determined	To be determined
Health care waste 							
2.11	Train personnel on health care waste management	Head of facility, Municipal Health Officer	Trainer's fee Venue Training materials	US$ 25/ participant for 3 days (including venue and trainer's fee) @ 25 participants = US$ 1875	Annual training budget	1st quarter 2021	Completed
2.15	Install concrete vault	Head of facility, municipal engineer	As indicated in approved design of concrete vault	Projected total estimated budget = US$ 890	Annual operational budget	2nd quarter 2021	Delayed 6 months
Hygiene and cleaning 							
3.1	Install hand hygiene stations in point-of-care areas: OPD, ward, near main entrance, near office, near laboratory	Head of facility	Handwashing station (2 units for OPD and ward) Hand hygiene/ disinfection station (5 sets) with 70% alcohol	US$ 90/unit @ 2 = US$ 180 US$ 4/set = US$ 20	Annual operational budget	1st quarter 2021	Completed
2.15	Provide logbooks for recording daily cleaning	Head of facility	Notebooks (5) for each department	No budget needed	NA	Immediate	Completed

Indicator	Specific improvement action	Responsible	Resources needed	Budget	Source of budget	Target date	Status
Management and workforce							
4.1	Develop health care waste management plan	Head of facility, WASH FIT Team, ICC	Office supplies	NA	Operational budget	1st quarter 2021	Completed
4.2	Include budget for WASH in annual operational budget of facility	Head of facility, Municipal Health Officer	All identified WASH requirements	Lump sum = US$ 2950	Annual operational budget	4th quarter 2021	Delayed 6 months
4.7	Train IPC personnel	Head of facility, Municipal Health Officer	Trainer's fee Venue Training materials	US$ 25/participant for 3 days (including venue and trainer's fee) @ 25 participants = US$ 1875	Annual training budget	1st quarter 2021	Completed initial training and ongoing follow-up
4.9	Train personnel for ICC	Head of facility, Municipal Health Officer	Trainer's fee Venue Training materials	US$ 25/participant for 3 days (including venue and trainer's fee) @ 25 participants = US$ 1875	Annual training budget	1st quarter 2021	Completed

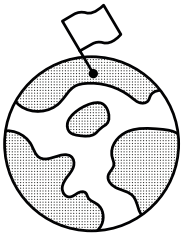
ICC: infection control committee; NA: not applicable; OPD: outpatient department.

[a] These numbers refer to Philippines-specific indicators.

Box 16. Improvement planning in a changing and uncertain climate

The uncertainty surrounding future climate change projections can present challenges to health care facilities when deciding the priority and timings for implementing improvement plans. One strategy to manage this challenge can be to consider measures that provide benefits under multiple climate scenarios. For example, building additional water storage tanks can provide backup under differing and uncertain projections for future rainfall intensity. Similarly, strengthening chlorination management and monitoring the water distribution systems will provide immediate water safety improvements, and also enhance resilience to potential impacts of increasing temperature scenarios on chlorine stability. Some suggestions follow.

- Ensure that improvement planning is as flexible and adaptable as possible to respond to new climate information and unforeseen threats. For example, budgetary cycle flexibility could be considered, to allow changes in the timing of improvements in response to threats or new climate information becoming available for the facility.
- Design adaptable infrastructure, recognizing that infrastructure often has a long lifespan and may be used in climate and societal conditions that are very different from those of the present day. Infrastructure that can be upsized or adjusted with minimum cost and disruption is better placed to cope with future uncertainty.
- Build in safety factors to infrastructure to accommodate uncertainty in future climate. For example, an increase in the capacity of a proposed storage may be used to offset uncertainty about future rainfall patterns.



In **Lao People's Democratic Republic**, improvement plans focus on climate-smart improvements in four categories: tools, technologies, supplies and equipment. Examples of improvements are providing environmentally friendly waste technologies (e.g. autoclaves), replacing broken lamps with LEDs, installing water tanks and delivering water quality testing equipment in case of contamination from floods. In 2020, the Ministry of Health mobilized more than US$ 2 million from government and external sources under the COVID-19 response plan to fund the initiative.

How a facility achieves 'Safe, Clean and Green' status

Safe:
- Safe water for drinking
- Safe water for health procedures
- Safe waste separation
- Safe PPE

Green:
- Energy-efficient lights (LED)
- Mercury-free thermometers

Clean:
- Clean hands
- Clean handwashing stations and toilets
- Clean bathroom
- Clean rooms and hospital

Climate-resilient:
- Water available 24/7
- Clean, non-burn technology (autoclave)
- Computers and records protected from flood

Box 17. How to make improvements GEDSI-friendly

To ensure that improvements consider GEDSI appropriately, improvement planning should employ a do-no-harm approach.
- Will the action plan create an increased work burden (e.g. on women, cleaners, carers), and how can this be mitigated? How can the work burden be most equitably allocated, and what resources exist (or can be accessed) to bring in additional help?
- Will the planned improvements affect women and men differently, and how can this difference be reduced?
- Will people with disabilities be able to access and benefit from new or upgraded services?

5.5 STEP 5: MONITOR, REVIEW, ADAPT, IMPROVE

Key outputs

- Regular team meetings with senior management and relevant stakeholders to discuss the progress being made.
- An annual or biannual review of progress with modifications to the WASH FIT process and planned improvements, as needed.
- WASH FIT data shared within the facility, and at local and national levels.

Tasks

- Conduct regular and continuous monitoring of progress on a weekly or monthly basis, including spot checks to verify that improvements are being made.
- Evaluate changes that have been made on an annual or bi-annual basis. Assess how the process is working, whether improvements have been sustained, and whether modifications to the improvement plan or WASH FIT methodology are needed.
- Identify any additional facilitation, training, coaching or supportive supervision needed to help the team.
- Document and share best practices with all staff, facility leadership, other facilities, and local/district authorities and/or national authorities, as appropriate.

Tools required for step 5

- Monitoring progress and troubleshooting template (Template 5).
- Review and evaluation of all other WASH FIT tools and documentation.

Reflecting on progress and refining the process at the facility level

Regular and continuous monitoring and evaluation of progress is an important part of QI activities. This can be done quickly in the short term on a weekly or monthly basis during regular staff meetings and regular spot checks, and in more depth in the longer term through a thorough review of progress when the full facility assessment is conducted every 6–12 months.

Short term: regular review of progress and facility spot checks
A designated person or team should be responsible for regular and routine monitoring of the facility. A process should be in place for reporting problems, identifying corrective actions and ensuring timely follow-up. In larger facilities, different people may be responsible for different departments. Recommended regular spot checks include daily inspections of toilets to ensure that they are clean and functioning, checking of availability of water and soap at hand hygiene stations, and checking to see if waste is being segregated correctly at all waste generation points (refer to the list of suggested spot checks in Annex 5). Any problems identified should be discussed at team meetings, and necessary follow-up should be recorded and acted upon.

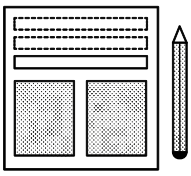
Longer term: 6–12-monthly assessment and review
In addition to these regular checks, a more in-depth review of progress every 6–12 months (or as often as possible, according to facility size and resources) is recommended (see Table 14). Another full assessment of the facility should be conducted and the WASH FIT score calculated again. Has the overall score decreased or increased? If the score has decreased, which area(s) of the facility have deteriorated and why? Which planned improvements have not yet been started or fully completed? Template 5 can be used to record this information. The results of the review should be documented and shared with senior management and the rest of facility staff, district health office or other designated authority.

Table 14. Questions to consider when reviewing progress

Category	Questions
Monitoring trends over time	Has the overall WASH FIT score increased or decreased? Overall, what outcomes or changes have resulted from the processes (e.g. improved staff knowledge of WASH and related IPC practices; more regular, better-quality water supply)? What have the outcomes and broader long-term changes (e.g. improvements in quality of care) been?
Recognizing and sustaining progress	Which area(s) of the facility have improved and what improvements were successful? What is success attributed to? What will be done to sustain positive change? What learnings can be applied from these improvements to other areas of the facility? (Note: even if the overall score has increased, important indicators may have deteriorated in the same time period and will require action.)
Troubleshooting problems	Why has the problem got worse? What corrective action needs to be taken to improve the situation? If no action has been taken or no change has resulted from current efforts, why is this? What additional or different action is needed? Does the team or facility require additional expertise, training or support from the management or outside the facility? What other inputs (political, financial and material, human and community) are needed to do tasks?

6

TEMPLATES



The following templates are designed to help users with each step of the WASH FIT improvement cycle. Users are encouraged to adapt the templates to their local context and needs. Paper or electronic versions may be used; electronic versions are available at www.washinhcf.org/wash-fit.

6.1 TEMPLATES FOR STEP 1: ESTABLISH AND TRAIN THE TEAM, AND DOCUMENT DECISIONS

Template 1A. **WASH FIT team sheet**

Date: _____

Name	Job title and organization (e.g. facility manager)	Role and responsibility on WASH FIT team (e.g. team leader, responsible for coordinating WASH FIT)

Template 1B. **Record of team meeting**

Date: _____

Names of team members participating:

Issues to be discussed	**Decisions, outcomes and actions to be taken**	**Responsible person(s) and time frame**

6.2 TEMPLATE FOR STEP 2: UNDERTAKE AN ASSESSMENT OF THE FACILITY

Use of the assessment form in Excel is recommended. Data can also be captured using Kobo Toolbox by creating a form and deploying it locally. Both versions are available at www.washinhcf.org/wash-fit/. The full list of indicators are also listed in Annex 2, from where they can be copied into a different, locally developed format. A comprehensive list of explanatory notes can also be found on the online/Excel version.

See also: Sanitary inspection forms (see Annex 7)[5]

- Tube well with hand pump
- Deep borehole with motorized pump
- Piped distribution network, storage tank and tap stand
- Rainwater collection and storage

Template 2. **Assessment formsw**

Summary of WASH FIT scores

		Number of indicators*	Number of indicators assessed	Score	Score %
1	Water	17			
2	Sanitation	13			
3	Health care waste	20			
4	Hand hygiene	5			
5	Environmental cleaning	16			
6	Management & workforce	12			
	TOTAL	**96**			

Amount of assessment completed:

5. Sanitary inspections forms are draft and subject to change as they are undergoing an external review process by WHO.

Assessment Completeness (Total): 0% **Assessment Completeness (Water): 0%** **WASHFIT Scores**

WATER

Question	Category		Indicator	Green (2)	Yellow (1)	Red (0)	SCORE
W_1a	• Water supply • Answer either 1A or 1B	• Essential • Primary facilities • JMP Basic Water	An improved water supply is piped into the facility or located on premises	Improved water supply accessible on premises (within facility buildings)	Improved water supply accessible on premises (but outside of facility building)	No improved water source accessible on premises	
W_1b	• Water supply • Answer either 1A or 1B	• Essential • Hospitals/ Secondary/ tertiary facilities • JMP Basic Water	The facility has piped water supplies on premises	Water piped inside the facility to all high-risk wards (maternity, operating room/OR, intensive care/ICU)	Water is piped inside but not to all high-risk wards	There is no piped water supply	
W_2	• Water supply / Plumbing	• Essential • Ward	All taps are connected to an available and functioning water supply, with no leaks in pipes	All taps are connected and functioning	More than half of all taps are connected and functioning	Less than half of all taps are connected and functioning	
W_3a	• Water availability	• Essential	Water is available during all operating times of the facility	Water is available 7 days a week, all day, every day	Water is available 4 days/week and/or not the entire day	Water is available fewer than 4 days per week and/or is not available for more than half the day	
W_3b	• Water availability	• Essential • JMP Basic Water	Water is available at the time the WASH FIT assessment is carried out	Water is available throughout the facility	Water is available from some but not all water points	No water is available	
W_4	• Water availability	• Essential • Climate	Water is available throughout the year (i.e. not affected by seasonality, weather variability/extreme events or other constraints)	Water is available throughout the year	Water shortages for one to two months	Water shortages for three months or more	
W_5	• Water availability	• Essential	Main water supply system has been functional for the past 3 months with no major breakdowns	In the last 3 months the main water supply system had no breakdowns or any breakdowns were repaired within 48 hours.	The water supply system had breakdowns but they were repaired within one week.	The water supply system had breakdowns that took longer than one week to repair OR remain unrepaired	
W_6	• Water availability	• Advanced • Climate	Additional improved water source(s) are identified, and available, and can be accessed (and adequately treated if necessary) in case the main source is no longer functioning/available	Additional improved water source identified, available and accessible	Additional water source identified but not improved or improved but easily accessible	No additional water source available	
W_7	• Water availability	• Essential	Water is of sufficient quantity for all uses	Water is of sufficient quantity for all uses across the whole facility	Water quantity is sufficient for 75% of needs (across all wards and uses)	Water quantity less than 75% sufficient	
W_8	• Water availability	• Essential • Climate	The facility has tanks to store water in case of disruption to the main supply, and water storage tanks are protected (e.g. from climate-related extreme weather events) and adequately managed (e.g. inspected, cleaned/disinfected regularly), and are sufficient to meet the needs of the facility for 2 days	Water storage is available, water is protected and sufficient for two days' needs	Sufficient for two days but not protected or protected but only enough for one day	Storage available for less than one day needed or none available	

Assessment Completeness (Total): 0% **Assessment Completeness (Water): 0%** **WASHFIT Scores**

WATER

Question	Category		Indicator	Green (2)	Yellow (1)	Red (0)	SCORE
W_9	• Water availability	• Advanced • Climate	[Where rainfall sufficient and regular] Rainwater harvesting system(s) (with safe storage) is functional and stores water safely	Rainwater harvesting with safe storage exists and is functional	Rainwater harvesting systems exists but storage not safe or sufficient or there are leaks	No rainwater harvesting used (even though rainwater is available)	
W_10	• Water conservation	• Advanced • Climate	Water reduction strategies are used to reduce water wastage.	Water reduction strategies are effectively used and water wastage is avoided	Water reduction strategies are used but there remains some avoidable water wastage	No water reduction strategies are used	
W_11	• Drinking water	• Essential • Ward	[Where chlorine disinfection takes place] Drinking water has appropriate free chlorine residual (≥0.2 mg/L or ≥0.5 mg/L in emergencies)	Drinking water is available with the appropriate free chlorine residual	Free chlorine residual exists, but is <0.2mg/L	Do not know residual/do not have capacity to test residual/no drinking-water available	
W_12	• Drinking water	• Essential	Water supply poses low or no risk to public health, as measured by the absence of E. coli per 100 mL and/or as measured by the sanitary inspection risk score.	Drinking water is free of E.coli OR low risk according to SI form	Drinking water has E.Coli ≤10 /100ml OR medium risk according to SI form	E.Coli more than >10/100ml /Do not know if E.Coli present /do not have capacity to test /no drinking-water available OR high risk according to SI form	
W_13	• Water quality	• Advanced	Piped water is treated and regulated with safe water management by municipal authorities or water is regularly treated on-site	Water is treated and regulated through a piped service or water is treated regularly with a proven technology	Water is treated with a proven technology but not regularly	Water is not treated or treated with a technology that does not meet WHO standards	
W_14	• Water quality	• Advanced • Facility	The quality of water from all water supplies (primary, back-up and supplemental supplies) is routinely tested by a staff member/and or independent authority (e.g. a surveillance agency) according to national standards	Water quality routinely and regularly tested according to national standards	Water quality tested but not routinely or regularly	No testing takes place or no national standards exist	
W_15	• Drinking water	• Advanced • Ward	A drinking water station with safe drinking water is available and functioning at all times in main waiting areas and/or entrance to each ward and in all rooms where patients stay overnight or receive care	Drinking water available in all locations, at all times	Drinking water available but only in some places, only sometimes	Drinking water not available	
W_16	• Showers	• Advanced • Ward • Hospitals/ tertiary facilities	[Facilities with in-patient services] At least one shower or bathing area is available per 40 inpatients or per ward (whichever is lower) and is functioning and accessible	Showers are available per ward or per 40 patients and are functional and accessible	Showers are available, but fewer than 1 functioning and accessible showers per 40 patients /per ward	No showers available	
W_17	• Showers	• Advanced • WardFacilities where deliveries take place	A functional shower or space for women that is private and lockable is available in the labour and delivery area	Yes, a functional shower or space to wash is available in the labour and delivery area	Functional shower/place to wash is available but not in the labour and delivery area, or in the correct area but not functional	No shower/ place to wash available for women	
						Total score	
						Number water indicators assessed	
						WATER total score (%)	

Assessment Completeness (Total): 0% **Assessment Completeness (Water): 0%** **WASHFIT Scores**

SANITATION

Question	Category		Indicator	Green (2)	Yellow (1)	Red (0)	SCORE
S_1	• Toilets	• Essential • Ward • JMP Basic Sanitation	Facility has a sufficient number of improved toilets for patients	Two or more improved toilets for outpatients plus one per 20 users/ inpatients.	Requirement is met for outpatients or inpatients, but not both.	Neither inpatient or outpatient has sufficient number of toilets or existing toilets are not improved	
S_2	• Toilets	• Essential • Ward • JMP Basic Sanitation	All patient toilets are available and usable	All patient toilets are available and usable	Some but not all patient toilets are available and usable	None of the patient toilets are available or usable	
S_3	• Toilets	• Essential • Ward • JMP Basic Hand hygiene	All toilets have a functioning handwashing station within 5 metres	All toilets have functional hand washing stations within 5 metres	At least 50% of toilets have functioning hand washing stations within 5 metres	Fewer than 50% of toilets have functioning hand washing stations within 5 metres	
S_4	• Toilets	• Essential • Ward • JMP Basic Sanitation	At least one improved toilet is available for staff, and toilet(s) is clearly separated or labelled	At least one functional toilet exists for staff use and is clearly separated/ labelled	Toilet exists for staff use, but toilet is not clearly separated/labelled or functional	No separate toilet exists for staff use, or toilets are unimproved	
S_5	• Toilets	• Essential • Ward • JMP Basic Sanitation	Improved toilets are clearly separated/ labelled for male, female or gender-netural and provide privacy (i.e. single stall/room) if gender-neutral	Separate toilets for male/female use exist and are clearly labelled (and provide privacy for users)	Separate toilets exist but not clearly labelled	No separate toilets exist and no privacy in other toilets or toilets are unimproved	
S_6	• Toilets	• Essential • Ward • JMP Basic Sanitation	At least one usable improved toilet meets menstrual hygiene management needs	One or more usable toilets caters for MHM	There is space for women to wash but no water available, toilet is not clean/ in disrepair or bin for disposal of waste is available but full	No MHM facilities are available or facilities are available but toilet is not usable or toilets are unimproved	
S_7	• Toilets	• Essential • JMP Basic Sanitation	At least one functional improved toilet meets the needs of people with reduced mobility	One or more functional toilet meets need of people with reduced mobility	Toilet meets needs of people with reduced mobility but is not functional or toilet is functional but only partially meets needs of people with reduced mobility	No toilets for disabled users or toilets are unimproved	
S_8	• Faecal sludge management	• Sewered systems	N/A - go to S_10a	N/A	N/A	N/A	
S_8		• Non-sewered systems - storage/ treatment on-site • Advanced	Faecal sludge is fully contained for later emptying and treatment off-site or fully contained and treated in situ. Liquid effluent is either fully stored or drains to the ground from the bottom of the container, or via a leach field, soak pit or closed drains, or safely stored.	Visual inspection of container and drainage shows structural integrity, no leaks or damage, no visible ponding or strong odour that indicates leaking into the local area. Operators report no leaks in both wet and dry weather conditions.	Unable to determine containment form visual inspection and/or operators report seasonal leakages.	Inspections and operator responses shows damage to the container, ponding, liquid effluent discharge to open drains or open ground.	
S_9a	• Wastewater management • Answer either S_9a or S_9b	• Sewered systems • Advanced	Toilets are connected without leaks to a public sewer system. The sewer conveys excreta and wastewater with no leaks/ overflows to treatment. [Sewered systems]	Building plans and operator reports confirm facility toilets connect to sewers. No report of overflows on the facility grounds or in local community	Unable to determine	reports of frequent leaks on facility grounds from facility operators or sewer utility operator experiences frequent leaks /overflows in local community	

