

# WATER, SANITATION, AND HYGIENE IN HEALTH CARE FACILITIES

**PRACTICAL STEPS**  
TO ACHIEVE UNIVERSAL  
ACCESS TO QUALITY CARE



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TO ACHIEVE UNIVERSAL  
ACCESS TO QUALITY CARE

Water, sanitation and hygiene in health care facilities: practical steps to achieve universal access

ISBN 978-92-4-151551-1

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Design, layout and production by Phoenix Design Aid A/S, Denmark.

Printed in Switzerland.

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# Foreword

No one goes to a health care facility to get sick. People go to get better, to deliver babies or to get vaccinated. Yet hundreds of millions of people around the world risk infection by seeking care in health facilities that lack basic necessities, including water, sanitation, hygiene, health care waste and cleaning (WASH) services. Not only does the lack of WASH services in health care facilities compromise patient safety and dignity, it can also exacerbate the spread of antimicrobial-resistant infections and undermine global efforts to improve child and maternal health.

New figures from the WHO/UNICEF Joint Monitoring Programme (JMP) for water, sanitation and hygiene indicate that WASH services in health care facilities are sub-standard in every region. An estimated 896 million people use health care facilities with no water and 1.5 billion lack access to sanitation services. It is likely that many more people are served by health care facilities lacking hand hygiene facilities and safe waste management. WASH services are more likely to be available in hospitals than in other types of health care facilities, and in urban areas than in rural areas.

Taken together, this represents an unacceptable health risk. The Sustainable Development Goals (SDGs) place a new emphasis on universal health coverage, including access to WASH services. They also reflect a shift in thinking that recognizes the importance of quality care and an integrated, people-centered approach that enhances the experience of care.

WASH is a prerequisite for quality care, and is particularly important for the safe management of childbirth. It is a fundamental element towards the achievement of UNICEF's [Every Child Alive Campaign](#) and the "triple billion" targets of WHO's 13th General Programme of Work. With a renewed focus on safe and quality primary health care through the Astana Declaration, the opportunity to ensure the basics are in place, including WASH services, has never been greater. In March 2018, the United Nations Secretary-General issued a global call for greater leadership and

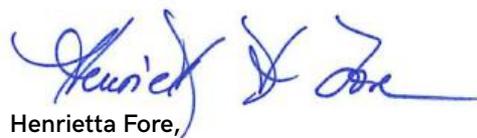
accountability to provide WASH services in all health care facilities, emphasizing the high cost of inaction.

Since then, our two organizations have established a set of global targets aimed at achieving universal WASH services in health care facilities, and for the first time, made global estimates available, through the JMP. This new information provides a robust basis for identifying priorities, making investments, and tracking progress on WASH. With support from over 35 partners, WHO and UNICEF are also co-leading the implementation of a global roadmap built from country-led initiatives. To improve WASH services in health care facilities, eight practical steps have been identified and are described and illustrated through case studies in this document. These steps include actions such as developing national roadmaps and setting targets, improving infrastructure and maintenance, and engaging communities.

Ensuring universal access to WASH services in health care facilities is a solvable problem with a high return on investment. We are committed to supporting this effort by working with governments and partners to deliver quality WASH services in health care facilities, to improve monitoring, and to expand the knowledge base. We seek the support of all partners in this vital task.

## Signatories:

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**Executive Director of United Nations Children's Fund**

## Abbreviations and acronyms

<b>ABHR</b>	alcohol-based hand rub	<b>MOH</b>	Ministry of Health
<b>AMR</b>	antimicrobial resistance	<b>MOHS</b>	Ministry of Health and Sanitation
<b>CASH</b>	Clean and Safe Health Facilities	<b>NIPH</b>	National Institute of Public Health
<b>CDC</b>	Centers for Disease Control and Prevention	<b>PHC</b>	primary health care
<b>DPCC</b>	Diarhea and Pneumonia Coordinating Committee	<b>PHCC</b>	primary health care centre
<b>GLAAS</b>	Global Analysis and Assessment of Sanitation and Water	<b>SDG</b>	Sustainable Development Goal
<b>HCAI</b>	health care-associated infections	<b>UHC</b>	universal health coverage
<b>HCF</b>	health care facility	<b>UN</b>	United Nations
<b>HCWM</b>	health care waste management	<b>UNDP</b>	United Nations Development Programme
<b>HFA</b>	health facility assessment	<b>UNECE</b>	United Nations Economic Commission for Europe
<b>HMIS</b>	health management information systems	<b>UNICEF</b>	United Nations Children's Fund
<b>IPC</b>	infection prevention and control	<b>USAID</b>	United States Agency for International Development
<b>JMP</b>	Joint Monitoring Programme for Water Supply, Sanitation and Hygiene	<b>WASH</b>	water, sanitation, and hygiene
<b>LMIC</b>	low- and middle-income countries	<b>WASH FIT</b>	Water and Sanitation for Health Facility Improvement Tool
<b>LSHTM</b>	London School of Hygiene and Tropical Medicine	<b>WHO</b>	World Health Organization

# Executive Summary

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

The purpose of this document is two-fold. The first is to present eight practical steps that Member States can take at the national and sub-national level to improve WASH in health care facilities (see [Section 3. Eight Practical Steps to Improve and Sustain WASH in Health Care Facilities](#)). The second aim is to summarize the global response to the UN Secretary-General's Call to Action (see [Section 4. Addressing the Global Call to Action](#)).

This document is a companion document to the WHO and UNICEF Joint Monitoring Programme's *WASH in Health Care Facilities. Global baseline report 2019*, which provides the first national, regional, and global baseline monitoring estimates for SDG 6, which calls for universal access to WASH everywhere including in households, schools, and health care facilities.

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

Below is a summary of the global status of WASH in health care facilities and global targets. While modest improvements in WASH in health care facilities are likely to have an impact on health, the long-term vision is a future where all health care facilities provide access to quality care in a clean and safe environment for patients, providers and the community. (See [Annex 1](#) for a definition of basic WASH services and other key terms.)