Assessment Completeness (Total): 0% **Assessment Completeness (Water): 0%** **WASHFIT Scores**

SANITATION

Question	Category		Indicator	Green (2)	Yellow (1)	Red (0)	SCORE
S_9b		• Non-sewered systems • Advanced	Faecal sludge from the container is periodically emptied without spills by trained personnel with appropriate protective equipment and either a) removed off-site to treatment or b) safely disposed of by burying onsite [Not applicable for pits that are covered and closed when full. Go to S_10a]	Container has been emptied within the last 5 years (or according to scheduled emptying frequency) by trained personnel with appropriate protective equipment and either a) removed off-site to treatment b) faecal sludge safely disposed by burying onsite	Unable to determine emptying frequency or safety of disposal	Never emptied or known unsafe disposal without treatment in local environment (e.g. in rivers or on farms)	
S_10a	• Wastewater management • Answer either S_10a or S_10b	• Sewered systems • Advanced	Well designed and well managed waste water treatment plant, with publicly avilable operation records, provides at least secondary treatment and meets performance standards	Well designed WWTP with publicly available record showing it meets local/national treatment performance standards	Functioning WWTP exists. Performance unclear or not to standards	WWTP is non-functioning or non-existent	
S_10b	• Faecal sludge management • Answer either S_10a or S_10b	• Non-sewered systems • Advanced	Well designed and well managed faecal sludge treatment plants, with publicly available operation records, are used and meet performance standards	Well designed and managed FSTP with publicly available record showing it meets local/national treatment performance standards	Functioning FSTP exists. Performance unclear	FSTP is non-functioning or non-existent	
S_11	• Stormwater management	• Essential • Climate	A stormwater (i.e. rainwater) and greywater drainage system is in place that diverts water away from the facility into a safe drainage or leach field area	Drainage system exists, is functional (not blocked) and successfully diverts water away from facility into safe natural filtration area (e.g. not directly into households or community areas	Drainage system in place but not sufficient for volume of wastewater or blocked	No drainage system in place	
S_12	• Stormwater management	• Advanced • Climate	Greywater and/or stormwater is captured and reused for washing, cleaning, watering plants and toilet flushing	System for greywater and storm water capture and reuse is in place and operational	System for capturing greywater/ storm water is available but not used to its full potential	No system for capturing greywater or storm water	
S_13	• Greywater management	• Advanced • Climate	[Only if there is a greywater system] Greywater from sinks and laundry facilities is safely captured and directed to sewer, leach field, soak pit or closed drains without any cross-connections with drinking water supply.	Greywate is safely captured and has separate plumbing	Greywater system captures water but some risk of contamination through cross-connections	Greywater system not functional	

Total score	
Number sanitation indicators assessed	
SANITATION total score (%)	

Assessment Completeness (Total): 0% **Assessment Completeness (Water): 0%** **WASHFIT Scores**

HEALTH CARE WASTE

NOTE: Health care waste practices vary considerably between facilities, depending on whether waste is treated on-site (decentralized treatment) or off-site (centralized treatment). Certain indicators are relevant either for on-site or off-site treatment. Where neither is stated, it is applicable to both.

Question	Category		Indicator	Green (2)	Yellow (1)	Red (0)	SCORE
HCWM_1	• Segregation	• Essential • Ward	Functional waste collection containers are available in close proximity to all waste generation points for non-infectious (general) waste, infectious waste and sharps waste	Functional waste collection containers for segregating waste exists at all waste generation points	Functional bins at some but not all waste generation points	No bins or separate sharps disposal	
HCWM_2	• Segregation	• Essential • Ward • JMP Basic waste management	Waste is correctly segregated at all waste generation points	Waste is correctly segregated at all waste generation points	More than 75% of bins have the correct waste	Less than 75% of bins are used for the correct waste	
HCWM_3	• Segregation	• Essential • Ward	Reminders for correct waste segregation are clearly visible at all waste generation points	Reminders clearly visible at all waste generation points	Reminders available at some but not all waste generation points	No reminders available	
HCWM_4	• Personnel	• Essential	Appropriate protective equipment and resources to perform hand hygiene are available for all staff responsible for handling waste, and in charge of waste treatment and disposal	Resources for hand hygiene and protective equipment available	Some equipment available, but not for all staff, or available but damaged	No equipment available for staff	
HCWM_5	• Waste reduction		Reminders and training are in place to promote and monitor rational use of personal protective equipment (PPE) (e.g. gloves only used when indicated)	Reminders and training in place and PPE is used rationally	Some reminders or training in place but more could be done to reduce PPE use	No reminders or training in place	
HCWM_6	• Waste reduction	• Essential • Ward	Strategies to reduce the quantity of waste generated are employed throughout the facility, including procuring items using less packaging and more sustainable packaging	Strategies exist and are implemented consistently throughout the facility	Strategies exist but are not consistently or effectively implemented	No strategies exist	
HCWM_7	• Waste reduction	• Climate	[Not applicable if no local recycling available] Recyclable non-hazardous waste is segregated and sent to municipal recycling plants	There is a system in place where recyclables are sorted and sent to recycling plants	Some recycling takes place but system could be improved (e.g. better segregation, bigger quantity recycled)	No recycling takes place	
HCWM_8	• Storage		A dedicated waste storage area is available that is fenced and secure, and of sufficient capacity, where sharps, infectious and non-infectious waste are stored separately	Dedicated and fenced waste storage area available, of sufficient capacity and waste stored separately	Dedicated waste storage area available but not fenced or secure or not sufficient capacity or all waste grouped together	No dedicated waste area available	
HCWM_9	• Storage		Infectious waste is stored for no longer than the safe limit (as determined by the climate) before treatment/disposal	Infectious waste is stored for no longer than the safe time limit	Infectious waste is stored beyond safe time limits, but less than a month	Waste is not safely stored or is stored but for longer than a month	

Assessment Completeness (Total): 0% **Assessment Completeness (Water): 0%** **WASHFIT Scores**

HEALTH CARE WASTE

NOTE: Health care waste practices vary considerably between facilities, depending on whether waste is treated on-site (decentralized treatment) or off-site (centralized treatment). Certain indicators are relevant either for on-site or off-site treatment. Where neither is stated, it is applicable to both.

Question	Category		Indicator	Green (2)	Yellow (1)	Red (0)	SCORE
HCWM_10	• Treatment	• On-site treatment only	Waste treatment technology (incinerator or alternative treatment technology) for the treatment of infectious and sharps waste is built to the appropriate standards, well-maintained, functional and of a sufficient capacity for waste generated	Technology is built to appropriate standards, well-maintained, functional and of sufficient capacity	Technology is either not built to correct standards or not of sufficient capacity	Technology is not functional and not of sufficient capacity	
HCWM_11	• Treatment	• On-site treatment only	Sufficient energy/fuel is available for incineration or alternative treatment technologies	Sufficient energy/fuel always available	Energy/ fuel is sometimes available but not always, or not sufficient quantity	No energy/ fuel is available	
HCWM_12	• Treatment	• Off-site treatment only • JMP Basic waste management	Waste is collected for off-site treatment safely and regularly and sent to an appropriate, licensed waste treatment facility	Waste collected regularly and safely and sent to appropriate treatment faciltiy	Waste collected regularly and safely but treatment facility has not been verified	Waste not collected safely or regularly nor sent to an approporiate or licensed facility	
HCWM_13	• Disposal		Functional burial pit, fenced waste dump or municipal pick-up available for disposal of non-infectious (non-hazardous/general) waste	Functional pit, fenced area or municipal pick up is available and sufficient to meet demand	Pit in facility but insufficient dimensions; overfilled or not fenced and locked; irregular municipal waste pick up, etc.	No pit or other disposal method used	
HCWM_14	• Disposal	• On-site treatment • Climate	[Where there is a risk of flooding] Waste pits are built to withstand climate-related events and emergencies (e.g. flooding) and/or a backup waste storage site is available	Waste pits built to withstand flooding and an alternative is in place in times of emergencies	Waste pits can withstand limited flooding but no backup or alternative exists	Waste pit is not climate-proofed and there is no backup or no waste pit exists.	
HCWM_15	• Disposal	• On-site treatment	[Where incineration is used] Dedicated ash pits are available for disposing of ash from incineration	Ash pit exists and is functional	Present but not functional/ overfilled or not fenced and locked	No ash pit available	
HCWM_16	• Disposal	• On-site • Hospitals only	[Where births occur] Anatomical/pathological waste is put in a dedicated pathological waste pit, burned in a crematory or buried in a cemetery	Pit exists and all anatomical/pathological waste disposed of correctly	Pit exists but is not used or pit used but is overfilled	No pit available	
HCWM_17	• Pharmaceutical waste	• Hospitals only	Pharmaceutical waste is treated and disposed of safely, either at a centrally managed safe treatment and disposal facility (i.e. off-site), by sending back to the manufacturer, or by incineration by industries using high-temperature kilns	All pharmaceutical waste is treated and disposed of safely	Some but not all pharmaceutical waste is disposed of properly	Pharmaceutical waste is not treated or disposed safely	

Assessment Completeness (Total): 0% **Assessment Completeness (Water): 0%** **WASHFIT Scores**

HEALTH CARE WASTE

NOTE: Health care waste practices vary considerably between facilities, depending on whether waste is treated on-site (decentralized treatment) or off-site (centralized treatment). Certain indicators are relevant either for on-site or off-site treatment. Where neither is stated, it is applicable to both.

Question	Category	Indicator	Green (2)	Yellow (1)	Red (0)	SCORE
HCWM_18	• Personnel	A member of staff is adequately trained for management and oversight of health care waste and carries out their duties to the appropriate professional standards	A staff member is adequately trained and carries out duties correctly	A staff member is trained but does not carry out duties correctly, or appointed but not trained	No such member of staff is available	
HCWM_19	• Personnel	Staff who handle or dispose of waste and health care workers are vaccinated against hepatitis B (and have any other recommended vaccinations, according to national guidelines)	All staff have received all required vaccinations	Some but not all staff have been vaccinated	No staff have been vaccinated	
HCWM_20	• Emergency preparedness	[When demand increases due to outbreaks or climate-related events] Strategies to deal with additional waste are employed when demand increases	Strategies to deal with additional waste are employed	Strategies exist but are not effectively implemented	No strategies exist	
					Total score	
					Number HCWM indicators assessed	
					HCWM total score (%)	

Assessment Completeness (Total): 0% **Assessment Completeness (Water): 0%** **WASHFIT Scores**

HAND HYGIENE

Question	Category		Indicator	Green (2)	Yellow (1)	Red (0)	SCORE
H_1	• Availability	• Essential • Ward • JMP Basic Hand hygiene	Functioning hand hygiene stations are available at all points of care, including in the delivery room	All points of care have functioning hand hygiene (either water and soap or alcohol handrub solution)	At least 75% of points of care have functioning hand hygiene stations present	Fewer than 75% of points of care have functioning hand hygiene stations present	
H_2	• Availability	• Essential • Ward	Functioning hand hygiene stations are available in all waiting areas and other public areas, and in the waste disposal area	Functioning hand hygiene stations available in all areas	Functioning hand hygiene stations available in some but not all areas.	No functioning hand hygiene stations available	
(S_3)	• Availability	• Essential • Ward	(All toilets have a functioning hand washing station within 5 metres)	Refer to S_3	Refer to S_3	Refer to S_3	NA
H_3	• Hygiene promotion	• Essential • Ward	Hand hygiene promotion materials are displayed and clearly visible in all wards/treatment areas	Materials clearly displayed in all wards/treatment areas	Materials displayed in some but not all wards/treatment areas	No materials available	
H_4	• Hygiene compliance	• Advanced • Ward./ Facility	Hand hygiene compliance activities are undertaken regularly (at least annually)	Regular (at least annual) compliance activities take place throughout the facility	Compliance activities in policy, but not carried out with any regularity	No compliance activities	
H_5	• Supplies (hand hygiene)	• Advanced • Ward	Regular (at least every three months) ward-based audits are undertaken to assess the availability of hand rub, soap, single-use towels and other hand hygiene resources	Regular (at least annual) ward-based audits are undertaken	Ward-based audits undertaken less than once a week or audit is incomplete	Not undertaken	
						Total score	
						Number hygiene indicators assessed	
						HYGIENE total score (%)	

Assessment Completeness (Total): 0% **Assessment Completeness (Water): 0%** **WASHFIT Scores**

ENVIRONMENTAL CLEANING

NOTE: Health care waste practices vary considerably between facilities, depending on whether waste is treated on-site (decentralized treatment) or off-site (centralized treatment). Certain indicators are relevant either for on-site or off-site treatment. Where neither is stated, it is applicable to both.

Question	Category		Indicator	Green (2)	Yellow (1)	Red (0)	SCORE
EC_1	• Policies	• Essential • Ward/Facility • JMP Basic environmental cleaning	A clear and detailed facility (or ward) cleaning policy or protocol is clearly displayed, which is implemented and monitored	Cleaning policy or protocol exists, is implemented and monitored	Cleaning policy or protocol exists but is not implemented or monitored	No cleaning policy or protocol exists	
EC_2	• Monitoring	• Essential • Ward/Facility	A record of cleaning is available for patient care areas, general wards or the whole facility and is signed by the relevant cleaner each day	Available in each ward/area or whole facility	Records exist, but not for every ward or not for every day or is outdated	No record of cleaning available	
EC_3	• Monitoring	• Essential • Ward	Toilets are cleaned at least once each day, and a record of cleaning is signed by the cleaners and displayed visibly	Toilets cleaned each day and a signed record is visible	Toilets cleaned but less than once a day with or without record	No record available and toilets cleaned less than once a day	
EC_4	• Personnel	• Essential • Ward/Facility	The required number of cleaning staff or staff with cleaning responsibilities are available in the ward/facility every day or when cleaning is needed and have time dedicated to performing cleaning activities	Required number of staff available at all times when needed and have dedicated time for performing cleaning activities	Some staff available but not not sufficient number, not at all times when needed, or not in all wards	No cleaning staff available	
EC_5	• Personnel	• Essential • JMP Basic environmental cleaning	All staff responsible for cleaning have received training on cleaning	All staff responsible for cleaning have received training	Some but not all staff have received training	No staff have received training	
EC_6	• Personnel	• Advanced • Facility	Policies and practices to improve the occupational safety of cleaners and health care waste technicians are available and implemented	A policy is available and implemented	A policy is available but not sufficient implemented	No policy is available	
EC_7	• Supplies	• Essential • Ward	Appropriate and well-maintained materials (e.g detergent, mops, buckets) for cleaning for a range of different areas and surfaces are available and sufficient	All necessary equipment available, in good condition and sufficient	Available but not well maintained or in some but not all areas or not sufficient	No materials available	
EC_8	• Supplies	• Essential • Facility	An annual budget for environmental cleaning supplies and equipment exists and is sufficient for all needs.	Budget exists and is sufficient for all needs	Budget exists but is not sufficient for all needs	No budget exists	
EC_9	• Supplies	• Advanced • Ward	A dedicated area for storage, preparation and care of cleaning supplies and equipment exists ("environmental cleaning services area"), is kept clean and well maintained, and is used according to its purpose	Dedicated area exists, is well-maintained, kept clean and used according to its purpose	An area exists but contains other items or is not clean	No dedicated storage area exists	

Assessment Completeness (Total): 0% **Assessment Completeness (Water): 0%** **WASHFIT Scores**

ENVIRONMENTAL CLEANING

NOTE: Health care waste practices vary considerably between facilities, depending on whether waste is treated on-site (decentralized treatment) or off-site (centralized treatment). Certain indicators are relevant either for on-site or off-site treatment. Where neither is stated, it is applicable to both.

Question	Category		Indicator	Green (2)	Yellow (1)	Red (0)	SCORE
EC_10	• PPE	• Essential • Ward	Adequate PPE is available at all times and in sufficient quantities for all cleaning staff	All members of cleaning staff have adequate PPE	Some but not all staff have full PPE or PPE available but in poor condition	Not available	
EC_11	• Emergency preparedness	• Advanced • Ward/Facility	[If patient load increases] Extra staff (e.g. a roster) and additional cleaning supplies are available to be deployed in the facility if patient load increases	Additional staff and supplies both available	Either staff or supplies not sufficient to meet additional needs	No additional staff or supplies available.	
EC_12	• Laundry	• Advanced • Ward	All beds/mattresses have waterproof covers that are without signs of damage (rips, tears or holes)	All beds/mattresses have waterproof covers without signs of damage	Beds/mattresses have waterproof covers but some or all are damaged	No waterproof covers	
EC_13	• Laundry	• Advanced • Facility	Laundry facilities are clean, well-maintained and able to meet demand (e.g. to wash linen from patient beds between each patient)	Laundry facilities are clean, well maintained and can meet demand	Facilities exist but are not clean, well-maintained or able to meet demand	No functional facilities	
EC_14	• Laundry	• Advanced • Facility	Laundry services with hot water (70–80°C x 10 min) to reprocess cloths and mop heads are available, and mop heads and cleaning cloths are always laundered separately from other soiled hospital textiles.	Laundry facilities with hot water available and cleaning materials are laundered separately	Laundry facilities available but water not sufficient temperature or cleaning materials not laundered separately	No such services available	
EC_15	• Food hygiene	• Advanced • Facility • Hospital only	[Hospital only] Food is safely prepared and handled (with clean hands, on clean surfaces and with clean utensils)	Food is safely prepared and handled	Some but not all food safety measures are being followed (see notes)	No food safety measures are followed / food safety is extremely poor	
EC_16	• Food hygiene	• Advanced • Facility • Hospital only	[Hospital only] Kitchen stores and prepared food are protected from flies, other insects and rats	No flies, insects or rats able to access food and kitchen stores	Food and food stores is partly protected but could be improved	Food and food stores have no protection from flies, insects or rats	
						Total score	
						Number hygiene indicators assessed	
						HYGIENE total score (%)	

Assessment Completeness (Total): 0% **Assessment Completeness (Water): 0%** **WASHFIT Scores**