## Global Status of WASH in health care facilities

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

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

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

## Global Targets for WASH in health care facilities

### Basic services

- By 2022, 60% of all health care facilities<sup>2</sup> globally and in each SDG region have at least basic WASH services; by 2025, 80% have basic WASH services, and by 2030, 100% have basic WASH services.

### Higher service levels

- By 2022, higher levels of service are defined and monitored. In countries where universal basic WASH services have been achieved already. By 2030, higher levels of WASH services are achieved universally in 80% of *those countries*.

## Metrics for success<sup>3</sup>

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

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

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

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



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## Eight practical steps to improve WASH in health care facilities



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



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



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



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



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



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



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



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

## SECTION 1

# Background



# Background

The term “WASH in health care facilities” refers to the provision of water, sanitation, health care waste management, hygiene and environmental cleaning infrastructure, and services across all parts of a facility. “Health care facilities” encompass all formally-recognized facilities that provide health care, including primary (health posts and clinics), secondary, and tertiary (district or national hospitals), public and private (including faith-run), and temporary structures designed for emergency contexts (e.g., cholera treatment centers). They may be located in urban or rural areas.

## Why WASH services are a priority in health care facilities

The availability of WASH services, especially in maternity and primary-care settings where they are often absent (3, 4), supports core universal health care aspects of quality, equity, and dignity for all people. Basic WASH services in health care facilities are fundamental to providing quality care and for ensuring that primary health commitments, as detailed in the Astana Declaration, are achieved (5,6). It can also improve health outcomes at the community level.

### Make childbirth and primary care safer

More than one million deaths each year are associated with unclean births, while infections account for 26% of neonatal deaths and 11% of maternal mortality (7, 2). Most of these deaths are concentrated in low- and middle-income countries where the rates of health care-associated infections (HCAI) are twice that of high-income countries (8). An estimated 15% of patients

in low- and middle-income countries develop one or more infections during a hospital stay (8). Many of these patients are women who come to health facilities to deliver. If a woman lives in a country with a high rate of neonatal mortality, her infant faces a risk of sepsis-related neonatal mortality 34 times greater than in countries with a low rate of neonatal mortality (9).

Although not all HCAI can be traced to inadequate WASH services, evidence shows that lack of access to WASH in health care facilities may significantly compromise safe childbirth and access to primary health care (4). A recent review of nationally-representative health care facility data from four East African Countries found that fewer than 30% of delivery rooms had access to water (10). Previous estimates from United Republic of Tanzania (3), India, and Bangladesh (4) noted similar gaps. In short, far too many pregnant mothers are required to bring their own water to wash themselves and their baby following birth.

### End cholera

Cholera still occurs in at least 47 countries, resulting in an estimated 2.9 million cases and 95,000 deaths per year worldwide (14). Inadequate WASH and infection prevention and control (IPC) practices have impeded an effective response to cholera (15, 16). The new global strategy to end cholera by 2030 emphasizes the importance of WASH in health care facilities, particularly in cholera hot spots. Hot spots are specific and relatively small areas where the cholera burden is most concentrated (17). Ensuring that the small numbers of health care facilities located in cholera hot spots are equipped with WASH services could have a large impact on ending the disease.

#### BOX 2:

### The association between hand hygiene and infection

The importance of hand hygiene in preventing infections has been known for more than a century. In 1847, Dr Ignaz Semmelweis observed that maternal mortality was as high as 18% in physician-attended births compared to 2% in midwife-attended births. One key difference was that midwives washed their hands. After instituting strict hand hygiene protocols among physicians, maternal mortality in physician-attended births fell to 2% (11).

More recent studies in hospitals confirm the association between hand hygiene and HCAI. For example, the neonatal unit of a Hong Kong hospital achieved a 50% reduction in HCAI after instituting strict hand hygiene protocols (12). Other studies have found similar improvements in hand hygiene compliance through use of educational and mentoring approaches (13).

### Stop the spread of antimicrobial resistance (AMR)

Inadequate WASH in health care facilities has been linked to the spread of antimicrobial-resistant infections (18), placing patients and staff at risk of serious infections that are hard to treat. At the same time, in countries and sub-national settings where WASH is inadequate and infectious disease risks are high, prophylactic use of antibiotics is more common, which further drives the emergence of AMR. AMR is a major factor determining clinical unresponsiveness to treatment and rapid evolution to sepsis and septic shock. Almost one third of the sepsis-related neonatal deaths that occur worldwide each year may be attributable to resistant pathogens (18). Furthermore, unsafe disposal of wastewater from health care facilities can contribute to the spread of AMR in the environment and in communities.

### Keep communities safe from harm

Unsafe management of health care waste presents other health risks as well, exposing health care workers, waste handlers, patients, their families, and the community to preventable infections, toxic effects, and injuries. Unsafe disposal of needles and syringes, for example, increases risk of injury and presents opportunities for reuse. In 2010, unsafe injections were responsible for as many as 33,800 new HIV infections, 1.7 million hepatitis B infections, and 315,000 hepatitis C infections (19). Release of pathogens and toxic pollutants including dioxins and furans into the

environment through partial incineration presents additional health risks worldwide (20).

## Barriers to providing WASH in health care facilities

### Incomplete standards

Many countries lack a set of coherent standards for WASH in health care facilities. Even where standards do exist, implementation is often curtailed by lack of funding or interest. Approximately 80% of the 78 countries that participated in the 2017 WHO-led Global Analysis and Assessment of Sanitation and Water (GLAAS) survey reported that they had a policy for WASH or infection prevention and control, but fewer than 25% of these policies were fully funded and implemented (24). If WASH in health care facilities is addressed at all, it often occurs in isolation, buried in the environmental health unit within the Ministry of Health. Environmental health units are often under-funded and disconnected from other key health programmes, making it difficult to include WASH in health care facility standards and costed WASH services in other areas of health, such as quality care, maternal and child health, and outbreak preparedness and response. Furthermore, few mechanisms and incentives exist for cross-sectoral

#### BOX 3:

### Summary of evidence and research needs

The London School of Hygiene and Tropical Medicine (LSHTM) is completing a review of existing causal evidence between WASH in health care facilities and HCAI (21). Despite finding an overall lack of rigorous controlled intervention studies, three higher-quality and 27 lower-quality studies reported statistically-significant reductions of multiple HCAI outcomes associated with the WASH interventions.