ENERGY & ENVIRONMENT

Question	Category		Indicator	Green (2)	Yellow (1)	Red (0)	SCORE
E_1	• Energy	• Essential	Facility has a functional and well-maintained electricity source (e.g. electricity grid, solar)	Electricity source exists, is functional and well-maintained	Yes, exists but not currently functional	No electricity exists	
E_2	• Energy	• Essential	Energy is sufficient for all electrical needs of the facility, including for lighting and stand-alone devices (e.g. Expanded Programme on Immunization cold chain)	Energy of sufficient quantity at all times	Energy is sufficient to meet some but not all demand	No energy available	
E_3	• Energy	• Advanced	[Where water is pumped] Sufficient energy is available for pumping water	Energy of sufficient quantity at all times	Energy is sufficient to meet some but not all demand	No energy available	
E_4	• Energy	• Advanced	[Where water is heated] Sufficient energy is available for heating water	Energy of sufficient quantity at all times	Energy is sufficient to meet some but not all demand	No energy available	
E_5	• Backup	• Advanced • Ward/ Facility	A functional backup source of energy (e.g. generator with adequate fuel), exists if the main source fails	A backup source exists, with adequate fuel	Backup source exists but is not functional or insufficient fuel	No backup source	
E_6	• Efficiency	• Advanced	Energy-efficient lighting is used with improved lighting controls and energy-saving bulbs	All lighting is energy-efficient	Some but not all lighting is energy efficient	No energy-efficient lighting available or status unknown	
E_7	• Adequacy	• Essential	Delivery room is adequately lit, including at night	Delivery room(s) has functioning lighting	Lighting infrastructure exists, but not functioning	Not adequately lit or no lighting infrastructure	
E_8	• Adequacy	• Advanced • Ward	Shower(s) are adequately lit, including at night	All showers have functioning lighting	Lighting infrastructure exists, but not functioning	Not adequately lit or no lighting infrastructure	
E_9	• Adequacy	• Advanced • Ward	Latrines are adequately lit, including at night	All latrines have functioning lighting	Lighting infrastructure exists, but not functioning	Not adequately lit or no lighting infrastructure	
E_10	• Ventilation	• Advanced • Ward/ Facility	Sufficient functioning environmental ventilation (natural or mechanical) is available in patient care areas	Ventilation is sufficient and functional in all patient areas	Some ventilation but not well maintained or insufficient to produce natural ventilation	No ventilation	
E_11	• Vector control	• Advanced • Ward/ Facility	[In malaria-endemic areas] Beds have insecticide-treated nets to protect patients from mosquito-born diseases	All in-patient beds have nets	Available on some, but not all beds, or available but in poor condition	No bed nets available	
E_12	• Procurement	• Advanced • Climate	Sustainable procurement (using a life cycle approach) is applied throughout the facility	Sustainable procurement consistently applied throughout facility	Sustainable procurement approach exists but not well implemented	No approach exists	
E_13	• Environment	• Advanced	General waste bins are available in all public areas, litter is regularly removed from the interior and exterior of the facility, and efforts are made to improve and maintain the aesthetic appearance of the facility through painting, landscaping (plants) and ensuring that all equipment and other items are safely stored	Efforts are made to maintain overall appearance of facility which is tidy, free from litter and well kept	Some efforts made to matain appearance of facility but more could be done.	No effort made to maintain apperance of facility	
						Total score	
						Number indicators assessed	
						ENERGY total score (%)	

Assessment Completeness (Total): 0% **Assessment Completeness (Water): 0%** **WASHFIT Scores**

MANAGEMENT AND WORKFORCE

Question	Category		Indicator	Green (2)	Yellow (1)	Red (0)	SCORE
M_1	• Management	• Essential	Facility has a functional quality improvement / IPC or WASH FIT team	Team(s) exists, has clear TORs, meets regularly with good leadership and decisions are noted and followed up on	Team(s) meets but irregularly, informally, does not have clear TORs etc.	No such team(s) and/or no focal point exist	
M_2	• Personnel	• Advanced	Facility has a dedicated WASH focal person or engineer working to an approved programme of work, with senior leadership support	A dedicated focal person exists	Focal point exists but does not have sufficient time, resources or motivation to carry out duties	No	
M_3	• Management	• Advanced	Women's, disability and indigenous groups, and other specific users and staff (e.g. nurses, midwives, cleaners) are consulted about WASH needs and technology designs, and these voices influence technology choice, placement and upkeep	Groups are adequately consulted and voices influence improvements	Only some groups are consulted and/or voices do not influence improvements	None of the above are consulted	
M_4	• Management	• Advanced	An up-to-date diagram of the facility management structure, including cleaning staff, is clearly visible and legible	Up-to-date facility management structure exists (and is legible)	Management structure exists but is not up to date or not visible	Not available	
M_5	• Management	• Advanced	All auxiliary staff, including waste handlers and those who clean, have a clear, written job description, which outlines WASH and IPC responsibilities	All staff have a written job description including WASH and IPC responsibilities	Some, but not all, staff have a job description	No job description	
M_6	• Personnel	• Essential	All new auxiliary staff, including waste handlers and those who clean, receive appropriate WASH and IPC training, tailored and appropriate to their job function	All new staff are trained adequately, according to their function	Some but not all staff are trained or training not appropriate to their function	No training takes place	
M_7	• Personnel	• Advanced • Ward/facility	Staff are regularly (at least annually) appraised on their performance (e.g. on hand hygiene); high-performing staff are recognized and/or rewarded, and those who do not perform well are supported to improve	Staff are regularly appraised (at least annually)	Some but not all staff appraised or staff not sufficiently supported to improve	No appraisal of staff conducted, i.e. no action or recognition of staff based on performance	
M_8	• SOPs	• Essential	A protocol and effective system are in place for ongoing operation and maintenance of infrastructure and procurement of necessary supplies for operation and maintenance	System exists and is functional (items are procured and infrastructure repaired as and when needed)	System exists but is not functional (i.e. facility is not able to procure supplies or infrastructure is not adequately repaired)	No system exists	
M_9	• Budget	• Essential	Budget is available to cover costs of cleaners and maintenance staff, IPC/ WASH training, IPC/WASH consumables (e.g. soap, chlorine) and all activities listed in the procurement protocol.	Budget exists and addresses staff/ training and consumables/O&M	Budget exists for staff but not training / or for consumables but not O&M / or budget not sufficient to cover all costs.	No budget exists	
M_10	• Policies	• Advanced	A facility-wide patient safety policy/ charter for improving quality of care is written, up to date and operational	Policy is available, up-to-date and operational	Policy is not operational, or needs updating/ is not realistic	No policy exists	

Assessment Completeness (Total): 0% **Assessment Completeness (Water): 0%** **WASHFIT Scores**

MANAGEMENT AND WORKFORCE

Question	Category		Indicator	Green (2)	Yellow (1)	Red (0)	SCORE
M_11	• Policies	• Advanced • Climate • Hospitals only	A facility-wide environmentally sustainable policy/charter is written and operational	Policy is written and operational	Policy is written but not operational	No policy exists	
M_12	• Emergency preparedness	• Advanced • Climate	An emergency preparedness and response plan is in place, budgeted for and updated regularly; staff undergo training and exercises to prepare for, respond to and recover from extreme weather-related events, especially those where climate change is a contributing factor	Plan is in place and staff sufficiently trained	Plan is in place but not training undertaken, or plan is unrealistic, or not implemented	No plan exists	
E_13	• Environment	• Advanced	General waste bins are available in all public areas, litter is regularly removed from the interior and exterior of the facility, and efforts are made to improve and maintain the aesthetic appearance of the facility through painting, landscaping (plants) and ensuring that all equipment and other items are safely stored	Efforts are made to maintain overall appearance of facility which is tidy, free from litter and well kept	Some efforts made to matain appearance of facility but more could be done.	No effort made to maintain apperance of facility	

Total score	
Number management indicators assessed:	
MANAGEMENT total score (%)	

6.3 TEMPLATE FOR STEP 3: CONDUCT A RISK ASSESSMENT TO IDENTIFY AND PRIORITIZE AREAS FOR IMPROVEMENT

Template 3. **Risk assessment**

Indicator	Brief description of the problem	Severity of risk to facility users (patients, staff and visitors) and the environment/ climate	Likelihood of occurrence	Total risk score
List number/name	Describe the location of the problem and any other relevant details. Be as specific as possible.	Score each from 0 to 10	Score each from 0 to 10	Out of 20

6.4 TEMPLATE FOR STEP 4: DEVELOP AN INCREMENTAL IMPROVEMENT PLAN AND TAKE ACTION

Template 4. **Action plan**

Indicator/ problem	Specific activities to be undertaken to address problem	Quick fix (Y/N)	Date to be completed	Resources needed	Person(s)/ responsible	Status
	Use a new line for each action			*Financial, material and human resources*		*Completed/ ongoing/not yet started/ delayed by* n

6.5 TEMPLATE FOR STEP 5: MONITORING, REVIEW, ADAPT, IMPROVE

Template 5. **Monitoring progress and troubleshooting**

Has the indicator improved, worsened or not changed since the last assessment? *Add column for each new review*	**If task is ongoing and/or delayed, what corrective or additional action is needed?** **If task has been completed, how will positive change be maintained?** *Provide as many details as possible, including additional resources needed*	**When will the problem be assessed/ reviewed next?**	**Any further comments/notes**

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ANNEX 1

Updates from the first edition

WASH FIT was first piloted in 2015 and officially launched in 2018 *(43)*. This second edition includes the following new guidance, which has been requested by WASH FIT users:

- how to adapt the tool for very rudimentary or temporary emergency facilities, larger facilities (e.g. regional or district[6] hospitals) and facilities in middle-income settings where higher levels of services are sought;
- indicators to assess and address other aspects of health care facilities related to WASH and climate change mitigation strategies – that is, energy, vector control and occupational health;
- what can be monitored and improved to strengthen climate resilience and enable facilities to mitigate the impact of climate change on WASH services; and
- how to ensure that WASH services prevent the spread of pathogens (including SARS-CoV-2, which causes COVID-19) and antimicrobial resistance.

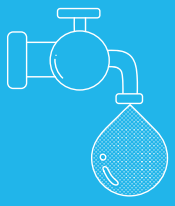
All of the guidance from the first edition still applies. Those who are already familiar with WASH FIT may wish to refer to the additional guidance provided in this guide to build on their WASH efforts.

6. "District" is taken to mean any clearly defined administrative area where local government and administrative structure take on responsibilities from the national government. The nature of a district may vary from country to country.

ANNEX 2

WASH FIT indicators

The WASH FIT indicators are listed here for reference. Users can copy and paste the indicators into a new editable document to adapt to their needs. To see the corresponding scoring criteria and explanatory notes, refer to the full assessment form at https://washinhcf.org/resource/wash-fit-assessment-form-excel/.
All indicators in **BOLD** are essential.

WATER		Indicator	Sub-category
	1a*	**An improved water supply is piped into the facility or located on premises**	Supply
	1b*	The facility has piped water supplies on premises	Supply
	2	**All taps are connected to an available and functioning water supply, with no leaks in pipes**	Supply/ plumbing
	3a	**Water is available during all operating times of the facility**	Availability
	3b*	Water is available at the time the WASH FIT assessment is carried out	Availability
	4	**Water is available throughout the year (i.e. not affected by seasonality, weather variability/extreme events or other constraints)**	Availability
	5	**Main water supply system has been functional for the past 3 months with no major breakdowns**	Availability
	6	Additional improved water source(s) are identified and available, and can be accessed (and adequately treated if necessary) in case the main source is no longer functioning/available	Availability
	7	**Water is of sufficient quantity for all uses**	Availability
	8	**The facility has tanks to store water in case of disruption to the main supply, and water storage tanks are protected (e.g. from climate-related extreme weather events) and adequately managed (e.g. inspected, cleaned/disinfected regularly), and are sufficient to meet the needs of the facility for 2 days**	Availability
	9	[Where rainfall is sufficient and regular] Rainwater harvesting system(s) (with safe storage) is functional and stores water safely	Availability
	10	Water reduction strategies are used to reduce water wastage.	Conservation
	11	[Where chlorine disinfection takes place] **Drinking water has appropriate chlorine residual (≥0.2 mg/L or ≥0.5 mg/L in emergencies)**	Drinking water
	12	**Water supply poses low or no risk to public health, as measured by the absence of *E. coli* per 100 mL and/or as measured by the sanitary inspection risk score**	Quality
	13	Piped water is treated and regulated through safe water management by municipal authorities or water is treated on-site	Quality
	14	The quality of water from all water supplies (primary, backup and supplemental supplies) is routinely tested by a staff member and/or independent authority (e.g. a surveillance agency)	Quality
	15	**A drinking-water station with safe drinking water is available and functioning at all times in main waiting areas and/or entrance to each ward, and in all rooms where patients stay overnight or receive care**	Drinking water
	16	At least one shower or bathing area is available per 40 inpatients or per ward (whichever is lower) and is functioning and accessible	Showers
	17	A functional shower or space for women that is private and lockable is available in the labour and delivery area	Showers

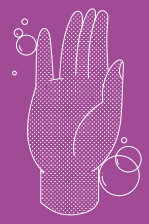
Note: * refers to indicators that are used to calculate Joint Monitoring Programme service levels; bold text indicates essential indicators. Other criteria (e.g. for climate) are noted in the full assessment form.

SANITATION		Indicator	Sub-category
	1*	**Facility has a sufficient number of improved toilets for patients**	Toilets
	2*	**All patient toilets are available and usable**	Toilets
	3*	**All toilets have functional handwashing stations within 5 metres**	Toilets
	4*	**At least one improved toilet is available for staff, and toilet(s) is clearly separated or labelled**	Toilets
	5*	**Improved toilets are clearly separated/labelled for male, female or gender-neutral and provide privacy (i.e. single stall/room) if gender-neutral**	Toilets
	6*	**At least one usable improved toilet meets menstrual hygiene management needs**	Toilets
	7*	**At least one functional improved toilet meets the needs of people with reduced mobility**	Toilets
	8	[For non-sewered systems or on-site treatment and storage] Faecal sludge is fully contained for later emptying and treatment off-site or fully contained and treated in situ.	Faecal sludge management
	9a	[Sewered systems] Toilets are connected without leaks to a public sewer system. The sewer conveys excreta and wastewater with no leaks/overflows to a well managed treatment system.	Faecal sludge management
	9b	[Non-sewered systems; not applicable to pits that are covered and closed when full] Faecal sludge from the container is periodically emptied without spills by trained personnel with appropriate protective equipment and either a) removed off-site to treatment or b) safely disposed of by burying on-site	Faecal sludge management
	10a	[Sewered systems] Well designed and well managed wastewater treatment plant provides at least secondary treatment and meets performance standards	Wastewater management
	10b	[Non-sewered systems, where treatment is off-site] Well designed and well managed faecal sludge treatment plants, with publicly available operation records, are used and meet performance standards	Faecal sludge management
	11	**A stormwater (i.e. rainwater) drainage system is in place that diverts water away from the facility into a safe drainage or leach field area; there is no standing water within the facility grounds**	Stormwater management
	12	Stormwater is captured and reused for washing, cleaning, watering plants and toilet flushing	Stormwater management
	13	[Only if there is a greywater system] Greywater from sinks and laundry facilities is safely captured and has separate plumbing (e.g. no cross-connections with drinking water or faecal waste).	Greywater management

HEALTH CARE WASTE MANAGEMENT

	Indicator	Sub-category
1	**Functional waste collection containers are available in close proximity to all waste generation points for non-infectious (general) waste, infectious waste and sharps waste**	Segregation
2*	**Waste is correctly segregated at all waste generation points**	Segregation
3	**Reminders on correct waste segregation are clearly visible at all waste generation points**	Segregation
4	**Appropriate protective equipment and resources to perform hand hygiene are available for all staff responsible for handling waste, and in charge of waste treatment and disposal**	Personnel
5	**Reminders and training are in place to promote and monitor rational use of PPE (e.g. gloves only used when indicated)**	Waste reduction
6	**Strategies to reduce the quantity of waste generated are employed throughout the facility, including procuring items using less packaging and more sustainable packaging**	Waste reduction
7	[Not applicable if no local recycling available] Recyclable non-hazardous waste is segregated and sent to municipal recycling plants	Waste reduction
8	A dedicated waste storage area is available that is fenced and secure, and of sufficient capacity, where sharps, infectious and non-infectious waste are stored separately	Storage
9	Infectious waste is stored for no longer than the safe limit (as determined by the climate) before treatment/disposal	Storage
10	[On-site treatment only] Waste treatment technology (incinerator or alternative treatment technology) for the treatment of infectious and sharps waste is built to the appropriate standards, well maintained, functional and of a sufficient capacity for waste generated	Treatment
11	[On-site treatment only] Sufficient energy/fuel is available for incineration or alternative treatment technologies	Treatment
12	Waste is collected for off-site treatment safely and regularly, and sent to an appropriate, licensed waste treatment facility	Treatment
13	Functional burial pit, fenced waste dump or municipal pick-up is available for disposal of non-infectious (non-hazardous/general) waste	Disposal
14	[On-site treatment and disposal only, where there is a risk of flooding] Waste pits are built to withstand climate-related events and emergencies (e.g. flooding) and/or a backup waste storage site is available	Disposal
15	[On-site, where incineration is used] Dedicated ash pits are available for disposing of ash from incineration	Disposal
16	Anatomical/pathological waste is put in a dedicated pathological waste pit, burned in a crematory or buried in a cemetery	Disposal
17	Pharmaceutical waste is treated and disposed of safely, either at a centrally managed safe treatment and disposal facility (i.e. off-site), by sending back to the manufacturer, or by incineration by industries using high-temperature kilns	Pharmaceutical waste
18	A member of staff is adequately trained for management and oversight of health care waste and carries out their duties to the appropriate professional standards	Personnel
19	Staff who handle or dispose of waste and health care workers are vaccinated against hepatitis B (and have any other recommended vaccinations, according to national guidelines)	Personnel
20	[When demand increases due to outbreaks or climate-related events] Strategies to deal with additional waste are employed when demand increases	Emergency preparedness

HAND HYGIENE



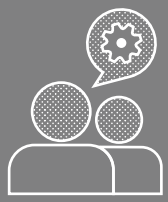
	Indicator	Sub-category
1*	**Functioning hand hygiene stations are available at all points of care, including in the delivery room**	Availability
2	**Functioning hand hygiene stations are available in all waiting areas and other public areas, and in the waste disposal area**	Availability
3	**Hand hygiene promotion materials are displayed and clearly visible in all wards/treatment areas**	Hygiene promotion
4	Hand hygiene compliance activities are undertaken regularly (at least annually)	Hygiene compliance
5	Regular (at least every three months) ward-based audits are undertaken to assess the availability of hand rub, soap, single-use towels and other hand hygiene resources	Availability

ENVIRONMENTAL CLEANING

	Indicator	Sub-category
1*	**A clear and detailed facility (or ward) cleaning policy or protocol is clearly displayed, which is implemented and monitored**	Policies
2	**A record of cleaning is available for patient care areas, general wards or the whole facility and is signed by the relevant cleaner each day**	Monitoring
3	**Toilets are cleaned at least once each day, and a record of cleaning is signed by the cleaners and displayed visibly**	Monitoring
4	**Dedicated cleaning staff or staff with cleaning responsibilities are available in the ward/facility every day or when cleaning is needed and have time dedicated to performing cleaning activities**	Personnel
5*	**All staff responsible for cleaning have received training on cleaning**	Personnel
6	Policies and practices to improve the occupational safety of cleaners and health care waste technicians are available and implemented	Personnel
7	**Appropriate and well-maintained materials (e.g. detergent, mops, buckets) for cleaning for a range of different areas and surfaces are available and sufficient**	Supplies
8	**An annual budget for environmental cleaning supplies and equipment exists and is sufficient for all needs**	Supplies
9	A dedicated area for storage, preparation and care of cleaning supplies and equipment exists ("environmental cleaning services area"), is kept clean and well maintained, and is used according to its purpose	Supplies
10	**Adequate PPE is available at all times and in sufficient quantities for all cleaning staff**	PPE
11	[If patient load increases] Extra staff (e.g. a roster) and additional cleaning supplies are available to be deployed in the facility if patient load increases	Emergency preparedness
12	All beds/mattresses have waterproof covers that are without signs of damage (rips, tears or holes)	Laundry
13	Laundry facilities are clean, well maintained and able to meet demand (e.g. to wash linen from patient beds between each patient)	Laundry
14	[Hospital only] Food is safely prepared and handled (with clean hands, on clean surfaces and with clean utensils)	Food hygiene
15	[Hospital only] Kitchen stores and prepared food are protected from flies, other insects and rats	Food hygiene