No studies addressed the effect of WASH infrastructure interventions—for example the provision of a safe and reliable supply of drinking water in facilities, or safe sanitation for patients and staff—on HCAI, thus marking a clear gap in the evidence base.

These reviews, together with the conclusions of various policy and research meetings convened in recent years (22, 23), confirm that while it is highly plausible that

WASH in health care facilities is critical for reducing the high burden of HCAI in LMIC, the evidence base remains very limited. Lower-quality studies identified in the scoping review consistently reported protective effects of WASH interventions, but these studies are vulnerable to confounding. WASH interventions were generally combined with other IPC interventions, making the contribution of the WASH component difficult to isolate. While ensuring safe and adequate WASH in health care facilities is a clear public health concern and is justified on human-rights grounds, more research in LMIC will help strengthen policy and programmatic responses and support investment in more effective and efficient interventions and strategies. More evidence is needed to quantify the health impact, evaluate investment opportunities, and design and optimise WASH in health care facility interventions that can change and sustain targeted behaviours and services over time.

collaboration between health, environmental health, and other ministries including local government and finance.

### Inadequate monitoring

Monitoring efforts for WASH have also fallen short. Until recently, only a handful of national health monitoring systems collected meaningful information on WASH in health care facilities. In most cases, the only available data came from externally-conducted facility assessments. Without reliable data on the quality of WASH services, disaggregated by facility type and location, it has been difficult to understand and respond to needs and develop costed plans for improvements. The 2015 WHO/UNICEF landscape report on WASH in health care facilities (25) extracted WASH data from assessments of over 54,000 facilities. The more recent 2019 Joint Monitoring Programme (JMP) report (1), however, compiled data from over 560,000 facilities. Using the JMP to monitor WASH in health care facilities should lead to significant improvements in monitoring efforts.

### Disease-specific budgeting

Many national health budgets are organized by disease area, with line items for routine costs, such as vaccines and medicines, rather than for cross-cutting health-systems functions like WASH. As a result, health facilities often lack funds for capital infrastructure investments and ongoing operation and maintenance as well as for overlooked functions such as cleaning and waste management. While many countries have decentralized budgeting responsibilities, few local revenue schemes exist to generate funds for WASH in health care facilities, especially in rural areas.

### Disempowered workforce

Staff in health care facilities are usually overburdened and have neither the incentives nor the training to improve and

*"I can't wash my hands and I am treating one patient and then another - what we are doing is practically contamination."*

Hazel Claribel Sarante, doctor,  
Sol Naciente Health Post, Bilwi, Nicaragua

manage WASH services. Facility administrators, health care providers, and patients often consider inadequate WASH to be intractable, particularly if improvements are thought to require costly basic infrastructure.

### Poor WASH infrastructure

Most low-income countries and many pockets within middle-income countries lack fully-functioning, safely-managed municipal water and sanitation services. Without municipal services, health care facilities may require large capital investments that are beyond the financial means of health budgets. Investing in WASH infrastructure and providing ongoing operation and maintenance will require effective intersectoral collaboration. Such collaboration is also needed for tackling looming problems such as AMR where lack of WASH in health care facilities leads to preventable infections and where faecal waste from facilities could provide a pathway to AMR in the environment.

Since 2015, WHO, UNICEF, and other partners have been working together to improve WASH in health care facilities. Notable progress has been made to embed WASH standards in global health documents and advocate for the eight practical steps at the national level. For a summary of progress to date refer to [Annex 2](#).

#### BOX 4:

### Safe health care waste management: from neglected issue to an opportunity to benefit human and environmental health

One obvious area of neglect in health care facilities is the safe management of health care waste. In addition to human health obligations, countries have environmental obligations specified in the Stockholm and Minamata Conventions (26, 27). These obligations require countries to incrementally decrease greenhouse gas emissions from burning health care waste and eliminate the use of

mercury in health care facilities. Improved health care waste management would confer benefits to both human and environmental health, for example, by recycling plastics from autoclaved waste and by bio-digesting organic waste and converting it to energy. WHO has developed in-depth guidelines on how to manage health care waste in health care facilities (see Annex 2).

A woman in a white lab coat is sitting on a bed, looking down at a document she is holding. She is also holding a smartphone in her other hand. The background shows a hospital room with a bed and some furniture. The image has a blue tint and a pattern of white dots in the bottom left corner.

SECTION 2

# Commitments and Leadership

# Commitments and Leadership

Over 35 partners, together with UN agencies, have already made commitments to improve WASH in health care facilities. The next step is to work across sectors to secure universal, action-focused commitments on water, sanitation and hygiene in all health care facilities at the international, regional, national, and local levels. Without leadership and commitments from all levels, the targets outlined in this report will never be fully realized. WHO and UNICEF will be tracking commitments through the global knowledge portal ([www.washinhcf.org](http://www.washinhcf.org)) and at various events. Key commitments sought are detailed in Table 1 below.

Across all eight practical steps described in this document, strong institutional leadership from the Ministry of Health and good governance at all levels (national, sub-national, and facility) of the health system is required. However, WASH is not the responsibility of the Ministry of Health alone. Ministries of Water and Sanitation are critical for improving municipal WASH supplies and providing technical expertise to health care facilities. Ministries of Finance can provide important budget allocations and financing mechanisms. And local governments have a responsibility to manage and fund WASH at the local level. Overall coordination requires a high level of leadership beyond any one ministry to ensure a common, cohesive approach.