ENERGY AND ENVIRONMENT

	Indicator	Sub-category
1	**Facility has a functional and well maintained electricity source (e.g. electricity grid, solar)**	Energy source
2	**Energy is sufficient for all electrical needs of the facility, including for lighting and stand-alone devices (e.g. Expanded Programme on Immunization cold chain)**	Energy sufficiency
3	[Where water is pumped] Sufficient energy is available for pumping water	Energy sufficiency
4	[Where water is heated] Sufficient energy is available for heating water	Energy sufficiency
5	A functional backup source of energy (e.g. generator with adequate fuel) exists if the main source fails	Energy sufficiency
6	Energy-efficient lighting is used with improved lighting controls and energy-saving bulbs	Energy efficiency
7	**Delivery room is adequately lit, including at night**	Adequacy
8	Shower(s) are adequately lit, including at night	Adequacy
9	Latrines are adequately lit, including at night	Adequacy
10	Sufficient functioning environmental ventilation (natural or mechanical) is available in patient care areas	Ventilation
11	[In malaria-endemic areas] Beds have insecticide-treated nets to protect patients from mosquito-borne diseases	Vector control
12	Sustainable procurement (using a life cycle approach) is applied throughout the facility	Procurement
13	Litter is regularly removed from the interior and exterior of the facility; general waste bins are available in all public areas; and efforts are made to improve and maintain the aesthetic appearance of the facility through painting, landscaping (plants), and ensuring that all equipment and other items are safely stored	Environment

MANAGEMENT AND WORKFORCE		Indicator	Sub-category
	1	**Facility has a functional WASH FIT or QI team (with designated focal persons from IPC, WASH, etc.)**	Management
	2	Facility has a dedicated WASH/IPC focal person or engineer working to an approved programme of work	Personnel
	3	Women's, disability and indigenous groups, and other specific users and staff (e.g. nurses, midwives, cleaners) are consulted about WASH needs and technology designs, and these voices influence technology choice, placement and upkeep	Management
	4	An up-to-date diagram of the facility management structure, including cleaning staff, is clearly visible and legible	Management
	5	All auxiliary staff, including waste handlers and those who clean, have a clear, written job description, which outlines WASH and IPC responsibilities	Management
	6	**All new auxiliary staff, including waste handlers and those who clean, receive appropriate WASH and IPC training, tailored and appropriate to their job function**	Personnel
	7	Staff are regularly (at least annually) appraised on their performance (e.g. on hand hygiene); high-performing staff are recognized and/or rewarded, and those who do not perform well are supported to improve	Personnel
	8	**A protocol and effective system are in place for ongoing operation and maintenance of infrastructure and procurement of necessary supplies for operation and maintenance**	SOPs
	9	**Budget is available to cover costs of cleaners and maintenance staff, IPC/WASH training, IPC/WASH consumables (e.g. soap, chlorine) and all activities listed in the procurement protocol**	Budget
	10	A facility-wide patient safety policy/charter for improving quality of care is written, up to date and operational	Policies
	11	[Hospitals only] A facility-wide environmentally sustainable policy/charter is written and operational	Policies
	12	An emergency preparedness and response plan is in place, budgeted for and updated regularly; staff undergo training and exercises to prepare for, respond to and recover from extreme weather-related events and/or crises, especially those where climate is a contributing factor	Emergency preparedness

ANNEX 3

Adapting the WASH FIT assessment

The initial process of adapting the WASH FIT assessment should take place at the national level so that each country has its own contextualized version that has been validated by national health authorities; this can be used consistently by government and partner organizations throughout the country. It should be reviewed periodically to make sure it is still fit for purpose. Indicators that are aligned with the global WHO/UNICEF core questions ideally should remain unchanged so that they can serve as a basis for national, regional and global progress reports. Other indicators can be adapted to meet the local context but should align with national and global standards for WASH, waste, IPC and energy.

To create a contextualized version, the assessment can be adapted in any of the following ways.

Adapt *and* ***add*** *indicators to reflect requirements set out in national guidelines and standards, and local health concerns.*

- Indicators should be aligned with national policies and guidelines – for example, referencing appropriate guidelines, using different cut-offs and reflecting national priorities (e.g. standards for water quality, wastewater management and treatment).
- Terminologies may be replaced with local terms, where applicable, to make them more user-friendly.
- The three-level criteria used to score an indicator may be changed. In higher-income settings or larger facilities, stricter criteria may be needed to make targets more aspirational. For example, it may be hard for low-income, rural primary health care facilities to meet the criterion "two or more toilets for outpatients" for indicator S_1 (see Annex 2) but this criterion will not be sufficient for larger facilities and those in higher-income settings.
- All indicators with a climate focus (e.g. W_10: water reduction strategies, E_6: energy-efficient lighting) should be included. Where there is capacity, other indicators can be added to address local or national climate-related priorities.
- Additional indicators that do not focus on WASH may also be included. The assessment is a framework, and components can be extracted and used to assess and improve other infrastructure or behaviour as part of broader QI activities, such as those focused on improving quality of care for mothers, newborns and children; IPC; outbreak preparedness; and antimicrobial resistance.

Reduce *the number of indicators to match the capacity of a facility.*

- Some indicators are not applicable in small primary health care facilities (particularly those with limited services or few staff) and may be removed. Examples are indicators on waste technologies where waste is treated on-site (HCWM_13-15) or showers (W_16-17).
- Assessing all indicators may be overwhelming in small facilities that have only one or two regular staff. In such instances, a subset of indicators should be prioritized. At a minimum, indicators marked "essential" should be included and additional indicators used according to the capacity of the team.
- In larger facilities (e.g. tertiary and specialized national hospitals), high-risk or priority wards (e.g. delivery rooms; neonatal care units and postnatal care rooms; wards treating infectious diseases such as cholera, Ebola or COVID-19) that require improvements should be selected and prioritized for use of WASH FIT and investments.

Select *the most relevant indicators according to the technologies used in a given facility.*

- In some instances, more than one option for an indicator is provided. The most applicable indicator should be selected based on the technologies used at the facility – for example, type of water supply (W_1a/b: piped water / water outside of facility), sewerage system (S_8–S_10: sewered / non-sewered systems) and waste management infrastructure (HCWM_10: incinerators or alternative treatment technologies).
- Choose the correct SI form (see Annex 7) according to the water supply system. The following options are available: tube well with hand pump; deep borehole with motorized pump; piped distribution, storage tank and taps; and rainwater collection and storage. Note that more than one form may be applicable.

Assessing indicators at facility or ward level

Facility-level data (i.e. assessing indicators once for the whole facility) may not be a true reflection of the situation in larger facilities (e.g. those with several inpatient units) because the data do not show variation across wards. For example, the availability and quality of toilets often vary significantly across different departments, with labour and delivery areas often performing worse. Assessing some indicators at multiple points within a facility may be useful for hospital management to identify poorly performing wards and direct resources to QI activities where they are most needed. These indicators are labelled in the assessment tool with "ward". In smaller facilities, these indicators can be assessed on a facility-wide basis. An average of the scores given may be calculated and included in the overall facility WASH FIT score for the indicator in question. Alternatively, or in addition, each ward or department may be analysed separately, with WASH FIT scores given for each indicator for a particular ward. Finally, some indicators may be relevant only for specific wards or service areas. Table 15 provides some examples.

Table 15. Examples of facility- and ward-level indicators

Level of assessment	Example indicators
Facility level *(indicator relevant across whole facility and measured once)*	▪ An up-to-date diagram of the facility management structure, including cleaning staff, is clearly visible and legible. ▪ A facility-wide environmentally sustainable or climate policy/charter is written and operational. ▪ An emergency checklist or plan is in place and updated regularly. Staff undergo training and exercises to prepare for, respond to and recover from extreme weather-related events, conflict or other emergencies.
Ward level *(indicator must be assessed in multiple places)*	▪ Functional waste collection containers are in close proximity to all waste generation points. ▪ Facility/ward has a sufficient number of available and usable toilets for patients. ▪ Hand hygiene compliance activities are undertaken regularly (may be managed by different departments or on a facility-wide basis). ▪ Cleaning supplies are available in each ward.
Specialized area or ward (e.g. maternity, surgery) *(indicator only applicable in certain areas)*	▪ A shower is available for women in the labour and delivery area.

ANNEX 4

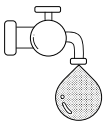
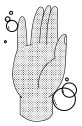
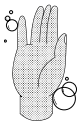
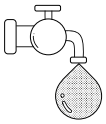
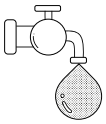
Calculating Joint Monitoring Programme for Water Supply, Sanitation and Hygiene service ladders from the WASH FIT assessment

	Water	Sanitation	Health care waste management	Hand hygiene	Environmental cleaning
					
Basic service	Water is available from an improved source located on premises	Improved sanitation facilities are usable with at least one toilet dedicated for staff, at least one sex-separated toilet with menstrual hygiene facilities, and at least one toilet accessible for people with limited mobility	Waste is safely segregated into at least three bins, and sharps and infectious waste are treated and disposed of safely	Functional hand hygiene facilities (with water and soap and/or alcohol-based hand rub) are available at points of care, and within 5 metres of toilets.	Basic protocols for cleaning are available, and staff with cleaning responsibilities have all received training
Relevant WASH FIT indicators	W_1a: An improved water supply is piped into the facility or located on premises or W_1b: The facility has piped water supplies on premises W_3b: Water is available at the time the WASH FIT assessment is carried out	S_1: Facility has a sufficient number of improved toilets for patients S_2: All patient toilets are available and usable S_4: At least one improved toilet is available for staff and toilet(s) is clearly separated or labelled S_5: Improved toilets are clearly separated/ labelled for male and female or gender-neutral and provide privacy (i.e. single stall/room) if gender-neutral S_6: At least one usable improved toilet meets menstrual hygiene management needs S_7: At least one functional improved toilet meets the needs of people with reduced mobility	HCWM_2: Waste is correctly segregated at all waste generation points HCWM_10: Waste treatment technology (incinerator or alternative treatment technology) for the treatment of infectious and sharps waste is built to the appropriate standards, well maintained, functional and of a sufficient capacity for waste generated HCWM_12: Waste is collected for off-site treatment safely and regularly and sent to an appropriate, licensed waste treatment facility	H_1: Functioning hand hygiene stations are available at all points of care, including in the delivery room S_3: All toilets have a functioning handwashing station within 5 metres	EC_1 A clear and detailed facility (or ward) cleaning policy or protocol is clearly displayed, which is implemented and monitored EC_5 All staff responsible for cleaning have received training on cleaning
WASH FIT scores to meet "Basic service"	W_1a or W_1b: green or yellow and W_3b: green or yellow	Improved: S_1 Usable: S_2 Available for staff: S_4 Sex separated: S_5 Menstrual hygiene: S_6 Accessible for limited mobility: S_7 All are green or yellow; none are red	HCWM_2, HCWM_10 and HCWM_12: all are green or yellow; none are red	HH_1 and S_3: one is green and one is yellow	EC_1: green or yellow and EC_5: green

	Water	Sanitation	Health care waste management	Hand hygiene	Environmental cleaning
					
Limited service	**An improved water source is within 500 metres of the facility, but not all requirements for basic service are met**	**At least one improved sanitation facility, but not all requirements for basic service are met**	**There is limited separation and/ or treatment and disposal of sharps and infectious waste, but not all requirements for basic service are met**	**Functional hand hygiene facilities are available at either points of care or toilets, but not both**	**There are cleaning protocols, or at least some staff have received training on cleaning**
WASH FIT	W_1a or 1b: green or yellow and W_3b: red	S_1 and S_2: green or yellow and S_4–S_7: any one of S_4–S_7 is red	Any one of HCWM_2, HCWM_10 or HCWM_12 is red	H_1 and S_3: one is green or yellow and one is red	EC_1 and EC_5: one is green or yellow and one is red
No service	**Water is taken from unprotected dug wells or springs, or surface water sources; or an improved source that is more than 500 metres from the facility; or the facility has no water source**	**Toilet facilities are unimproved (pit latrines without a slab or platform, hanging latrines and bucket latrines), or there are no toilets or latrines at the facility**	**There are no separate bins for sharps or infectious waste, and sharps and/or infectious waste are not treated/disposed of**	**No functional hand hygiene facilities are available at either points of care or toilets**	**No cleaning protocols are available, and no staff have received training on cleaning**
WASH FIT scores to meet "Basic service"	W_1a or 1b: red and W_3b: red	S_1 or S_2: red	HCWM_2: red and HCWM_10 or HCWM_12: red	Both H_1 and S_3 are red	Both EC_1 and EC_5 are red

ANNEX 5

Suggested spot checks and their frequency

Item		What to check for	Frequency	Action to address problem
	Available drinking water	Is drinking water available in all areas? Check all wards and rooms. Is it being stored safely? Is it accessible to all who need it?	**Daily**	
	Clean and available toilets	Are toilets clean? Are they unlocked? If locked, is a key easily available? Is water available for flush/pour flush toilets? Are there damage, cracks or leaks in the structure? Have toilets been cleaned at least once in the past 24 hours and is the record clearly displayed? Do toilets appear clean?	**Daily**	
	Hand-washing materials at toilets	Do all toilets have handwashing stations with water and soap available? Check that water is available from taps/handwashing stations.	**2–3 times per week**	
	Hand hygiene materials at points of care	Are hand hygiene stations available at all points of care? Are water and soap or alcohol-based hand rub available at all of these stations? Check that water is available from taps/handwashing stations.	**2–3 times per week**	
	Safe drinking water	Has testing taken place according to the water management schedule? Look at the most recent results. Do they meet the criteria for appropriate free chlorine residual?	**Depends on facility (daily–Monthly)**	
	Stormwater systems	Is there any stagnant water around the drainage system or more generally in the facility? Are there any obvious blockages?	**Weekly (or more frequently during rainy season, if applicable)**	
	Waste segregation	Are there three bins in place at all points of care? Does each bin have the correct type of waste inside? Are liners for bins present in all bins? Are bins less than 75% full?	**Weekly**	
	Taps and pipes	Does water flow from the tap(s)? Is the tap leaking or dripping? Are there any leaks in the water supply system? Check all pipes.	**Weekly-monthly Refer also to sanitation inspection forms**	
	Materials for cleaning	Are sufficient materials for cleaning available in all areas where needed? Are they in good quality and well maintained (not overly soiled), and stored appropriately?	**Weekly–monthly**	
	Lighting for delivery room, including showers and latrines	Are all lights functioning in labour and delivery areas?	**Weekly-monthly**	
	Infectious waste storage	Is there waste building up in the storage area? When was the last time waste was collected or treated?	**Weekly-monthly**	

ANNEX 6

Technical fact sheets

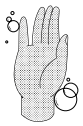
The technical fact sheets are designed to help users design and plan simple improvements. The following fact sheets are provided:

- Technical fact sheet 1: Strengthening the resilience of WASH services in health care facilities to climate impacts

- Technical fact sheet 2: Gender equality, disability and social inclusion (GEDSI)

- Technical fact sheet 3: Safe plumbing for WASH services in health care facilities

- Technical fact sheet 4: Safe and environmentally sustainable health care waste management



- Technical fact sheet 5: Hand hygiene improvement: a multimodal approach

TECHNICAL FACT SHEET 1

Strengthening the resilience of WASH services in health care facilities to climate impacts

The impacts of climate change (e.g. higher temperatures, more intense storms and cyclones, droughts, floods, sea level rise) are expected to increase risks to health, particularly in low- and middle-income countries. The impacts of weather variability often result in increased demand for health services when the functionality of health care facilities, including water, sanitation and hygiene (WASH) services, is even more important. All new health care facilities should be built with climate-resilient WASH services, and efforts should be made to retrofit existing facilities.

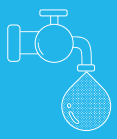
A climate-resilient health system is one that is "capable to anticipate, respond to, cope with, recover from and adapt to climate-related shocks and stress, so as to bring sustained improvements in population health, despite an unstable climate" (*WHO Operational framework for building climate resilient health systems*, 2015).

Climate considerations within the Water and Sanitation for Health Facility Improvement Tool (WASH FIT) cycle

Step	Activity	Additional considerations
Preparation	Review existing national guidelines, standards, policies and activities on climate-resilient health systems, and WASH infrastructure and services, as well as existing climate vulnerability assessments. Review early-warning systems and national preparedness mechanisms.	Modify indicators to align with national standards. Explore possible collaboration and synergies with other climate efforts. Consider investment opportunities linked to climate funds and activities.
Step 1: Establish the team	Engage individuals with environmental and climate-related expertise, including water resource specialists, climatologists, emergency planners and adaptation planners.	Identify other experts and discuss joint goals, timelines and target areas. Experts may be engaged on an ad hoc basis as needed to ensure that the most relevant information is considered in the risk assessment.
Step 2: Assess the facility	Specific elements to assess include water storage, water reuse and reduction strategies, drainage and flood-proofing, energy-efficient lighting and heating/cooling, PPE and waste reduction strategies, and environmentally sustainable waste treatment technologies.	All climate-related indicators are highlighted in the assessment tool. A climate score could be calculated for relevant indicators in each of the WASH FIT domains, for the overall facility and even for entire districts or the country.
Step 3: Risk assessment	Consider the current and future climate-related impacts on risk and the possible threat to the climate resilience of the facility.	Note the most pressing climate needs and prioritize these in the risk assessment and analysis. For example, if the facility is near a coastal area and climate projections indicate that there is a threat of hurricanes and cyclones, the risks associated with structural damage and disruption of water and power supplies may be high. Priority should thus be given to reinforcing infrastructure and installing backup power supplies.
Step 4: Develop and implement improvement plan	Consider the feasibility of addressing climate-related problems. Prioritize quick wins and low-cost climate-related improvements and changes that facilities can make easily. For example, improving waste segregation, fixing leaking pipes and reducing unnecessary glove use. Other items, such as installing solar power and additional raised water storage, will necessitate securing additional capital and funds for operation and maintenance. Procuring supplies with less packaging and phasing out mercury-containing devices will require discussions and coordination with subnational and national authorities.	Highlight quick wins on a chart that is visible to all staff (and possibly facility users). Track progress regularly (at least weekly) towards addressing these. Recognize when quick wins have been achieved through awards and at staff meetings. Develop a longer-term strategy and investment plan to complement shorter-term improvements.
Step 5: Monitor, review, adapt, improve	Climate-resilient WASH and energy infrastructure and practices are rapidly evolving, and it is important to stay informed about local and global practices and innovation.	Check in regularly with climate, energy and WASH experts at national level on new technologies and practices, and consider how to adapt the facility.

Improvements

Climate-smart WASH improvements are listed below according to domain, starting with those that can be managed directly at the facility level with minimal resources through to more complex, higher-cost improvements.