ENTITY	COMMITMENTS	MEANS OF VERIFICATION
Ministry of Health	<ul style="list-style-type: none"> <li>• Develop and implement national standards for WASH in health care facilities</li> <li>• Regularly monitor, report, and review indicators for WASH in health care facilities</li> <li>• Integrate WASH in health care facilities into mainstream health programming</li> <li>• Ensure sufficient and competent staff by providing regular in-service training on WASH and IPC</li> <li>• Allocate sufficient budget for WASH in health care facilities</li> </ul>	<ul style="list-style-type: none"> <li>• National health accounts</li> <li>• National WASH accounts (e.g., TrackFin)</li> <li>• National health programming and policy documents (tracked through GLAAS)</li> <li>• Health management systems</li> <li>• National training curriculum</li> </ul>
Ministry of Water and/or Sanitation	<ul style="list-style-type: none"> <li>• Provide technical expertise on selection, operation, and management of WASH tools and technologies</li> <li>• Prioritize the extension and maintenance of WASH services in health care facilities</li> <li>• Regularly track and share data from water providers (e.g., utilities) and regulators on WASH services provided to health care facilities</li> </ul>	<ul style="list-style-type: none"> <li>• Presence of national technical standards (tracked through GLAAS)</li> <li>• WASH plans and policy documents</li> <li>• Regulatory data</li> </ul>
Ministry of Finance	<ul style="list-style-type: none"> <li>• Allocate funding for WASH in health care facilities</li> <li>• Prioritise budget allocation to most underserved areas</li> </ul>	<ul style="list-style-type: none"> <li>• National health accounts</li> <li>• National WASH accounts (e.g., TrackFin)</li> </ul>
President or Prime Minister's Office	<ul style="list-style-type: none"> <li>• Lead the development, funding, and implementation of a national roadmap on WASH in health care facilities</li> <li>• Work with Ministry of Finance to allocate sufficient funds for operation and maintenance and where feasible, capital costs</li> <li>• Support independent evaluations of WASH efforts</li> </ul>	<ul style="list-style-type: none"> <li>• National decrees, statements, roundtables</li> </ul>
International, regional, and local health and development partners	<ul style="list-style-type: none"> <li>• Provide global leadership, coordination, and technical support</li> <li>• Support and implement country efforts in line with national roadmaps, national tools, and approaches</li> </ul>	<ul style="list-style-type: none"> <li>• Resources dedicated to WASH in health care facilities</li> </ul>
Financing institutions, philanthropy, donors	<ul style="list-style-type: none"> <li>• Help mobilize resources for, and invest in, sustainable WASH in health care facility services</li> </ul>	<ul style="list-style-type: none"> <li>• Resources dedicated to WASH in health care facilities</li> </ul>
Private sector	<ul style="list-style-type: none"> <li>• Invest in innovative technologies and/or behaviour change approaches to maintain services and behaviours</li> </ul>	<ul style="list-style-type: none"> <li>• Annual reports</li> </ul>

TABLE 1: Commitments for WASH in health care facilities

## BOX 5:

### Ministries of Health commit to greater leadership, investments, and tracking through the proposed 2019 World Health Assembly Resolution on WASH in health care facilities

The 34 member states of the WHO 2019 Executive Board unanimously approved a resolution calling for Member States to provide universal WASH in health care facilities. The resolution aligns with global efforts and the eight practical steps. It calls upon Member States to conduct national assessments and analyses, development

roadmaps, set targets and implement standards. The resolution will be voted upon by all WHO Member States at the World Health Assembly in May 2019. Member states will be required to report on progress every two years and external validation will be provided through the regular JMP and GLAAS reports.

## CASE STUDY 1:



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### How Ethiopia achieved cleaner health facilities through multi-level leadership

#### Trigger:

An informal comment to the Ethiopian Minister of Health about poor WASH services in one facility sparked the Deputy Prime Minister to establish, in 2014, a national initiative to improve the cleanliness of health care facilities, called the Clean and Safe Health Facility (CASH) initiative.

#### What:

CASH aims to reduce health care-associated infections and make hospitals safer by improving infection prevention and control and patient safety. While much of the focus is on facility-level activities (cleaning campaigns, staff and patient satisfaction surveys, and community engagement), high level leadership has been critical to the initiative's success. CASH is initiated, implemented, and driven by the government as part of its quality-improvement agenda. At the sub-national level, regional health bureaus support facilities to make change. Celebrities including footballers and marathon runners "adopt" facilities and champion the issue as ambassadors. The private sector has been engaged to improve and, in some instances, manage WASH infrastructure and services (including cleaning and cooking). At the facility level, ward managers encourage staff to make improvements under the slogan "Cleanliness is everybody's responsibility". Finally, the community is engaged through regular townhall meetings by making aesthetic improvements to facility landscaping. As a result of this work, some facilities have become the regular site of local marriage celebrations.

## CASE STUDY 1 (CONTINUED):

**Results:**

- **CASH implemented in all hospitals.** To date, all 150 national hospitals are implementing CASH, and the initiative is now being expanded to health facilities.
- **Staff and communities trained.** Over 150 individuals have been trained in IPC practices and management of WASH services, and communities are engaged in articulating needs.

**Challenges and opportunities:**

The programme is now extending to primary health care facilities, but with over 3,000 health centres and 16,000 health posts, the sheer number is exceeding capacity. In addition, the continuation of hospital activities requires resources from regular budgets, rather than special, start-up allocations. An ongoing CASH auditing effort

*"The feedback I receive from patients [after implementing CASH] is positive and affirming. My hospital is now one of the cleanest hospitals in the country and patients no longer seem afraid to be here. When I walk to work now, I am proud and happy to be a nurse. The cleanliness has brought new respect and satisfaction to all at the hospital."*

Nurse, St. Paul Memorial Hospital, Addis Ababa.

is working to identify both low- and high-performing facilities and learn how to overcome specific operation, maintenance, and funding challenges to ensure minimum requirements are met.





SECTION 3

# Eight Practical Steps to Improve and Sustain WASH in Health Care Facilities

# Eight Practical Steps to Improve and Sustain WASH in Health Care Facilities

This section describes eight practical steps for sustaining WASH services and practices in a range of health care settings, from primary to tertiary facilities, in LMIC settings. The eight steps are presented in

a linear fashion, however, the actions can occur in various orders and/or simultaneously. Some actions are undertaken at the national level and some at the sub-national or facility level. Some may apply to all levels.

**1** CONDUCT SITUATION ANALYSIS AND ASSESSMENT



**2** SET TARGETS AND DEFINE ROADMAP



**3** ESTABLISH NATIONAL STANDARDS AND ACCOUNTABILITY MECHANISMS



**4** IMPROVE INFRASTRUCTURE AND MAINTENANCE



**5** MONITOR AND REVIEW DATA



**6** DEVELOP HEALTH WORKFORCE



**7** ENGAGE COMMUNITIES



**8** CONDUCT OPERATIONAL RESEARCH AND SHARE LEARNING



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# 1 CONDUCT SITUATION ANALYSIS AND ASSESSMENT



A situation analysis coupled with a recent assessment of current WASH in health care facility services provides a basis for planning and resource mobilization. It can also be used to set incremental targets toward the goal of universal access by 2030 (see [Practical Step 2. Set targets and define roadmap](#)).

The situation analysis should identify all existing standards, policies, and strategies that include WASH in health care facilities, whether they are specific to WASH, quality care, maternal and child health, IPC, cholera, or emergency preparedness and response. The analysis articulates the roles and responsibilities of different government entities, partners, and accountability structures, such as accreditation or regulation facilities (see [Practical Step 3. Establish national standards and accountability mechanisms](#)). The situation analysis

also identifies funding streams, budget allocations, and indicators of performance. A good situation analysis should include facility visits to confirm the validity of monitoring information and obtain insight from staff, care seekers, and WASH, health and other community groups.

An assessment compiles existing data on WASH in health care facilities coverage at the national and sub-national levels, or if data does not exist, assessments need to be conducted (see [Practical Step 5. Monitor and review data](#)). By using global indicators for WASH in health care facilities, countries can standardize their data and facilitate comparisons and determine progress toward meeting SDGs (see [Annex 1](#)).

Together, the situation analysis and assessment can be used to establish a policy rationale. Publishing and disseminating the results of the situation analysis and assessment during a national stakeholder meeting will also help to raise the profile of WASH in health care facilities, prioritize key actions, and identify accountability mechanisms for implementing improvements.



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## How Cambodia used a situation analysis to embed WASH into health system and quality improvement plans

### Trigger:

In 2015, when developing its National Health Strategic Plan 3 (HSP3), the Ministry of Health (MOH) saw an opportunity to achieve Cambodia's national vision on quality of care by investing in WASH in health care facilities. A range of organizations recognized WASH in health care facilities as a priority and agreed to act.

### What:

To align WASH partner activities with MOH priorities, the Health Systems Support Unit of the National Institute of Public Health (NIPH) conducted a systems analysis. The NIPH identified existing data, policies, standards, and targets, elaborated government and partner roles and responsibilities, and identified opportunities for strengthening policies and programming. The analysis also included a detailed investigation of the government's readiness to engage in health policy reform, taking into account the service-delivery profile of its health care facilities, the history of Cambodia's health system reform, and a map of health donors and partners in Cambodia.

### Results:

- **Baseline assessment completed.** NIPH conducted an assessment of WASH conditions in 117 health facilities in five provinces to form a baseline for HSP3.
- **WASH in health care facilities included as an indicator of quality care.** Targets for WASH in health care facilities are now included in the HSP3 and account for 15% of the facility score for quality of care, which is linked to performance-based financing.

- **New standards adopted.** The system analysis was the impetus for new WASH in health care facilities guidelines and the inclusion of WASH practices in the curriculum for National Health Centre Manager Leadership and Management Training.
- **Monitoring completed for continuous improvements.** The Water and Sanitation for Health Facility Improvement Tool (WASH FIT) was contextualized and tested in four provinces and will be used to support improvements of WASH services.
- **Operational research underway.** Research focusing on hygiene behavior and IPC practices during birthing is underway, led by LSHTM, NIPH, and WaterAid through the Water for Women Fund.

### Challenges and Opportunities:

Systems analysis are not static activities. Because health systems change over time, methods for analysing health systems must be continually updated and refined. Updated methodologies for analyses (2015, 2017 and 2019 [planned]) continue to inform MOH and partner policy and programming activities. However, efforts to influence policy during policy reform have required flexible funds and strong coordination. Establishing a multi-stakeholder coordination mechanism with the MOH has helped align approaches, fostered open dialogue, and ensured that evidence-based actions are taken to scale.

### Who:

MOH departments including the Department of Hospital Services (NIPH) and the Health Systems Support Unit, WaterAid, WHO, UNICEF, and LSHTM.

## How Lebanon used a national census to prioritise and inform WASH improvements for primary health care centers.

### Trigger:

Recognizing the growing demands being placed on primary health care centres (PHCC) by the influx of Syrian refugees (approximately 1.5 million beneficiaries), the Lebanese government conducted a national assessment of 166 PHCC, using JMP-aligned indicators. The results guided the development of a plan to improve WASH services.

### What:

The assessment revealed that 61.5% of surveyed PHCC had basic drinking water services (i.e., water from an improved source and available on premises) but only 45.2% of those sources were free from *E. coli*. Only 5.4% of PHCC met all the criteria for basic sanitation services since very few PHCC provide usable toilets for people with limited mobility. The government completed a situation analysis, which highlighted the need to include basic WASH requirements in national PHCC specifications and accreditation standards.

### Results:

- **WASH interventions prioritized.** The country now evaluates WASH interventions based on need and uses cost estimates to support financing decisions.