Domain	Improvement
Water 	▪ **Repair leaking pipes.** Water loss in a distribution system can be anywhere from 20% to >50%, depending on the age and condition of the network. Leaking pipes contribute to a significant amount of this water wastage. They can also serve as a source of infection by allowing inflow of contaminated water, and/or causing water to pool and provide a breeding ground for mosquitoes. ▪ **Reduce water use.** Turn off water while scrubbing hands, install low-flow fittings to washbasin taps, reuse wash water to water plants, and use low-flow toilets and low-water washing machines for laundry. ▪ **Install rainwater harvesting.** In areas that receive regular rainfall, installing rainwater collection systems on roofs may cost as little as US$ 1000, with very few recurrent costs. They should include a first-flush system and filter boxes to ensure water quality. ▪ **Clean and disinfect water tanks.** Covering, and routinely cleaning and disinfecting tanks will provide immediate health gains and build resilience against many future rainfall scenarios. ▪ **Test water quality and procure treatment supplies.** Drought, floods and other extreme weather events can worsen water quality, as a result of municipal water treatment plants shutting down or having reduced capacity, or compromised sanitation systems. Procuring low-cost, rapid water quality test kits along with water treatment supplies (e.g. filters, chlorine) can allow quick detection of contamination and adjustments to treatment. Ensure an adequate stock of consumable reagents on-site as a buffer to climate-related supply disruptions (e.g. road closures following storms/floods). Also ensure that robust procurement and supply chains are in place, with adequate redundancy to ensure continuity of supply during emergencies. ▪ **Increase water storage.** Health care facilities should have sufficient water storage to meet water needs for at least 2 days. Water storage tanks should be raised to protect against floods and to allow water to flow by gravity (thus saving energy). They should also be covered, and regularly cleaned and disinfected. Such actions will provide immediate health gains and build resilience against many future climate scenarios.
Hand hygiene 	▪ **Reduce unnecessary use of gloves.** Gloves are the highest-volume disposable product purchased by the health care sector. Glove use has increased dramatically, in part due to COVID-19; however, many medical interactions (e.g. vaccinations, consultations, most examinations) do not require use of gloves (see WHO 2021 in "Related tools and further reading"). Overuse creates unnecessary extra waste, which contributes to carbon emissions. Instead, clean hands as appropriate (according to the WHO 5 Moments for Hand Hygiene; see WHO 2009 in "Related tools and further reading").
Health care waste 	▪ **Reduce and segregate waste.** Only 15% of health care waste is infectious. The rest can be recycled and/or disposed of in landfill. Treating only infectious waste saves energy, costs and emissions from burning and/or autoclaving, the two main types of treatment. ▪ **Switch to mercury-free devices.** Mercury is toxic, and nearly all countries have agreed to phase out mercury thermometers and sphygmomanometers under the Minimata Convention. ▪ **Use non-burn technologies for health care waste.** Choose technologies, such as autoclaves, that minimize the formation and release of chemicals, hazardous emissions and carbon emissions. ▪ **Compost or biodigest organic waste.** Biogas can be used as a renewable fuel.
Energy and environment 	▪ **Switch to low-energy light bulbs.** Use of efficient LED light bulbs can save up to 79% of energy required for lighting. ▪ **Install renewable and backup energy (e.g. solar).** Solar power is cost-effective and can provide a more reliable (compared with the grid) source of energy for heating and pumping water, lighting facilities and powering basic equipment (e.g. refrigerators). ▪ **Source medical supplies with less packaging.** Procuring vaccines, medicines and other supplies that do not use plastic packaging and use less packaging overall saves costs and reduces the amount of waste that is disposed of (and eventual carbon emissions).

Related tools and further reading

Global Green and Healthy Hospitals. *Guidance documents for sustainability action* (procurement, waste, energy, water, buildings). http://www.greenhospitals.net/guidance-documents/

Health Care Without Harm (2021). *Protection without pollution: COVID-19 waste-reduction strategies*.
https://noharm-global.org/covidwaste

WHO (2009). *WHO guidelines on hand hygiene in health care*.
https://apps.who.int/iris/handle/10665/44102

WHO (2015). *Comprehensive safe hospital framework*.
https://www.who.int/publications/i/item/comprehensive-safe-hospital-framework

WHO (2020). *WHO guidance for climate resilient and environmentally sustainable health care facilities.*
https://apps.who.int/iris/handle/10665/335909

WHO (*2022). Global analysis of health care waste in the context of COVID-19: status, impacts and recommendations*.
https://apps.who.int/iris/handle/10665/351189

TECHNICAL FACT SHEET 2

Gender equality, disability and social inclusion (GEDSI)

The design and management of water, sanitation and hygiene (WASH) services in health care facilities must consider a variety of user needs. Users include women during childbirth; menstruating women; infants and children; older people; people with disabilities; people experiencing injury, illness or incontinence; and female staff. The planning, design and management of WASH services in health care facilities must consider accessibility, safety, privacy, social appropriateness or acceptability, and the comfort of these many different users.

Women form 70% of the global health workforce, comprising the vast majority of frontline nurses, midwives and cleaning staff. Female patients and staff may face negative impacts of cultural taboos around menstruation and post-birth bleeding. In most cultures, women also carry socially prescribed roles as stewards of water and carers for family members. They are therefore particularly exposed to risk of infection from poor hygiene. Women's WASH needs, including protection from gender-based violence while accessing water or toilets, and from workplace harassment, are more likely to be overlooked in the design and operation of health care facilities.

GEDSI considerations within the Water and Sanitation for Health Facility Improvement Tool (WASH FIT) cycle

Considerations for GEDSI fall into two broad categories: access to infrastructure and services, and process and management. The first seeks to ensure that all infrastructure is built to female-friendly, universal and accessible design. The second is about involving a range of voices at all steps and for all decision-making – using a rights-based approach across all WASH FIT processes.

Step	Activity
Preparation	Where possible, consult gender and accessibility experts to understand contextual issues related to inclusion before starting. Some systems-level issues to consider include the following. ▪ What awareness exists of specific WASH needs of diverse users across the health system? ▪ Are there any existing national standards or guidelines about accessibility of WASH in health care facilities for people with difficulty walking, seeing or hearing? ▪ What are the influence and extent of women's leadership within WASH and health ministries, and the broader health care system? How can this be harnessed to drive WASH improvements? ▪ How is gender equality addressed nationally and locally? Are any national policies or guidelines in place to address gender equality? Is there awareness of gender-based violence and ways of preventing it? ▪ How do government ministries responsible for WASH in health care facilities collaborate with rights groups?
Step 1: Establish the team	Aim to establish a team of members who have diverse perspectives, and find a way to incorporate users who are more likely to have specific WASH requirements or face challenges. Aim for a team that includes: ▪ an equal gender balance; ▪ a diverse range of staff roles and levels – cleaners, nurses, midwives, directors and managers; ▪ representatives of organizations of people with disabilities, local women's groups, and religious and ethnic groups; and ▪ in facilities where births occur, a woman who has delivered at the facility. Develop a set of team principles or ways of working to ensure that everyone has a voice, their perspectives are considered and they will be listened to in decision-making. Certain topics related to gender and/or cultural norms may be sensitive. It is good practice to have separate focus groups or conversations with female staff to discuss their experience of menstrual hygiene provision, feelings of safety, input into decision-making, and so on. Similarly, other groups of users or staff may not be able to speak freely in a hierarchical, medical environment.

Step	Activity
Step 2: Assess the facility	▪ Ensure that special attention is given during the facility assessment to the delivery rooms, neonatal care unit and postnatal care rooms. Check for female-friendly facilities and infrastructure, such as gender-segregated toilets. ▪ Speak to health care workers and facility management to understand and challenge harmful attitudes and discrimination towards certain groups. ▪ Recognize that not all staff will feel comfortable highlighting problems because of power imbalances. Some problems may not be immediately obvious (e.g. problems in supplies of personal protective equipment). It is important to ensure that all people, particularly women, can speak privately about concerns.
Steps 3: Risk assessment	▪ Consider how risk differs for women, children, people with disabilities, the elderly and disadvantaged groups. Consider risks to health, safety, dignity and access. ▪ Are these groups disproportionately affected by access to poor services?
Step 4: Develop and implement improvement plan	Improvement planning should employ a do-no-harm approach. ▪ Will the action plan create an increased work burden (e.g. on women, cleaners, carers) and how can this be mitigated? How can the work burden be most equitably allocated, and what resources exist (or can be accessed) to bring in additional help? ▪ Will the planned improvements affect women and men differently, and how can this difference be reduced? ▪ Will people with disabilities be able to access and benefit from new or upgraded services?
Step 5: Monitor, review, adapt, improve	▪ Develop feedback mechanisms to provide women and other diverse users (particularly those who experience marginalization) with the opportunity to provide feedback easily and ensure that their inputs are considered in WASH services and future improvements.

Improvements

GEDSI improvements are listed in the table below according to domain. An overarching principle is that feedback or accountability mechanisms should be in place to give women and other users the chance to provide feedback on quality of care, and to inform them about where to seek the information and treatment they need.

All WASH facilities should meet universal design principles and:

- be located reasonably close to service areas, well lit and safe to access (lockable doors with no gaps) at all times by patients, staff and attendants;
- be accessible via a safe path that is clear of hazards and has no steps;
- have sufficient space in internal facilities for caregivers to support another person or for a wheelchair to turn around; and
- have communications about hygiene behaviour change available in accessible formats, such as pictures, braille or local languages.

Domain	Improvements		
	Maternity and neonatal wards	**Female-friendly**	**Accessible and appropriate for diverse users**
Water 	Ensure that drinking water is available to women before, during and after delivery. Ensure that well draining bathing facilities that are private and lockable are available to women before, during and after delivery. Ensure that clean changing areas are available for infant WASH needs, with water for handwashing. Ensure that materials and water to manage postpartum bleeding are provided. Ensure that sufficient water is available in the delivery room (either through piped supply or stored in water tanks) for all needs.	Provide bathing facilities that are women-only and are private, lockable and in a safe location.	Consider modifications to bathing facilities such as grab rails and shower chairs to improve accessibility. Ensure that at least one bathing facility meets universal design standards so that it is accessible to people with disabilities. Refer to Australian Government AusAID (2013) under "Related tools and further reading". Ensure that drinking water is accessible to all users (e.g. signs are in accessible formats, taps are low down).

Domain	Improvements		
	Maternity and neonatal wards	Female-friendly	Accessible and appropriate for diverse users
Sanitation 	Ensure that private, safe, lockable toilets are available to women before, during and after delivery. They should: ▪ provide privacy; ▪ be lockable from the inside; ▪ be in a safe location; ▪ be clearly marked for females, with a separate entrance; ▪ have good lighting; and ▪ cater for menstrual hygiene requirements of both staff and facility users.	Ensure that private, safe, lockable toilets are available to women, separate from men, with provision for menstrual hygiene management. Larger health care facilities should have separate facilities for female staff and facility users.	Consider modifications to toilet facilities such as grab rails to improve accessibility, ramps to access cubicles and smaller toilets for children. Ensure that at least one cubicle meets universal design standards so that it is accessible to people with disabilities.
Hand hygiene 	Ensure that hand hygiene stations with water and soap or alcohol-based handrub are available and accessible in key locations. Ensure that promotion of hand hygiene for new parents targets all family members (e.g. mothers, fathers, other relatives).	Ensure that hand hygiene interventions targeting health care workers consider power issues, such as whether female workers can request soap.	Ensure that behaviour change communications about hand hygiene are available in different formats, such as using pictures and local languages, and use terminology and approaches that resonate with local populations. Ensure that hand hygiene stations are accessible to people with limited mobility (e.g. situated lower down for those in wheelchairs and young children).
Health care waste 	Ensure that facilities for disposal of menstrual hygiene products are available in a private, hygienic place and that disposal systems are functional.		
Environmental cleaning 	Ensure a regular cleaning and maintenance schedule for maternity and neonatal wards, female and child toilets, and bathing areas, which is not reliant on cleaning by patient users or their attendants.		
Management and workforce 	Conduct gender and inclusion sessions for all staff (including supervisors and cleaners) to ensure sensitivity and awareness to different requirements. Be aware of power dynamics, and aim for diverse voices and roles in decision-making.		

Related tools and further reading

WaterAid. *Developing a participatory management tool for user-friendly water sanitation and hygiene in healthcare facilities*. https://washmatters.wateraid.org/publications/user-friendly-wash-in-healthcare-facilities-in-cambodia

Australian Government AusAID (2013). *Accessibility design guide: universal design principles for Australia's aid program*. https://www.dfat.gov.au/sites/default/files/accessibility-design-guide.pdf

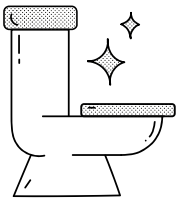
WHO (2012). *Making health services adolescent friendly: developing national quality standards for adolescent friendly health services*. https://apps.who.int/iris/handle/10665/75217

WHO (2016). *Standards for improving quality of maternal and newborn care in health facilities*. https://apps.who.int/iris/handle/10665/249155

WHO (2018). *Standards for improving the quality of care for children and young adolescents in health facilities*. https://apps.who.int/iris/handle/10665/272346

WHO (2019). *Delivered by women, led by men: a gender and equity analysis of the global health and social workforce*. https://apps.who.int/iris/handle/10665/311322

WaterAid led the development of this fact sheet.



TECHNICAL FACT SHEET 3

Safe plumbing for WASH services in health care facilities

Plumbing is an essential service that needs to be considered in the overall planning, operation and maintenance of water, sanitation and hygiene (WASH) services in health care facilities. The provision of a safe, reliable, resilient water supply – including reliable access to water for handwashing; provision of clean, functional toilets; and assurance of safe wastewater management (including disposal) – is vital to protecting the hygiene and safety of patients and staff in the health care facility.

Regardless of location, health care facilities must enlist the services of competent, trained plumbers to install and maintain plumbing systems and components. Availability of good-quality plumbing fixtures and fittings in the local area or region is also important to facilitate repair and service of the installed products and components.

Skilled plumbers should be considered as key members of the Water and Sanitation for Health Facility Improvement Tool (WASH FIT) team with regard to installing and maintaining water sanitation systems in the facility.[7] It is important for the WASH FIT team and facility management to establish a relationship with local plumbing contractors and/or plumbers.

The nature of plumbing in the WASH FIT process

Plumbing covers:

- pipework from supply (water tank, municipal supply, borehole or well) to end-points (taps);
- taps, traps, toilets, handwashing basins, sinks, laundry facilities and shower facilities; and
- drainage from all fixtures to safely managed wastewater systems.

The roles of a competent plumber are to:

- install and maintain the water supply and sanitation systems;
- have thorough knowledge of the installed plumbing systems, and work with the facility's WASH FIT team to keep all systems working at all times; and
- develop and implement preventive maintenance plans, and resolve problems as they are identified (e.g. leaks or blockages).

The roles of the facility WASH FIT team are to:

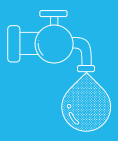
- ensure that water from the water supply system is tested regularly, and is safe and fit for purpose;
- conduct regular inspections of the facility to ensure the cleanliness of all toilet facilities, check for system leaks, ensure that plumbing fixtures and fittings are working properly, and ensure that any problems are reported and resolved quickly; and
- know when to enlist the services of a skilled plumber.

7. If such certifications and/or regulations exist, teams should use a certified, accredited or licensed plumber or technician.

Plumbing considerations within the WASH FIT cycle

Step	Activity
Preparation	Obtain any available plans or drawings of existing plumbing systems, through appropriate local networks or authorities. Identify contacts at the municipal water and sewerage utility. Review national plumbing codes and other relevant policies (e.g. on climate). Evaluate the facility's access to, and relationship with, local, skilled plumbing tradespeople.
Step 1: Establish the team	Work with skilled tradespeople, including plumbers. Determine who is responsible for maintaining the water and sanitation systems, for water quality and for routine plumbing system inspections. Where available, basic plumbing awareness training for the team may be conducted. Provide a plumbing awareness training programme for the WASH FIT team to ensure a basic knowledge of the facility's plumbing system so that they can identify problems.
Step 2: Assess the facility	Specific elements to monitor and improve include the following. **Water supply:** source, storage (leaks and potential exposure to contamination), frequency and results of water quality testing, cleanliness and functionality of fixtures and fittings, absence of dead legs/stagnant pipes, appropriate circulation and temperature to manage *Legionella* risks in hot-water o systems/coolers/shower heads. **Wastewater management:** septic system (free from pooling water); appropriate setback distance for soakage pits/septic effluent from on-site water sources; functionality of toilets, urinals and wastewater system (free from blockages and overflows). Note any recent or ongoing plumbing issues and the probability of infrastructure causing further risks to health. Common issues include: ▪ faulty or leaking pipework and taps – wasting water, increasing costs to the facility through higher utility payments and/or pumping and energy costs; ▪ poor water quality due to corrosion, chemical contamination (e.g. lead) or dead legs leading to stagnation; ▪ blocked and overflowing toilet(s), handbasins and sinks – spreading pathogens and increasing risk of infection for staff, patients and carers; ▪ pooling of water on floors – spreading pathogens and increasing risk of infection for staff, patients and carers; and ▪ failing drainage/septic system – leading to stagnant water (presence of mosquitoes), risk of flooding and water contamination.
Step 3: Risk assessment	Risks to facility users linked to poor plumbing include: ▪ psychosocial effects – dignity and morale of staff and patients affected by using dirty or broken toilets, or having no toilets; ▪ infections – from inability to perform hand hygiene (broken sinks and insufficient water supply), contaminated water source (including drinking water) or chemical contamination from leaching of pipe material; and ▪ environmental and wider community hazards – contamination of water source from poorly managed sanitation system, spread of antimicrobial resistance or flooding from poor drainage.
Step 4: Develop and implement improvement plan	A number of simple, low-cost improvements can be made, including fixing or replacing taps and leaking pipes, and regularly cleaning toilets. More major improvements (e.g. installing a septic tank, upgrading wastewater systems) will necessitate securing additional capital and funds for operation and maintenance.
Step 5: Monitor, review, adapt, improve	If there are recurring problems with plumbing systems, review procedures for identifying and acting on problems, funds to purchase spare parts and availability of skilled plumbers to complete repairs in a timely manner.

Improvements

Domain	Improvement
Water 	▪ **Regularly inspect and test water quality.** The use of safe water (according to the WHO *Guidelines for drinking-water quality*) minimizes the risk of exposure to water-related pathogens of enteric and environmental origin (e.g. *Pseudomonas*, *Legionella*). Check for basic visual indicators (e.g. colour, solids), check for tastes and odours, and regularly test water quality. ▪ **Maintain, clean and disinfect storage tanks.** The facility should have tanks to store water in case of disruption to the main supply. Water storage tanks should be protected from climate-related extreme weather events and sufficient to meet the needs of the facility for 2 days. Ensure that adequate (e.g. vermin-proof) cover is in place, and that access hatches close properly and are securely locked. Ensure that tanks are clean, free from leaks and sources of contamination, and cleaned and disinfected at least once per year following national or global standards. Use sanitary inspection forms for storage tanks and taps, and/or rainwater harvesting. ▪ **Maintain functioning sinks and taps.** Confirm that sinks are not blocked, pipes are connected to the water system, water is available from taps, and taps are secure, with proper fittings to prevent leaks. Where possible and appropriate, use water-saving or water-efficient taps. All sinks should have water traps that provide a water seal that prevents sewer odours from rising through the drain. ▪ **Confirm the reliability and frequency of the municipal water supply** for delivery/supply (24 hours per day, 7 days per week; seasonal disruptions). Consider backup sources and additional storage tanks, where needed. Identify an isolation valve in case of emergencies. ▪ **Ensure that washing rooms are well maintained.** Confirm that there are no leaking pipes (walls, ceiling) and no water pooling on floor; test floor drains (if fitted).
Sanitation 	▪ **Maintain functioning toilets.** Use water-saving or water-efficient cistern/tank, where possible, and regularly confirm functionality, where fitted. Ensure that toilets are not blocked, are flushing properly and are not continuously running (or overflowing), to save water. ▪ **Check sewer connections.** If toilets are connected to a public sewer system, ensure that there are no leaks, and that the sewer conveys solids and liquids with minimal leaks/overflows to the treatment facility or sewer. Look downstream to see if the sewer goes to a safely managed treatment plant, or whether septic effluent flows into a community open drain or other water source. ▪ **Check functionality of septic tanks.** Check lid for damage. Check that there is no water pooling in the surrounding area, no strong odours (could indicate failing system) and no unusual growth in the surrounding area (grass and weeds could indicate a leaking system).
Cleaning 	▪ **Regularly inspect toilets and washrooms.** Ensure that the facility has a routine cleaning and inspection schedule for all toilets and washrooms. Carry out daily spot checks to ensure that cleaning is being carried out appropriately.
Health care waste 	▪ **Regularly inspect water supply to autoclave.** Ensure that the water supply to the waste autoclave is of sufficient quantity and quality, all pipes and fittings are secure and without leaks, and water is available during operation of the autoclave.
Management and workforce 	▪ **Maintain local supply chain for efficient repairs.** Ensure that repair materials (e.g. washers, o-rings, pipe fittings) for commonly broken items (e.g. taps, toilets) and other installed plumbing fixtures and fittings are available and the local supply chain is maintained. Any new infrastructure should be chosen based on local availability of materials and expertise for repairs.