- **WASH standards drafted.** New WASH standards and 19 measures of quality have been integrated into Lebanon's Primary Care Accreditation Standards to ensure that any operating PHCC provides basic WASH services.
- **Interim solutions implemented.** Where needs are greatest, bottled drinking water is being provided while safe piped supplies are planned and installed.
- **National curriculum developed.** A national curriculum has been developed and is being delivered to ensure that personnel at PHCC receive annual training on the importance of improved WASH services at PHCC.

### Challenges:

PHCC face both financial and structural constraints that prohibit the provision of basic WASH services. When outdated water infrastructure threatened to contaminate public water supply, PHCC were required to provide bottled drinking water from certified brands, monitor the biological quality of the water, and consider installing water treatment units if needed.

### Who:

Ministry of Public Health (Primary Health Care Unit), UNICEF and WHO Lebanon, in partnership with the Lebanese Red Cross and Sustainable Alternatives.

### Further reading

*Towards safer and better quality health care services in Cambodia: A situation analysis of water, sanitation and hygiene in health care facilities* [Internet]. Phnom Penh, WaterAid and National Institute for Public Health Cambodia, 2015 [cited 25 February 2019]. Available from: <https://www.washinhcf.org/documents/Towards-safer-and-better-quality-health-care-services-in-Cambodia.pdf>

*Achieving quality Universal Health Coverage through better water, sanitation and hygiene services in health care facilities: A focus on Cambodia and Ethiopia* [Internet]. Geneva, World Health Organization, 2016 [cited 25 February 2019]. Available from: [https://www.who.int/water\\_sanitation\\_health/publications/uhc-thru-water-sanitation-and-hygiene-services/en/](https://www.who.int/water_sanitation_health/publications/uhc-thru-water-sanitation-and-hygiene-services/en/)

## 2 SET TARGETS AND DEFINE ROADMAP



A joint WASH and health taskforce or technical working group with formally-defined terms of reference and membership can be an effective mechanism for developing a roadmap, setting targets, providing technical and political leadership, and coordinating implementation efforts. Ideally, such a taskforce would be led by the Ministry of Health, Prime Minister, or President and would include decision-makers from

relevant ministries (e.g., health, water, sanitation, infrastructure and public works, finance) as well as technical staff and partners engaged in WASH in health care facility activities.

The first job of the taskforce is to set targets and define a national roadmap for WASH in health care facilities based on the situation analysis and assessment, and taking into consideration the special needs of vulnerable groups and underserved areas and facilities. Once the roadmap is in place, all partners must support and track progress toward agreed goals, giving priority to government-preferred tools and approaches over partner or donor preferences.

### CASE STUDY 4:



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### How Ghana's national standards for WASH in health care facilities improved quality of care

#### Trigger:

A national study on health and the environment found that over 90% of conditions leading to out-patient attendance at clinics in Ghana could be prevented if appropriate environmental and health measures were taken. WASH was specifically identified as a key determinant and a critical element for providing safe and quality care.

#### What:

In 2016, Ghana Health Services established an intersectoral WASH technical working group and expanded its IPC programme to include WASH. The WASH technical working group developed a national WASH in health care facilities

technical guide with detailed indicators, standards, operation and maintenance procedures, and cleaning protocols. The working group piloted several approaches to improving services, including the WASH FIT tool. In 2018, the group developed and costed a national strategy for WASH in health care facilities, aligning it with Sustainable Development Goals 3 (universal access to health care) and 6 (clean water and sanitation). They also included a plan to finance most of the improvements using domestic resources. These efforts are aligned with the Ghana National Healthcare Quality Strategy (2017-2021) to support broader quality and health impact aims.

**Results:**

- **Standards updated.** WASH standards have been updated to include performance benchmarks and environmentally-friendly health care waste approaches (e.g., recycling and autoclaving, where possible). The new standards have reduced operation and maintenance costs as well as environmental pollution.
- **WASH standards included in national plans on quality and AMR.** Standards for WASH in health care facilities have been included in the new national quality strategy and the national AMR action plan.
- **Monitoring supports continuous improvements.** WASH indicators are now included and regularly reviewed within the District Health Management Information System. Costs are also being integrated into the national health account framework, which will help ensure that WASH in health care facilities is integrated into health costing and financing structures.

**Challenges and Opportunities:**

Coordination among the different government entities and partners is challenging, resulting in some duplication of efforts. For example, with 71 training institutions in health, it has taken time to adopt a common approach to teaching, learning, and mentoring. Safe management of health care waste continues to be underfunded, though the aim is for each health department to allocate funding to support this cross-cutting element. The strong focus in Ghana on improving quality, addressing AMR, and achieving financial self-sufficiency in the health sector contribute to efforts to improve and sustain WASH as part of the national health agenda.

**Who:**

Ghana Health Services, Ministry of Health, Ministry of Local Government, Ghana Standards Authority, Environmental Protection Agency, supported by UNICEF, WHO, WaterAid, USAID, UNDP/Global Environment Facility (GEF), and Rollins School of Public Health at Emory University.

**BOX 6:****Low-cost WASH interventions rapidly reduce the spread of health care-associated infections**

A 2011 costing study in 117 rural Kenyan health care facilities showed that the introduction of low-cost, portable handwashing stations and drinking water stations (coupled with health worker training and visual WASH guides at each water station) was an affordable and effective short-to medium-term solution to stop the spread of health care-associated infections (28). The cost of improved access to handwashing with soap was \$0.17/individual and to safe drinking water \$0.08/individual.

The ability to quickly implement these low-cost WASH interventions suggest they are valuable, interim solutions while longer-term WASH, more sustainable services are being planned, financed and constructed. It is often possible to implement these low-cost interventions using local budgets and expertise, allowing facilities and communities to take ownership and action on this important issue.



© Rob Quick/CDC

**Further reading**

*The key ingredients to Universal Health Coverage in Ghana: water sanitation and hygiene* [Internet]. London, WaterAid, 2019 [cited 25 February 2019].