Related tools and further reading

National water conservation standards (where available).

WHO, World Plumbing Council (2006). *Health aspects of plumbing*. https://apps.who.int/iris/bitstream/handle/10665/43423/9241563184_eng.pdf?sequence=1&isAllowed=y

WHO. Guidelines on small water supply management. https://www.who.int/teams/environment-climate-change-and-health/water-sanitation-and-health/water-safety-and-quality/small-water-supply-management

Healthhabitat Australia (2011). *How a septic tank works* [video]. https://www.youtube.com/watch?v=uuORuwb4cfs&t=3s

Netherlands Water Partnership (2006). *Smart water solutions: examples of innovative, low-cost technologies for wells, pumps, storage, irrigation and water treatment*. https://www.joinforwater.ngo/sites/default/files/library_assets/330_NWP_E9_smart_water.pdf

Netherlands Water Partnership (2006). *Smart sanitation solutions: examples of innovative, low-cost technologies for toilets, collection, transportation, treatment and use of sanitation products*. https://www.joinforwater.ngo/sites/default/files/library_assets/360_NWP_E2_Smart_Sanitation.pdf

The World Plumbing Council led the development of this fact sheet.

TECHNICAL FACT SHEET 4

Safe and sustainable health care waste management

As part of broader water, sanitation and hygiene (WASH) and infection prevention and control (IPC) efforts, safe and sustainable management of health care waste reduces health care–associated infections; increases trust in, and uptake of, services; reduces harm to the environment and nearby community; and decreases cost of service delivery. In least developed countries, health care waste management is often an underfunded and neglected area within the health service. Seven out of 10 health care facilities in least developed countries lack basic health care waste management services. Excess waste volumes and improperly managed health care waste cause plastic contamination in the environment, air pollution through burning, and wasted resources in unnecessary excess packaging and personal protective equipment (PPE). They can also pose a danger to patients, staff (including waste handlers) and surrounding communities.

Waste management considerations within the Water and Sanitation for Health Facility Improvement Tool (WASH FIT) cycle

Step	Activity	Additional considerations
Preparation	Develop or review safe and sustainable health care waste management (HCWM) plans for the facility, which include an outline of responsibilities, waste processes, training, monitoring and the annual budget (investment and operational costs) needed for interventions. Factor in the ongoing need for associated PPE, hand hygiene supplies and vaccinations for staff.	Update the facility HCWM plan annually, considering incremental improvements towards more sustainable waste management, including procuring items with less packaging and more environmentally sustainable packaging, ensuring rational use of PPE (e.g. reducing unnecessary glove use, use of foot covers when not prescribed) and recycling waste.
Step 1: Establish the team	Identify a member of staff who is responsible for waste management. The WASH FIT and waste management teams should include expertise in IPC; cleaning; and medical and technical services needed to plan, implement and monitor safe and sustainable HCWM practices. Finance and procurement staff should support the HCWM team. The HCWM team can be part of the existing IPC team.	Seek input from external waste or environmental experts when needed.
Step 2: Assess the facility	Assess waste-specific activities from waste generation to final disposal (segregation, transport, storage, treatment and disposal). Consider the knowledge, practices and awareness of staff; the need to use only appropriate and not excess PPE; the potential for recycling; and the use of environmentally sustainable waste treatment technologies.	Where waste is treated off-site, understand where waste is being taken, and how it is being transported and treated. Ensure that it is done safely, and according to national and international standards.
Step 3: Risk assessment	Possible risks to staff, patients and the community linked to unsafe HCWM include exposure to infectious agents or other hazardous materials in the waste, needlestick injuries during waste handling, contamination of water supplies and the surrounding environment, and production of toxic gases and pollutants. Plan for mitigation measures to lower the risk.	Elimination of risk is the priority of the risk reduction strategy. For example, procure items with less packaging (e.g. avoid single wrapped and plastic packaging when possible), procure PPE that is safe and incorporates renewable or biobased materials, and improve treatment by reaching high burn temperatures and/or using environmentally sustainable waste treatment technologies to eliminate environmental pollution resulting from burning of waste.

Step	Activity	Additional considerations
Step 4: Develop and implement improvement plan	Reinforce safe and sustainable HCWM protocols, and prioritize quick wins and changes that facilities can make easily. Examples are reduction of waste by appropriate use of PPE (e.g. gloves are not used when not needed, such as during vaccination procedures or measurement of a patient's temperature), introduction of recycling, regular monitoring of infectious waste volumes, safe waste segregation at the place of generation, separate transport and storage of hazardous and non-hazardous waste, regular collection and disposal of non-hazardous waste, and safe treatment of infectious and sharps waste. Plan for regular staff training, mentoring and awareness-raising activities. Waste infrastructure and equipment should be available and regularly maintained. There should be sufficient budget for operation of equipment (e.g. incinerator, autoclave) and disposables (e.g. waste bags).	Quick wins can be highlighted on a chart that is visible to all staff. Track progress regularly (at least weekly) towards addressing these. Recognize when quick wins have been achieved through awards, staff meetings and small parties. Consider incremental improvements towards safe and sustainable HCWM, such as initiating environmentally sustainable procurement, recycling, and using centralized incineration or alternative non-burn technologies for treatment of infectious and sharps waste.
Step 5: Monitor, review, adapt, improve	Sustainable waste treatment technologies are available and should be considered for incremental improvements. A long-term strategy, including waste reduction and investment in system upgrading, should be developed to supplement and guide annual HCWM plans. This may require engagement and coordination with central or district medical supply entities to procure items with more biobased or renewable materials, safe and reusable PPE, and less packaging and more environmentally sustainable packaging.	Regularly discuss new products, innovations, technologies and practices with waste, environment and WASH experts at national and international levels. Consider how to adapt these to the facility.

Improvements

Suggested health care waste improvements are listed in the table below.

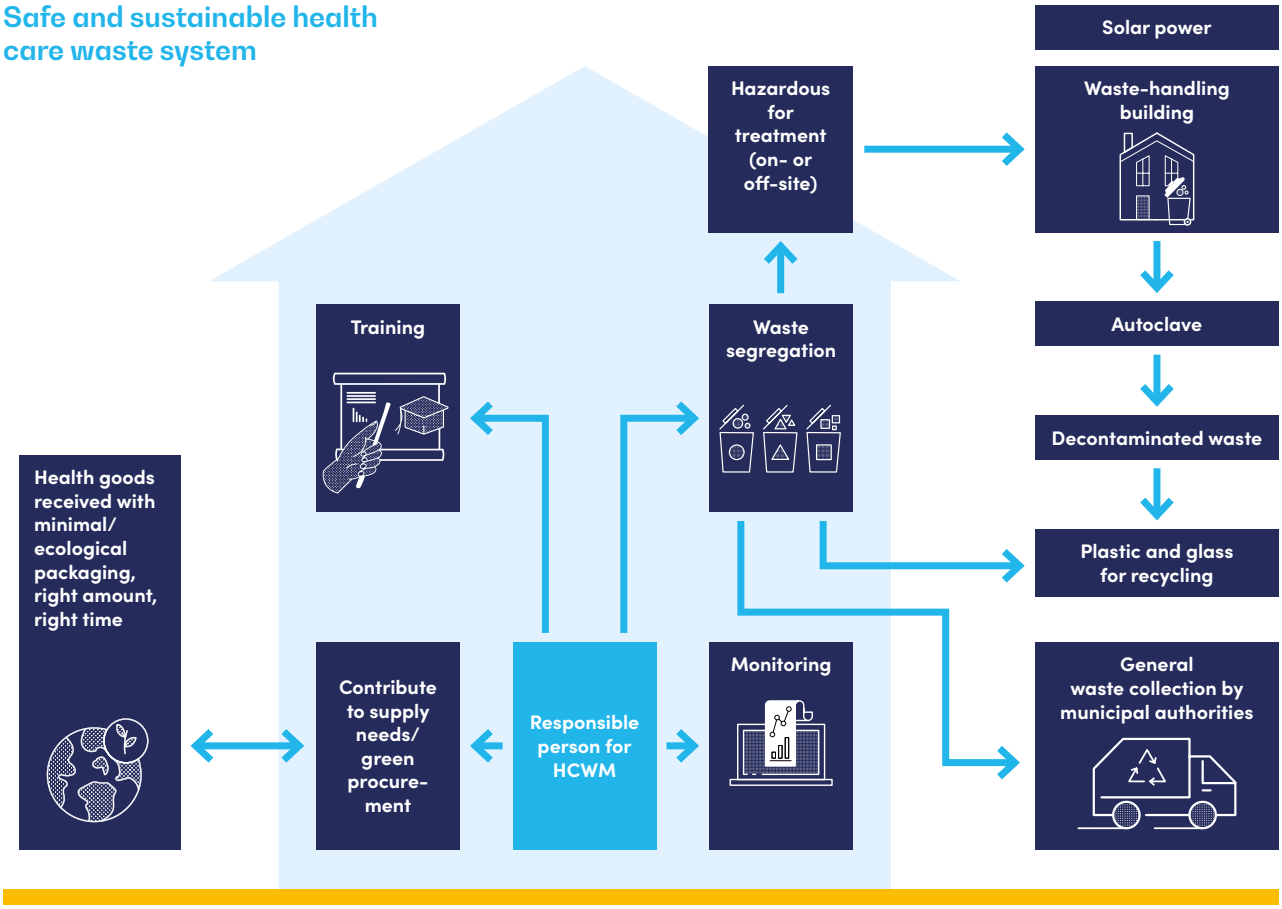
Domain	Improvement
Training	▪ Establish or reinforce a continuous health care waste management training, mentoring and monitoring system for clinical, cleaning and waste management staff. Set targets and track progress towards achieving them.
Segregation	▪ Segregate waste into (at a minimum) non-hazardous, infectious and sharps waste (three-bin system) to protect staff, patients and the public from infections. Where pharmaceutical or chemical waste is generated, it should be segregated, documented, and stored for collection and disposal at the regional or national level (centralized treatment). Ideally, general waste is segregated further into recyclables (e.g. plastic, glass, organic, paper) and non-recyclables.
Transport, storage and disposal	▪ Transport and store hazardous and non-hazardous waste separately. Document the volume of infectious waste being generated at regular intervals (e.g. weekly or monthly). Store infectious and sharps waste in an enclosed area that is locked, ventilated and not accessible by unauthorized persons. Store other hazardous waste (chemical or pharmaceutical) separately. Establish a waste inventory system and ensure regular collection by regional or national authorities. ▪ Bury ash from incineration in a dedicated ash pit. Ash from incineration is potentially hazardous because it can contain dioxins and furans, heavy metals, and sharps such as broken glass and needles. ▪ Ensure that non-hazardous waste is collected regularly by the municipality or an external company, or buried safely to minimize the risk to the public. Where possible, verify that the waste is disposed of safely in a well managed landfill by a licensed entity.
Sustainable technologies and practices	▪ Choose safe and environmentally sustainable non-burn technologies such as autoclaving, where possible. If non-burn technologies are not feasible (e.g. water or electricity is not reliably available), for small facilities, consider treatment at a centralized facility or nearby health care facility with appropriate health care waste management technologies. In larger facilities, high-temperature incineration with air pollution control can be considered. Where resources are limited or as a temporary measure, locally well constructed incinerators may be an interim solution. Use of heat-resistant refractory bricks and mortar, and constructing and using two chambers will improve the performance of locally constructed incinerators. ▪ Ensure proper operation and maintenance of treatment facilities, including pre-heating before burning waste, regularly cleaning out ash and not overfilling facilities. Plan for incremental improvement. Waste should be treated safely by authorized persons, and incinerators should be well maintained. ▪ PPE use should be targeted and appropriate for the level of risk associated with the task (e.g. risk of exposure to chemicals or body fluids). When possible, safe, reusable PPE should be used (e.g. rubber boots and aprons) to reduce waste associated with disposable, single-use PPE. Reusable PPE also saves money over time. ▪ Initiate recycling activities when a formal or informal recycling sector for plastic or paper is available. Reduce the quantity of waste by segregating recyclables at the point of generation (e.g. plastic bottles, cardboard from packaging material) and establish composting or biodigestion of garden waste. Approximately 85% of waste is considered non-hazardous, and much of this can be recycled or composted.

Domain	Improvement

Procurement and budgeting	▪ Use environmentally sustainable procurement practices to prevent or minimize the generation of waste, such as the following.
	  ▪ Prioritize reusable medical products such as surgical instruments (clamps and forceps) or accessories to endoscopes (graspers and scissors), instead of disposables, to prevent generation of waste.
	  ▪ Minimize the procurement of polyvinyl chloride (PVC)–containing materials (e.g. gloves, tubing) to prevent generation of dioxins and furans where waste is incinerated.
	  ▪ Ban mercury-containing equipment from the procurement list and phase out existing mercury-containing devices according to the Minamata Convention.
	  ▪ Choose LED bulbs instead of mercury-containing light bulbs and fluorescent bulbs.
	▪ Calculate an annual budget for health care waste management, including essential disposables such as coloured bags and sharps containers, and operation and maintenance costs for waste treatment equipment and infrastructure (including water and energy required for operating infrastructure).

General	▪ Plan for incremental improvement of health care waste management infrastructure and practices towards a safe, sustainable and climate-resilient system.

Safe and sustainable health care waste system



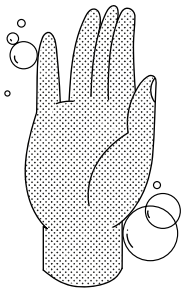
Related tools and further reading

WHO (2014). *Safe management of wastes from health-care activities*, second edition. https://apps.who.int/iris/handle/10665/85349

WHO (2017). *Safe management of wastes from health-care activities: a summary.* https://apps.who.int/iris/handle/10665/259491

WHO (2019). *Overview of technologies for the treatment of infectious and sharp waste from health care facilities*. https://apps.who.int/iris/handle/10665/328146

WHO (2020). *WHO guidance for climate resilient and environmentally sustainable health care facilities.* https://apps.who.int/iris/handle/10665/335909



TECHNICAL FACT SHEET 5

Hand hygiene improvement: a multimodal approach

While working in health care facilities and during care delivery, the hands of health workers may be contaminated by potentially harmful microbes from different sources. Some of these microbes can potentially cause disease outbreaks, and some bacteria may be resistant to antibiotics. Hand hygiene can reduce the spread of these microbes – it protects patients, their families and staff. Across all health care facilities, from high- to low-income countries, hand hygiene compliance is often below 40%, and can be as low as 0%. Achieving higher adherence rates remains a challenge. Infrastructure and resources must be in place to ensure that people perform hand hygiene at the right time, every time.

The provision of water, sanitation and hygiene (WASH) in health care facilities provides the necessary infrastructure, materials and equipment (system change) to enable the implementation of infection prevention and control (IPC) practices, including hand hygiene.

Countries are working to improve access to hand hygiene facilities, along with the other elements of WASH, through a number of national and facility actions.

Hand hygiene is a modifiable behaviour that is facilitated by a known multimodal improvement strategy (see below), which includes addressing system change.

Multimodal improvement strategy for hand hygiene

Investment in the drivers and facilitators of hand hygiene action to ensure that it occurs at the point of care and at other critical moments requires a multidisciplinary, multifaceted approach. WHO calls this the multimodal improvement strategy (MMIS). The MMIS comprises five elements (see figure). All elements are essential and complementary.

SYSTEM CHANGE
(Build it)

- Achievement of continuous availability of the necessary infrastructure, materials and equipment to effectively perform hand hygiene at the point of care.
- This includes the reliable and uninterrupted provision of alcohol-based hand rub at the **point of care,** continuous supplies of safe, clean water, soap, single-use towels, and an adequate number of functioning sinks.

MONITORING AND FEEDBACK OF HAND HYGIENE INDICATORS
(Check it)

- Regular **monitoring and evaluation** (ideally using standardized tools) of hand hygiene infrastructures (location of facilities at the point of care, consumption of soap and alcohol-based hand rubs), including knowledge of and compliance with best practices.
- Providing regular **feedback** to health workers and senior management using local data is a very powerful approach to raise awareness and achieve improvement of practices.

SAFETY CLIMATE/CULTURE CHANGE
(Live it)

- Creating an organizational environment that prioritizes high compliance with hand hygiene to achieve patient and health worker safety.
- At the **institutional level,** this should include the **allocation of resources** for hand hygiene programmes and **clear messages of support** for hand hygiene from **leaders** within the institution, setting benchmarks or targets, and having hand hygiene champions.
- At an **individual level,** the aim is to ensure that health workers identify hand hygiene as a **priority** that reflects their commitment to do no harm to patients. Partnering with patients and patient organizations to promote hand hygiene may also promote a climate of patient safety, but should be undertaken sensitively and in close consultation with key stakeholders, including health workers and patient representatives.

TRAINING AND EDUCATION
(Teach it)

- **Tailored education and practical training of clinical staff, patients and visitors** about the importance of hand hygiene to better understand when and how it should be performed.
- Education should also address **all other health workers**, including hospital administrators, cleaning personnel and community health workers.

REMINDERS IN THE WORKPLACE/ COMMUNICATIONS
(Sell it)

- Posters, stickers, visual and vocal prompts, banners, screensavers.
  They can **continually prompt and remind** health workers about the importance of hand hygiene and the indications when to perform it.
- They also help to **involve patients and their visitors** and inform them of the level of care they should expect from health workers with regards to hand hygiene.

Strengthening hand hygiene improvement through the Water and Sanitation for Health Facility Improvement Tool (WASH FIT)

The MMIS is an important part of supporting hand hygiene through WASH FIT. This means:

- having the infrastructure and resources required to perform hand hygiene at the point of care and point of entry to the health care facility (system change);
- having people trained in the why, when and how of hand hygiene (education and training);
- having in place checks to monitor whether hand hygiene is being, and can be, performed at the right time and in the right way, with timely feedback so that corrective action can be taken (monitoring and feedback);
- taking action to remind people to perform hand hygiene at the right time and in the right way (reminders and communications); and
- facilitating a culture within the health care facility that values hand hygiene, especially through the support of senior managers (safety culture).

To understand how the MMIS will work within local improvement efforts, the following questions can be asked in the preparation phase.

- Can staff clean their hands easily at each (and every) point of care?
- Who needs to be trained and educated to address the identified gaps in knowledge and practice?
- Does training reinforce and embed the five moments for hand hygiene?
- Does the facility monitor hand hygiene perceptions and knowledge in a range of health workers?
- How is feedback given to support improvement? How will the facility know that an improvement has taken place (e.g. how regular are monitoring and feedback)?
- What is the best way to publicize actions to support improvement?
- Does the facility engage health care staff and others to help produce a range of hand hygiene reminders?
- How does the facility make and maintain hand hygiene as a facility priority? Is it discussed at senior management level?

Resource considerations should also be addressed. For example, some system change actions are necessary, including:

- ongoing maintenance budgets to support needs; and
- funds for human resources, water supply, soap and towels (or other hand-drying methods), and alcohol-based hand rub supplies.