Available from: <https://washmatters.wateraid.org/blog/the-key-ingredients-to-universal-health-coverage-in-ghana-water-sanitation-and-hygiene>

### 3 ESTABLISH NATIONAL STANDARDS AND ACCOUNTABILITY MECHANISMS



National standards and policies for WASH in health care facilities are necessary for implementing, monitoring, and regulating health services. Standards should be comprehensive (including items such as safe health care waste management), specific enough to provide actionable technical guidance, and relevant to the local context. In addition, standards ought to meet the needs of vulnerable populations who, for example, might require gender-segregated toilets, menstrual hygiene facilities, or—for those with limited mobility—ramps, handrails, and wide doorways. Once developed, WASH standards ought to be included in quality of care guidance (especially for mothers, neonates, and children), IPC strategies, cholera prevention and control plans, and national quality policies and strategies. One effective way to embed standards into health programmes is by identifying common goals (i.e., reducing maternal and newborn deaths, increasing

uptake and satisfaction of care, improving adherence to recommended hand hygiene practices) and jointly monitoring and reviewing progress. Standards should also be accompanied by oversight and sufficient resources for implementation.

Once standards exist for WASH in health care facilities and are being implemented, countries can consider how to include WASH in regulatory processes, accreditation methodologies, and national health-insurance schemes. For example, measuring WASH within an accreditation system could be a prerequisite for health facilities to be linked to national insurance reimbursement schemes. Some countries use a combination of penalties and incentives to ensure that all facilities meet standards. In some cases, friendly competitions or national ranking systems can be effective (see [Practical Step 4, Madagascar case study](#)). Alternatively, facilities may receive financial (or other non-financial) incentives for meeting particular targets or standards. It may be necessary to consider potential bias among the groups responsible for inspecting and regulating facilities. Engaging users and communities to review and provide feedback on WASH services can be a useful way to triangulate data.





## How Liberia is using mentoring and supportive supervision to support implementation of new WASH standards

### Trigger:

The 2014–2016 West Africa Ebola outbreak killed 4,810 people in Liberia. Efforts to control the disease and humanely care for those infected were severely hampered by limited WASH services and poor IPC in health care facilities. The health system underwent a period of transformation as part of Ebola recovery and recognized the need for minimum standards for WASH in health care facilities.

### What:

In 2016, Liberia's Vice President launched a minimum WASH package, which included new WASH standards, and selected WASH FIT as the national tool for implementation of those standards. District Health Teams assumed responsibility for regular supervision and mentoring, working in collaboration with the national WASH FIT team composed of government and partner trainers.

### Results:

- **WASH prioritized in quality and health security efforts.** WASH in health care facilities is now embedded in new strategies on quality and included in plans for preventing disease outbreaks and improving health security.
- **Stronger more comprehensive standards established.** The process of updating standards for WASH in health care facilities catalyzed work on broader WASH standards including those for drinking water quality and health care waste. Both sets of standards are set to be finalized and adopted in 2019.

- **Supervision and mentoring provided.** All health care facilities in Liberia now implement WASH FIT improvement plans. Regular mentoring visits are conducted by district health teams, where data are collected and later compiled at the national level.

### Challenges and Opportunities:

Limited governance and insufficient funding constrain the ability of to conduct frequent supportive supervision visits to health care facilities as part of WASH and IPC programmes. The formation of the National WASH Commission in Liberia, with a dedicated budget, will hopefully address these issues. WASH and IPC focal points focus on quick wins that depend on relatively few outside resources, such as segregating waste, promoting good hand hygiene, and chlorinating drinking water.

### Who:

Ministry of Health, National Institute of Public Health, WHO, UNICEF, CDC, WaterAid.

*"Do what you can with what you have. In Liberia, the mentoring has led to meaningful changes in our health care facilities, in terms of enhanced capacity and a shift towards quality service delivery. To us, in the absence of abundance, the only thing we need is dedicated staff, transportation to visit facilities and daily sustenance. With this approach, a lot can be achieved with a little."*

–Liberia WHO Country Office



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## How Tajikistan is using WASH FIT to help set targets and update national standards

### Trigger:

In 2016, an advisor to the Minister of Health attended a regional event on the UNECE Protocol for Water and Health where WASH FIT was discussed. At the time, Tajikistan was preparing to launch the International Decade of Action, *Water for Sustainable Development 2018-2028*, while undergoing national health care reform. It was an opportune moment to secure the interest and commitment of the wider Ministry of Health and Social Protection (MHSP).

### What:

In April 2018, the Ministry of Health organized a national training-of-trainers and began a pilot of WASH FIT in selected health facilities. Concurrently, WASH FIT was introduced at a national roundtable on WASH in health care facilities, which included key stakeholders from the Ministry of Health, Ministry of Finance, Sanitary Epidemiological Services, and development agencies who agreed there was a need to review and strengthen existing national policies and standards.

### Results:

- **Targets set.** Specific targets for WASH in health care facilities have been set and included in national targets (adoption pending). These new targets

align with the WHO and United Nations Economic Commission for Europe (UNECE) *Protocol on Water and Health* (29).

- **New leadership emerged.** The Ministry of Health and Social Protection took the lead to integrate WASH requirements into policies and standards already in place or under development.
- **Improved collaboration with partners.** Partners such as Oxfam have committed to work on WASH in health care facilities and are using WASH FIT as their implementation tool in Tajikistan, with a renewed focus on maintenance of services.

### Challenges and Opportunities:

Infrastructure in many facilities is outdated and needs considerable financial investment to upgrade. WASH FIT provides a way to prioritize improvements and helps facilities think about what can be achieved with limited resources. Another challenge is that political commitment currently relies on a few individuals. Changes in staff or leadership can affect the success of work at any stage. Continued advocacy is essential to foster new champions but such work requires time, energy, and resources, all of which are constrained in an environment with many competing priorities.

### Further reading

Mensah Abrampah et al. Improving water, sanitation and hygiene in health-care facilities, Liberia. *Bulletin of the World Health Organization*, 2017, 95(7):526-530.