The point of care – where three elements occur together: (1) the health worker, (2) the patient, (3) care or treatment involving touch. Hand hygiene infrastructure, including products (e.g. alcohol-based hand rub if available, water, soap, sinks), should be in place and easily accessible to enable health workers to clean their hands at the right moments.

Hand hygiene considerations within the WASH FIT cycle

Step	Activity	Additional considerations
Step 1: Establish the team	Ensure that the WASH FIT team includes members with expertise in quality improvement activities and methodologies, and IPC (e.g. microbiology, cleaning, hand hygiene, health care waste management).	Members of the team responsible for hand hygiene in health care should review the WASH FIT hand hygiene module before starting.
Step 2: Assess the facility	A number of WASH FIT indicators and targets help facilities to achieve the minimum requirements needed for a safe and clean environment; these are based on the WHO *Guidelines on hand hygiene in health care* and the WHO core components for IPC programmes. These indicators relate to each element of the MMIS for hand hygiene improvement; examples include the following. ▪ **System change.** Functioning hand hygiene stations are available at all points of care, including the delivery room. ▪ **Education and training.** All new auxiliary staff, including waste handlers and cleaners, receive appropriate WASH and IPC training, tailored and appropriate to their job function (including hand hygiene). ▪ **Monitoring and feedback.** In advanced settings, hand hygiene compliance activities are undertaken regularly, at least annually (refer to WHO hand hygiene observation form). ▪ **Reminders and communications.** Hand hygiene promotional materials are displayed and clearly visible in all wards and treatment areas. ▪ **Safety culture.** Staff are regularly appraised on their performance; high-performing staff are recognized and rewarded, and those who do not perform well are supported to improve.	Refer to WHO IPC assessment tools to undertake more detailed assessments on hand hygiene (see "Related tools and selected further reading"): ▪ WHO hand hygiene observation form ▪ WHO hand hygiene perception survey ▪ WHO *Hand Hygiene Self-Assessment Framework* ▪ WHO *Infection prevention and control assessment framework at the facility level*
Step 3: Risk assessment	Identify problems related to hand hygiene improvement; the WHO Hand Hygiene Self-Assessment Framework can support this. This will enable the team to identify risks that affect patient and health worker safety, and will flag where health workers cannot clean their hands at points of care. Such problems should be given a higher score in the risk assessment.	Use the completed Hand Hygiene Self-Assessment Framework to inform and target improvement action plans. Once completed, this will indicate the appropriate risk score. For example, if no hand hygiene stations exist, the severity of risk would be high (8–10 out of 10).
Step 4: Develop and implement incremental improvement plan	Include in the improvement plan specific actions that address hand hygiene at the point of care and in other critical places, including in toilets and waste management areas, in support of patient and health worker safety. These actions include providing alcohol-based hand rub and products for handwashing, providing reminders, using targeted training sessions and sharing feedback from audits. Hand hygiene actions will be an important part of the WASH FIT improvement plan.	Read the WHO aide-memoire on respiratory and hand hygiene.
Step 5: Monitor, review, adapt, improve	Hand hygiene improvement needs constant work. Continue to regularly review all results and the impact on the overall improvement you expected to see (e.g. improvement of 10% in hand hygiene compliance compared with baseline). A report of the entire programme roll-out, its impact, and lessons learned for all senior managers and leaders may be useful.	*A guide to the implementation of the WHO multimodal hand hygiene improvement strategy* provides in-depth information on how to review, adapt and continually improve hand hygiene.

Improvements

The following actions related to hand hygiene improvement are applicable to all health care settings. These actions will influence IPC-related outcomes and impacts, including reduction in health care–associated infections, reduction in antimicrobial resistance, safe pregnancy and childbirth, and fewer disease outbreaks.

Element of the MMIS	Improvements
System change (infrastructure and resources)	▪ Understand the numbers of products (e.g. soap and towels) that are required, as well as the distribution process. ▪ Provide up-to-date policies and standard operating procedures that include hand hygiene actions in a format that makes them easily accessible and understood. ▪ Identify and secure budgets for targeted training, monitoring and reminders. ▪ Put in place annual water service plans in settings where water access and quality are an issue (e.g. for functioning sinks).
Education and training	▪ Allocate responsibility for checking that current training and education programmes include the correct, up-to-date hand hygiene recommendations. ▪ Carry out training needs assessments across different disciplines and levels within the health care facility; other assessment results (from monitoring activities) can also be used to inform training plans. ▪ Identify the required expertise to conduct targeted training and answer questions on hand hygiene improvement. This may mean enlisting external experts. ▪ Deliver targeted training to staff, including refresher courses, using different practical approaches (see WASH FIT training manual and module on hand hygiene).
Monitoring and feedback	▪ Identify trained staff to undertake monitoring activities specifically on hand hygiene at the point of care, using validated tools (i.e. WHO observation form and perception survey), and put in place a reporting and feedback plan to support real-time improvement.
Reminders and communications	▪ Source, develop or adapt accurate reminders (e.g. posters) and involve staff in deciding which reminders to use. Ensure appropriate placement of reminders and refresh them regularly.
Safety culture	▪ Leaders and managers should show commitment to, and prioritize time for, targeted training. Training plans should be agreed for all levels of staff. ▪ Identify hand hygiene role models and ensure that staff know who they are (they may be from different settings, including health care or community leaders). Ask staff which role models they would best respond to. ▪ Promote and support staff motivational activities (e.g. an award that is announced publicly to encourage staff to adhere to hand hygiene practices).

Related tools and selected further reading

WHO. Suite of hand hygiene improvement tools. https://www.who.int/teams/integrated-health-services/infection-prevention-control/hand-hygiene/tools-and-resources

WHO. OpenWHO infection prevention and control self-directed learning. https://openwho.org/courses?ut-f8=%E2%9C%93&q=IPC

WHO (2016). Guidelines on core components of infection prevention and control programmes at the national and acute health care facility level. https://apps.who.int/iris/handle/10665/251730

WHO (2009). A guide to the implementation of the WHO multimodal hand hygiene improvement strategy. https://apps.who.int/iris/handle/10665/70030

WHO (revised 2009). Hand hygiene observation form. https://cdn.who.int/media/docs/default-source/integrated-health-services-(ihs)/hand-hygiene/monitoring/surveyform/observation-form.doc?sfvrsn=39b780c9_6

WHO (revised 2009). Hand hygiene perception survey. https://cdn.who.int/media/docs/default-source/integrated-health-services-(ihs)/hand-hygiene/monitoring/surveyform/perception-survey-for-health-care-workers.doc?sfvrsn=8fa7cb79_2

WHO (2009). WHO guidelines on hand hygiene in health care. https://apps.who.int/iris/handle/10665/44102

WHO (2021). Your 5 moments for hand hygiene care in a maternity unit. https://apps.who.int/iris/handle/10665/331961?locale-attribute=fr&

WHO (2010). Hand Hygiene Self-Assessment Framework 2010. https://cdn.who.int/media/docs/default-source/integrated-health-services-(ihs)/hand-hygiene/monitoring/hhsa-framework-october-2010.pdf?sfvrsn=41ba0450_6

WHO (2018). Infection prevention and control assessment framework at the facility level. https://apps.who.int/iris/handle/10665/330072

WHO (2021). Aide-memoire: respiratory and hand hygiene. https://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/publications-and-technical-guidance/2021/aide-memoire-respiratory-and-hand-hygiene.-in-infection-prevention-and-control-guidance-to-action-tools-2021

WHO (2021). Resource considerations for investing in hand hygiene improvement in health care facilities (including an annex featuring the MMIS visual). https://apps.who.int/iris/handle/10665/341128

WHO (2021). Seconds save lives: clean your hands [posters, focused on point of care]. https://www.who.int/campaigns/world-hand-hygiene-day/2021

ANNEX 7

Sanitary inspection forms

Instructions

To answer indicator W_12: "Water supply poses low or no risk to public health, as measured by the absence of *E. coli* per 100 mL and/or as measured by the sanitary inspection risk score", one sanitary inspection (SI) form should be completed for each type of water supply system used by a facility. There are **four SI form** options:[8]

- Tube well with hand pump (10 questions)
- Deep borehole with motorized pump (10 questions)
- Piped distribution network, storage tank and taps (21 questions)
- Rainwater collection and storage (13 questions).

SI forms contain a set of yes/no questions about different parts of the water supply. A "yes" answer indicates the presence of a risk. The SI form produces a risk score depending on how many "yes" answers are given (roughly as follows – refer to each form for exact scoring; the risk levels are defined according to the total number of questions):

Low risk: 0–2 "yes" answers	Indicator meets criteria
Medium risk: 3–6 "yes" answers	Indicator partially meets criteria
High risk: 7–10 "yes" answers	Indicator does not meet criteria

Where facilities have more than one type of water source (e.g. piped water and a backup of rainwater) or more than one source of a given type (e.g. two storage reservoirs), multiple SI forms should be completed. The SI risk score will be an average of the scores from all SI forms.

IMPORTANT: Read the following notes before undertaking the SI

1. Answer the questions by ticking (✓) the appropriate box. Consider what additional risk factors may be relevant in your local context, and record these under "Additional details".
2. If there is no risk present, tick the "No" box. If the question does not apply to the system being inspected, tick the "No" box, and add "NA" to the "If Yes, what action is needed?" column.
3. If a risk is present, tick the "Yes" box. For important situations that require attention, record the actions to be taken in the column provided. These notes can be used to develop a detailed improvement plan, outlining what will be done, by whom, by when and what resources are required. Where possible, corrective actions should focus on addressing the most serious risks first. Consider low-cost or no-cost improvements that can be made immediately.

8. All SI forms are adapted from the 2020 draft version of the WHO SI packages, designed for small water supply systems, for use in a health care facility setting.

FORM 1: TUBE WELL WITH HAND PUMP

	Sanitary inspection questions	No	Yes (risk)	Yes, what action is needed?
1	**Is the tube well sometimes unavailable for use (e.g. locked or covered)?** The tube well should be accessible at all times. If it is locked, a key should be available so facility staff can access the water supply.	☐	☐	
2	**Is the hand pump damaged or loose at the point of attachment to the casing so that contaminants could enter the tube well?** A damaged or severely corroded pump, or a loose pump that is not securely attached to the casing, may allow contaminants to enter the tube well (e.g. contaminated surface water during wet weather).	☐	☐	
3	**Is the area around the tube well seal[9] unsanitary?** Signs of pollution (e.g. faeces) in the area directly around the tube well seal increase the likelihood of contaminants entering the tube well.	☐	☐	
4	**Is the apron around the tube well absent or inadequate so that contaminants could enter the tube well?** A missing apron, or any gaps, deep cracks or faults in an existing apron may allow contaminants to enter the tube well. Erosion under the apron may also allow surface water to enter the tube well. For adequate protection, the apron should be at least 1 metre wide all around the tube well, sloping down towards a collar to catch and divert water to a drainage channel.	☐	☐	
5	**Is the drainage inadequate, which may result in accumulation of water in the tube well area?** An absent, damaged (e.g. deep cracks) or blocked drainage channel, and/or absence of a downward slope for water to drain away from the tube well to a functioning soakaway, could result in ponding and stagnant water entering the tube well, particularly during wet weather.	☐	☐	
6	**Is the fencing or barrier around the tube well absent or inadequate so that animals could enter the tube well area?** If the fencing or barrier around the tube well is absent, broken or poorly constructed, or the entry point (e.g. gate) is damaged or does not close securely, animals could contaminate or damage the tube well area.	☐	☐	
7	**Is there sanitation infrastructure within 15 metres[10] of the tube well?** Sanitation infrastructure (e.g. latrine pit, septic tank, soakage field, sewer line) close to groundwater supplies may affect water quality (e.g. by seepage or overflow and subsequent infiltration). You may need to visually check structures in the vicinity to see if they are sanitation related, in addition to asking residents.	☐	☐	
8	**Is there sanitation infrastructure on higher ground within 30 metres[10] of the tube well?** Groundwater may flow towards the tube well from the direction of the sanitation infrastructure. Pollution on higher ground poses a risk, especially in the wet season, as faecal material and other pollutants may flow into the tube well.	☐	☐	
9	**Can signs of other sources of pollution be seen within 15 metres[10] of the tube well (e.g. animals, rubbish, commercial activity, open defecation, fuel storage)?** Faeces on the ground close to the tube well constitute a serious risk to water quality. Contaminants from other waste (e.g. household, agricultural, industrial) may leach into the aquifer and contaminate the water.	☐	☐	
10	**Is there any point of entry to the aquifer that is unprotected within 100 metres[10] of the tube well?** Any unprotected point of entry to the aquifer (e.g. uncapped/open well or borehole) is a direct pathway for contaminants to enter the tube well.	☐	☐	

9. A tube well seal protects the tube well from surface water contamination, filling the below-ground area underneath the hand pump unit, and between the tube well casing and the earth.
10. General guidance only. Appropriate minimum safe distances depend on local factors, including soil type and permeability, depth of the water table, and volume and concentration of contaminants. Refer to Guidelines for drinking-water quality, second edition: Volume 3 – Surveillance and control of community supplies (WHO, 1997) for guidance on determining minimum safe distances for potentially contaminating activities.

Sanitary inspection questions	No	Yes (risk)	Yes, what action is needed?

Total number of risks identified (i.e. "Yes" ticks): ...../10

- Low risk: 0–2 "yes" answers → meets criteria
- Medium risk: 3–6 "yes" answers → partially meets criteria
- High risk: 7–10 "yes" answers → does not meet criteria

ADDITIONAL DETAILS

(e.g. remarks, observations, recommendations, additional remedial actions).
Attach additional sheets and photographs, as necessary.

WATER QUALITY TEST RESULT FOLLOW-UP

If sampling for water quality analysis was completed during the inspection, provide details of who the results were provided to, and when.

Name of person receiving water quality analysis results:

Date received:

FORM 2: DEEP BOREHOLE WITH MOTORIZED PUMP

General notes:

For boreholes that use hand pumps, refer to sanitary inspection Form 1: Tube well with a hand pump, which may be adapted for boreholes.

- If there is more than one borehole source for the facility, carry out individual SIs for each one.
- Where the borehole is connected to a piped distribution system, carry out an inspection using Form 3: Piped distribution network, storage tank and taps.

	Sanitary inspection questions	No	Yes (risk)	Yes, what action is needed?
1	**Is the borehole inadequately covered so that contaminants can enter the borehole?** An absent borehole cap, or one that is damaged (e.g. deep cracks) or not properly closed to the environment (e.g. has unsealed gaps in the cap where piping or electrical cables pass through), may allow contaminants to enter the borehole.	☐	☐	
2	**Is the area around the borehole seal[11] unsanitary?** Signs of pollution (e.g. faeces) in the area directly around the borehole seal increase the likelihood of contaminants entering the borehole.	☐	☐	
3	**Is the pumping mechanism located directly above or immediately adjacent to the borehole, such that fuel or oil could enter the borehole?** Fuel or oil leaks from the pumping mechanism, or accidental spillage during refuelling or maintenance, may chemically contaminate the borehole.	☐	☐	
4	**Is the floor around the borehole or pumping mechanism permeable to water?** The presence of a floor that allows liquid to pass through it, or that has any gaps or deep cracks, may allow contaminants to enter the borehole. For adequate protection, the floor should be non-permeable (e.g. concrete), sloping towards a defined drainage system.	☐	☐	
5	**Is the drainage inadequate, which may result in the accumulation of water in the borehole area?** An absent, damaged (e.g. deep cracks) or blocked drainage system, and/or absence of a downward slope for water to drain away from the borehole and pumping mechanism area, could result in ponding and stagnant water entering the borehole.	☐	☐	
6	**Are the borehole and pumping mechanism inadequately housed?** The borehole and pumping mechanism should be housed in a covered structure (e.g. pump house or chamber) to protect them from the external environment. This may also prevent entry of vermin (e.g. where there are vermin-proof screens on air vents and drains).	☐	☐	
7	**Is the fencing or barrier around the borehole and pump house absent or inadequate so that animals, or unauthorized persons, could enter the borehole area?** If the fencing or barrier around the borehole and pump house is absent, broken or poorly constructed, or the entry point (e.g. door, gate) is damaged or does not close securely, animals or unauthorized persons could contaminate or damage the area.	☐	☐	
8	**Is there sanitation infrastructure on higher ground within 100 metres[12] of the borehole?** Sanitation infrastructure (e.g. latrine pit, septic tank, soakage field, sewer line) close to the borehole and pumping mechanism may affect water quality (e.g. by seepage or overflow and subsequent infiltration). You may need to visually check structures in the vicinity to see if they are sanitation related, in addition to asking residents.	☐	☐	

11. A seal protects the borehole from surface water contamination, filling the below-ground area between the borehole casing and the earth.
12. General guidance only. Appropriate minimum safe distances depend on local factors, including soil type and permeability, depth of the water table, and volume and concentration of contaminants. Refer to Guidelines for drinking-water quality, second edition: Volume 3 – Surveillance and control of community supplies (WHO, 1997) for guidance on determining minimum safe distances for potentially contaminating activities.

Sanitary inspection questions		No	Yes (risk)	Yes, what action is needed?
9	**Can signs of other sources of pollution be seen within 50 metres[12] of the borehole (e.g. open defecation, animals, rubbish, commercial activity, fuel storage)?** Faeces on the ground close to the borehole constitute a serious risk to water quality. Contaminants from other waste (e.g. health care, household, agricultural, industrial) may leach into the aquifer and contaminate the water.	☐	☐	
10	**Is there any point of entry to the aquifer that is unprotected within 100 metres[12] of the borehole?** Any unprotected point of entry to the aquifer (e.g. uncapped/open well or borehole) is a direct pathway for contaminants to enter the borehole.	☐	☐	

Total number of risks identified (i.e. "Yes" ticks): ...../10

- Low risk: 0–2 "yes" answers → meets criteria
- Medium risk: 3–6 "yes" answers → partially meets criteria
- High risk: 7–10 "yes" answers → does not meet criteria

ADDITIONAL DETAILS

(e.g. remarks, observations, recommendations, additional remedial actions)
Attach additional sheets and photographs, as necessary.

WATER QUALITY TEST RESULT FOLLOW-UP

If sampling for water quality analysis was completed during the inspection, provide details of who the results were provided to, and when.

Name of person receiving water quality analysis results:

Date received:

12. General guidance only. Appropriate minimum safe distances depend on local factors, including soil type and permeability, depth of the water table, and volume and concentration of contaminants. Refer to Guidelines for drinking-water quality, second edition: Volume 3 – Surveillance and control of community supplies (WHO, 1997) for guidance on determining minimum safe distances for potentially contaminating activities.

FORM 3: PIPED DISTRIBUTION NETWORK, STORAGE TANK AND TAPS

Depending on the size of the piped distribution network, the inspector may check all, or part, of the network during the inspection. Record the details of the extent of the network inspected under "Additional details" (e.g. areas inspected, estimated percentage of the network inspected).

This SI form is intended for the inspection of one storage tank and one end-point (tap/sink) associated with the piped distribution network being inspected. Where there are multiple storage tanks and end-points in a given network, the inspection is intended to be a spot check only of one of each of these assets at the time of inspection. Where there is more than one storage tank, these may be inspected on a rolling basis, using additional separate SI forms, as required.

Carry out individual inspections using the relevant SI packages for each water source that serves the piped distribution network.

	Sanitary inspection questions	No	Yes (risk)	If Yes, what action is needed?
	Storage tank			
1	**Is there any point of entry to the storage tank that is open to the environment?** If the storage tank roof or cover is damaged, or any entry points to the tank are inadequately sealed (e.g. open, damaged or missing access hatch cover; unscreened air vent or overflow pipe), this may allow contaminants to enter the tank, particularly during wet weather. Such openings may also allow light to enter the storage tank, which may result in algal growth. Note: if the storage tank does not have a roof or cover (i.e. is open to the environment), tick **Yes** and give details under "Additional details".	☐	☐	
2	**Is the storage tank structure cracked, leaking or unclean?** A damaged (e.g. with deep cracks) or unclean storage tank structure may provide an entry route for contaminants during storage (particularly during wet weather), or lead to water loss.	☐	☐	
3	**Are there any visible signs of contaminants inside the storage tank (e.g. animals and/or their waste, sediment accumulation)?** Animals or their faeces in the storage tank may contaminate the water. Sediments may contain microbial pathogens and other contaminants (e.g. metals) that can be resuspended and affect the safety or acceptability of the water. Note: the inspector should safely inspect the inside of the storage tank by looking via the access hatch, if present.	☐	☐	
4	**Is the drainage around the storage tank inadequate, which may result in accumulation of water in the area?** An absent, damaged or blocked drainage system, and/or absence of a downward slope for water to drain away from the storage tank to a functioning drainage system, could result in ponding and stagnated water in the storage tank area, or cause erosion that may undermine the structure.	☐	☐	
5	**Is the fencing or barrier around the storage tank absent or inadequate so that animals or unauthorized persons could enter the storage tank area?** If the fencing or barrier around the storage tank is absent, broken, unlocked or poorly constructed (e.g. with wide gaps), or the entry point (e.g. gate) is damaged or does not close, animals or unauthorized persons could enter and contaminate or damage the storage tank.	☐	☐	
6	**Can signs of sources of pollution be seen within 15 metres of the storage tank (e.g. sanitation infrastructure [such as latrines], open defecation, open storm drains, animals, rubbish)?** Health care waste, or animal or human faeces on the ground close to the storage tank area may contaminate the water. The presence of other waste (e.g. household, commercial) also poses a risk to water quality.	☐	☐	
7	**Was the tank last cleaned more than a year ago?** The interior of the storage tank should be drained, cleaned and disinfected annually. If it is not clean (e.g. not free from animals and/or their waste, sediment accumulation), it should be immediately drained, cleaned and disinfected. For smaller-scale rainwater tanks, the advice is also annually or as needed, based on sediment levels.	☐	☐	

Sanitary inspection questions		No	Yes (risk)	If Yes, what action is needed?
Piped network				
8	**In the area visited during the inspection, are any water leakages visible from the network?** Leaking pipes or valves may provide a route for contaminants to enter the piped network, or lead to water loss. Subsurface leakages may be indicated by ponding water visible above ground along the network pipeline, and/or unusual vegetation growth in dry areas, but the source of the water in these areas should be verified.	☐	☐	
9	**In the area visited during the inspection, are any exposed pipes visible within the distribution network?** Exposed pipes (e.g. via surface water erosion) are at risk from damage and illegal connections, which pose a risk to water quality.	☐	☐	
10	**In the area visited during the inspection, are there any valve boxes or break-pressure tanks that are inadequately covered?** Valve boxes or break-pressure tanks with missing, unsealed or damaged covers may allow contaminants to enter the network pipes (e.g. via pooling of contaminated surface water inside the maintenance hole and subsequent low-pressure events within the network).	☐	☐	
Tap or sink				
11	**Is the tap leaking or otherwise defective?** A leaking or defective tap may provide a route for contaminants to enter the tap water, or lead to water loss.	☐	☐	
12	**Are there any tap attachments (e.g. hoses) that are unclean or stored in an unsanitary manner?** An unclean tap attachment increases the likelihood of contamination. Storage of an attachment (e.g. hose) in an unsanitary manner (e.g. on the ground), or using the attachment for purposes other than drinking water, also increases the likelihood of cross-contamination.	☐	☐	
13	**Is drainage around the tap inadequate, which may result in accumulation of water in the sink area?** An absent, damaged or blocked drainage system, and/or absence of an apron with a downward slope for water to drain away from the tap to a functioning drainage system, could result in ponding and stagnant water contaminating the collection area.	☐	☐	
14	**Is the fencing or barrier around the tap missing or inadequate, allowing animals to enter the collection area?** If the fencing or barrier around the tap is absent, broken or poorly constructed (e.g. with wide gaps), animals could enter and damage or contaminate the collection area.	☐	☐	
15	**Can signs of other sources of pollution be seen within 15 metres of the tap (e.g. open defecation, sanitation infrastructure [such as latrines], open storm drains, animals, rubbish)?** Animal or human faeces on the ground, or close to the tap, may contaminate the water (e.g. cross-contamination of the collection area/ buckets). The presence of other waste (e.g. household, commercial) also poses a risk to water quality.	☐	☐	
General				
16	**In the area covered during the inspection, is there vegetation present that could damage or contaminate any of the network assets?** Roots penetrating distribution network components (e.g. storage tanks, break-pressure tanks, pipes) increase the risk to water quality by providing a route for contaminants to enter the distribution network. Overhanging foliage (e.g. branches) could physically damage network assets and introduce contamination by attracting animals (e.g. wildlife nesting above an asset).	☐	☐	
17	**Are there known issues with illegal connections within the network?**[13] Illegal connections (i.e. where users connect to the distribution network without permission from the relevant authority) may be poor quality and are not on routine inspection/maintenance programmes. As such, they represent a point of entry for contaminants into the network.	☐	☐	
18	**Are there known issues with cross-connections within the network?**[13] Cross-connections (i.e. where drinking-water pipes are connected to pipes containing contaminants, such as sewer pipes) may introduce harmful contaminants directly into the distribution network.	☐	☐	

13. The response to this question may be determined based on interview with the network operator or management entity, as appropriate. Provide further information under "Additional details" to support your answer, where necessary.

Sanitary inspection questions		No	Yes (risk)	If Yes, what action is needed?
19	**Are there known issues with backflow within the network?**[13] Backflow (i.e. the unintended flow of contaminated water from household/commercial premises into the network) may introduce harmful contaminants directly into the distribution network.	☐	☐	
20	**If chlorination is practised, does the responsible entity fail to routinely monitor the free chlorine residual concentration at key points throughout the distribution network (including the storage tank and tap stand)?**[14] Failure to routinely monitor the free chlorine residual concentration before delivery to the user may result in unsafe water being consumed by users. Note: if present, the inspector may visually check network logbooks for confirmation. If disinfection is not practised, tick **Yes**, and give details under "Additional details".	☐	☐	
21	**Is the water supply intermittent?**[13] Intermittent water supply (i.e. water that is not continuously supplied 24 hours per day, 7 days per week) can result in an increased risk to the safety of the water supply (including ingress of contamination during low-pressure events, and difficulty maintaining adequate free chlorine residual concentration where chlorination is practised). Also, intermittent water supply may lead users to other, less safe water sources, and necessitate household-level storage, with the associated risks from these activities.	☐	☐	

Total number of risks identified (i.e. "Yes" ticks): ...../21

- Low risk: 0–6 "yes" answers → meets criteria
- Medium risk: 7–14 "yes" answers → partially meets criteria
- High risk: 15–21 "yes" answers → does not meet criteria

ADDITIONAL DETAILS

(e.g. remarks, observations, recommendations, additional remedial actions)
Attach additional sheets and photographs, as necessary.

WATER QUALITY TEST RESULT FOLLOW-UP

If sampling for water quality analysis was completed during the inspection, provide details of who the results were provided to, and when.

Name of water supply/community representative receiving water quality analysis results:

Date received:

13. The response to this question may be determined based on interview with the network operator or management entity, as appropriate. Provide further information under "Additional details" to support your answer, where necessary.
14. Where chlorine is applied, it is recommended that the free chlorine residual concentration in the drinking water is tested during the inspection and the results recorded in show hyperlinks, also for no footnote 3. Where possible, this should be accompanied by turbidity and pH testing.

FORM 4: RAINWATER COLLECTION AND STORAGE

If there is more than one rainwater collection system in the facility, or if other water sources are used, carry out individual SIs for these sources using the relevant SI forms.

	Sanitary inspection questions	No	Yes (risk)	Yes, what action is needed?
1	**Are there any visible contaminants (e.g. vegetative material, animal waste) on the roof or guttering channels?** Contaminants on the roof or guttering channels may be washed into the storage tank during rainfall events and constitute a risk to water quality.	☐	☐	
2	**Are the roof or guttering channels inadequately sloped, which may result in ponding of stagnant water?** The absence of a downward slope on the roof and/or guttering channels for water to drain towards the storage tank could result in stagnant water, which may subsequently introduce contaminants to the storage tank.	☐	☐	
3	**Is there any vegetation or structures overhanging the roof?** Overhanging vegetation, balconies or telephone/electrical wires could attract animals that may contaminate the roof catchment area with faecal material. Fallen foliage could also block gutters and filters.	☐	☐	
4	**Is a filter box missing or inadequate to prevent debris entering the storage tank?** A missing or damaged filter box may allow pieces of debris to enter the storage tank. If the filter box is clogged and/or unclean, this may cause a blockage and overflow, as well as increasing the risk of contaminating the storage tank.	☐	☐	
5	**Is the first-flush system missing or inadequate to prevent contaminants entering the storage tank?**[15] If the first-flush system is missing or damaged, the first flush of rainwater (i.e. typically of lower quality) will enter the storage tank and may constitute a risk to water quality. If the first-flush system is clogged and/or unclean, this may cause a blockage and overflow, as well as increasing the risk of contaminating the storage tank.	☐	☐	
6	**Does the inside of the storage tank contain any visible signs of contaminants (e.g. animals and/or their waste, sediment accumulation, unusual odours or colours)?** The presence of animals or their wastes in the storage tank constitutes a serious risk to water quality. Sediments may contain microbial pathogens and other contaminants (e.g. metals) that can affect the safety or acceptability of the stored water. Note: if there is no inspection port, meaning an internal visual inspection of the storage tank is not possible, record this under "Additional details".	☐	☐	
7	**Is there any point of entry to the storage tank that is inadequately covered or sealed?** If the storage tank is inadequately covered or sealed at any point (e.g. cracked tank, damaged or missing inspection port lid), this may allow contaminants (e.g. vermin) to enter the tank. Such openings may also allow light to enter the tank, which can result in algal growth.	☐	☐	
8	**Is the storage tank tap leaking or otherwise defective?** A leaking or defective tap may increase the risk to water quality by providing a route for contaminants to enter the storage tank.	☐	☐	
9	**Is the overflow pipe inadequately covered to prevent contaminants entering the storage tank?** If the overflow pipe is not covered with a screen (e.g. mesh, gauze) or the screen is damaged, vermin may enter the storage tank.	☐	☐	
10	**Is there stagnant water in the water collection area?** Stagnant water in the water collection area increases the likelihood of contaminants entering the storage tank and/or contaminating collection containers.	☐	☐	

15. A first-flush system is designed to divert the first portion of contaminated rainwater so that it does not enter the storage tank.

Sanitary inspection questions		No	Yes (risk)	Yes, what action is needed?
11	**Is the fencing or barrier around the storage tank missing or inadequate, allowing animals to enter the collection area?** If the fencing or barrier around the storage tank is absent, broken or poorly constructed (e.g. with wide gaps), animals could enter and damage or contaminate the collection area.	☐	☐	
12	**Can signs of other sources of pollution be seen within 15 metres[16] of the storage tank or water collection area (e.g. animals, rubbish, human settlement, open defecation, fuel storage)?** Animal or human faeces on the ground close to the collection area constitute a serious risk to water quality. The presence of other waste (e.g. health care, household, agricultural, industrial) also poses a risk to water quality.	☐	☐	
13	**Is there local activity (e.g. industry or agriculture) that could contaminate the roof?[17]** Airborne contaminants such as industrial emissions or spray drifts from local agricultural practices (e.g. crop spraying, slurry spreading, burning) may contaminate the roof catchment area.	☐	☐	

Total number of risks identified (i.e. "Yes" ticks): ...../13

- Low risk: 0–3 "yes" answers → meets criteria
- Medium risk: 4–7 "yes" answers → partially meets criteria
- High risk: 8–13 "yes" answers → does not meet criteria

ADDITIONAL DETAILS

(e.g. remarks, observations, recommendations, additional remedial actions)
Attach additional sheets and photographs, as necessary.

WATER QUALITY TEST RESULT FOLLOW-UP

If sampling for water quality analysis was completed during the inspection, provide details of who the results were provided to, and when.

Name of water supply/community representative receiving water quality analysis results:

Date received:

16. General guidance only. Depends on local factors, including topography and the volume and concentration of contaminants. Refer to Guidelines for drinking-water quality, second edition: Volume 3 – Surveillance and control of community supplies (WHO, 1997) for guidance on determining minimum safe distances for potentially contaminating activities.
17. For appropriate setback distances for specific activities, refer to the local environmental authority.

ANNEX 8

Glossary of terms

Basic services refer to the indicators used by WHO and UNICEF for global monitoring of WASH in health care facilities. They include some but not all of the minimum standards set forth by WHO for environmental health services in health care facilities.

Cleaning is the physical removal of foreign material (e.g. dust, soil) and organic material (e.g. blood, secretions, excretions, microorganisms). Cleaning physically removes rather than kills microorganisms. It is accomplished with water, detergents and mechanical action.

Cleaning products (also known as cleaning agents) include liquids, powders, sprays or granules that remove organic material (e.g. dirt, body fluids) from surfaces and suspend grease or oil. Can also include liquid soap, enzymatic cleaners and detergents.

Cleaning protocols (also known as SOPs) are procedures and guidelines that must be followed by all cleaners on how to clean and disinfect surfaces in order to stop the spread of infections in health care facilities.

Climate change refers to any change in the climate over time, generally decades or longer, whether due to natural variability or as a result of human activity.

Climate-resilient health systems have the ability to anticipate, respond to, cope with, recover from and adapt to climate-related shocks and stresses, so as to bring sustained improvements in population health, despite an unstable climate.

Climate vulnerability is the extent to which a system could be negatively impacted by climate variability and climate change.

A cross-connection is any physical connection between a drinking-water system and any source of contamination. Cross-connections can provide a pathway for faecal contamination or other contaminants, such as chemicals or pesticides, to enter potable water systems in a health care facility.

A disaster is a serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources.

Disinfectant residual: Maintaining a disinfectant residual (e.g. free chlorine residual) throughout a piped distribution or storage system can provide protection against recontamination and limit microbial growth problems.

Emergencies can refer to slow- and rapid-onset situations, rural and urban environments, and complex political emergencies in all countries. Related terms are "disaster", mostly referring to natural disasters, and "conflict". Emergencies may include acute episodes, such as those arising from extreme weather events (e.g. hurricanes/typhoons, flooding), drought, earthquakes and disease outbreaks (e.g. COVID-19, Ebola, cholera), as well as longer-term events, such as situations arising from war, conflict and mass migration.

Environmental cleaning services area is a dedicated space for preparing, reprocessing and storing clean or new environmental cleaning supplies and equipment, including cleaning products and PPE. These rooms have restricted access for cleaning staff and other authorized personnel only.

GEDSI stands for gender equality, disability and social inclusion. It is a set of considerations, applied here to WASH services, to ensure that access to services is equitable and inclusive, and does not discriminate according to gender, age, ethnicity or other factors. People accessing and working at health care facilities – such as women during childbirth and menstruating women; infants; older people; people with disabilities; and people experiencing injury, illness or incontinence – often have specific WASH needs. The planning, design and management of WASH services in health care facilities should consider accessibility, safety, privacy, social appropriateness or acceptability, and the comfort of these many different users.

Greywater is the total water generated from a health care facility, excluding water from toilets. Greywater typically includes water used after hand hygiene and cleaning, or generated from storms. Greywater has a low risk of being contaminated by faecal matter and typically does not require any type of treatment. However, it should be channelled away from the facility to prevent pooling of water that could provide a breeding ground for mosquitoes and other disease vectors.

Hand hygiene is a general term referring to any action of hand cleansing – that is, the action of performing hand hygiene for the purpose of physically or mechanically removing dirt, organic material and/or microorganisms.

Least developed countries (LDCs) are low-income countries confronting severe structural impediments to sustainable development. There are currently 47 countries on the list of LDCs, which is reviewed every 3 years.

Legionella: Artificial water systems that provide environments conducive to the growth and dissemination of the bacterium *Legionella* represent the most likely sources of disease. These bacteria live and grow in water systems at temperatures of 20–50 °C (optimal 35 °C). *Legionella* can infect human cells using a similar mechanism to that used by protozoa, causing respiratory disease. Safe plumbing in health care facilities is essential to reduce the risk of *Legionella* infections.

Master trainer (of WASH FIT) is an individual who has a background in public health, or environmental or civil engineering, has successfully completed a WASH FIT trainer of trainers course, has several years of experience in training and is committed to supporting facilities to improve WASH services for better quality of care.

Occupational health seeks to promote and maintain the highest degree of physical, mental and social well-being of workers in all occupations through the maintenance and promotion of workers' health and working capacity, the improvement of working conditions and the working environment, and the development of organizational and working cultures that improve workers' health.

Personal protective equipment (PPE) is clothing or equipment worn by staff to protect themselves against hazards (e.g. blood, body fluids).

Primary health care is where patients generally first engage with the health system. Primary care facilities have a broad range of available technology and services that vary with human resource models and their related competencies. These facilities range from more basic health posts to comprehensive primary care centres.

Quality in health care is a direct correlation between the level of improved health serlvices and the desired health outcomes of individuals and populations.

Quality improvement consists of an analysis of process and outcomes data, and the application of systematic efforts to improve performance in WASH and health outcomes (in the case of WASH FIT).

Quick wins are improvements that do not require significant resources, and can be undertaken with a facility's own resources and expertise.

Resilience is the capacity of a social–ecological system to cope with a hazardous event or disturbance, responding or reorganizing in ways that maintain its essential function, identity and structure, while also maintaining the capacity for adaptation, learning and transformation.

Safely managed sanitation refers to the use of an improved sanitation facility where excreta is safely disposed of in situ or transported and treated off-site.

Safely managed water refers to drinking water from an improved source located on premises, available when needed, and free from faecal and priority chemical contamination.

Standard precautions are the basic IPC practices that apply to all patients in any setting where health care is delivered. These can include (a) hand hygiene; (b) risk assessment at the point of care; (c) appropriate placement of patients (segregation/isolation/cohort to limit transmission); (d) appropriate use of PPE based on risk assessment; (e) respiratory hygiene/cough etiquette; (f) aseptic technique; (g) sharps and injection safety, and prevention of transmission of bloodborne pathogens; (h) safe handling and/or disposal of contaminated patient care items and equipment (waste management); (i) environmental cleaning; (j) safe handling, transport and processing of linen; (k) cleaning and disinfection of non-critical patient care equipment; and (l) decontamination and sterilization of reusable equipment.

Sustainable procurement includes using locally available products that have been certified by an accredited certification body and comply with international standards. Such products should be safe to use, durable, energy-efficient and resource-efficient, and meet toxicity requirements. Components for water, sanitation and waste systems (including all pipes, tubing, fittings, fixtures, water tanks/cisterns, toilets, filters or any other system component) should be certified to an international standard by a recognized certifying body.

Transmission-based precautions are to be used in addition to standard precautions for patients who may be infected or colonized with certain infectious agents for which additional precautions are needed to prevent infection transmission. They are based on the routes of transmission of specific pathogens (e.g. contact versus droplets). More information can be found in the United States Centers for Disease Control and Prevention *Guideline for isolation precautions*.

Wastewater refers to liquid waste discharged from health care facilities, homes or commercial premises to individual disposal systems or to municipal sewer pipes, which contains mainly human excreta and used water.

World Health Organization

unicef
for every child

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