## 4 IMPROVE AND MAINTAIN INFRASTRUCTURE



Infrastructure for WASH and health care waste management needs to be appropriate and suitable for the local context, the size of the facility, and the services a facility provides. Most large infrastructure improvements require the engagement of finance institutions, government agencies, and contractors. An infrastructure plan can help define the scope of work and outline the costs in a particular facility (primary, secondary or tertiary) and location (urban or rural). A costing analysis can compare the benefits of new WASH infrastructure to the costs associated with the lack of WASH infrastructure.

Even in health care facilities equipped with advanced WASH infrastructure, this can quickly fall into

disrepair without sufficient staff, funds, and systems to maintain it. Ongoing operation and maintenance of advanced WASH infrastructure, particularly in rural areas, requires resources (e.g., for electricity), supply chains, and trained staff. For this reason, health care facilities are encouraged to include costs and capacity for ongoing operation and maintenance in their infrastructure plans.

To finance large infrastructure projects, it may be possible to use existing WASH and health sector funds. The 2016–2017 GLAAS survey found that nearly 40% of countries used less than 75% of domestic capital commitments for WASH (25). In other words, 25% or more of existing domestic funds allocated to WASH were not spent. Another potential source of funding, particularly for ongoing maintenance, is local insurance schemes and community funds. In Mali, for example, community funds provide the means to cover small maintenance needs, such as replacing taps and cleaning toilets in primary and district health care centres.

### BOX 7:

#### Innovative and environmentally-friendly approaches

Several WASH innovations can reduce environmental impacts while still being affordable and sustainable, even in resource-scarce environments. For example, low-cost water-treatment devices are increasingly being used in health care facilities. These include large-membrane filters and electro-chlorinators, which allow for on-site production of chlorine. WHO regularly tests the performance of such devices through the WHO Scheme to Evaluate Household Water Treatment Technologies. WHO publishes an updated list of products that meet WHO standards on its [website](#) (see [Additional Resources](#)). Other low-cost innovations include local production

of hand rubs and simple drinking and handwashing stations using a covered, raised bucket and a tap. Examples of environmentally-friendly energy products include biodigesters that treat and produce energy from organic waste and solar arrays that power WASH-related equipment such as pumps and autoclaves and provide hot water and lighting for sanitation facilities. Rainwater harvesting has also been used to supplement water supplies. Regularly monitoring taps and plumbing systems for leaks also ensures efficient water use. All technologies require the human and financial resources and systems to support their effective use and ongoing operation.

## How Sierra Leone is making incremental improvements in treating health care waste

### Trigger:

Health care waste management was, and continues to be, a major problem during the Ebola epidemic in West Africa. Many health care facilities did not have appropriate waste disposal systems to safely treat and dispose of the large amounts of infectious waste that was produced from treating Ebola patients, resulting in dangerous waste accumulating in and around facilities. The Ministry of Health and Sanitation (MOHS) in Sierra Leone recognized the problem and sought to improve its health care waste management systems.

### What:

Building upon the 2015 National IPC Guidelines, the MOHS published National WASH Standards and Guidelines for Health Care Facilities in 2017. These guidelines specified models of waste treatment systems for each tier of the health care system. When issues were identified with the construction and operation of the standard model (De Montfort) incinerators, local engineers made small design modifications, sourced appropriate, locally-available construction materials, and created simple, context-specific construction, operation, and maintenance manuals. The modified incinerators were monitored to determine whether they improved the performance, usability, and acceptability. Performance was validated against target burn temperatures commensurate with the De Montfort model. Users of the prototype reported high satisfaction and confidence in their ability to correctly use and maintain the incinerator. This data was used to develop a national standard for the design of incinerators used in rural primary health care centers.

### Results:

- **Locally-adapted incinerator validated and accepted.** Prototype incinerators were successfully constructed by local laborers, using local materials in a remote area of Sierra Leone.
- **Incinerator performance monitored regularly.** After 12-months of regular use, the prototype incinerator continues to function well and is being monitored by the MOHS.
- **Improved training of health care waste technicians.** Recognizing the importance of health care waste technicians in maintaining the incinerators, new technical and operation manuals were incorporated into a training package for health care waste workers.

### Challenges and Opportunities:

Operators of waste treatment systems continue to be a neglected and underappreciated workforce, which



threatens the scalability and sustainability of these local efforts. General understaffing and high turnover of health care workers in small health posts means that there are still gaps in knowledge on IPC processes as they relate to effective waste management. Proper waste segregation is critical for minimizing the volume of waste to be treated and recycling non-infectious waste. More investments are needed to support the construction and sustained operation of appropriate waste treatment systems that minimize both health and environmental risks in low-resource settings.

### Who:

Government of Sierra Leone Ministry of Health and Sanitation (Environmental Health and Sanitation Directorate and National Infection Prevention and Control Unit), GOAL, Global Center for Medical Innovation, and US Centers for Disease Control and Prevention (CDC).

## CASE STUDY 8:



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## How Nepal used bio-digesters to treat infectious organic waste

### Trigger:

Nepalese health care facilities generally autoclave infectious waste, but they lack safe disposal options for infectious organic waste from maternity departments and food waste from patient kitchens and canteens. Both attract insects and other disease vectors, and placenta pits can contaminate the environment.

### What:

In 2011, Bir Hospital, a 420-bed hospital in Kathmandu, installed a biodigester to manage food waste. Subsequently, Nepalese engineers designed a gravity-driven biodigester, based on recommendations in WHO's *Safe Management of Waste from Health-Care Activities* (20). Installations included: a placenta-digesting chamber, to maximize placenta retention time and eliminate pathogens, followed by one for food. Both are seeded with cow dung to provide methanogenic bacteria, balancing inputs to sustain a healthy bacterial community. Slurry is diverted to the sewer, which mitigates risk from further handling. Regular monitoring helps identify and resolve problems. Following this first design, biodigester systems for food and placenta waste were installed at Kathmandu Medical College in 2016 and Tribhuvan University Teaching Hospital in 2017.

### Results:

- **Locally-designed biodigesters operate in three hospitals.** These systems treat up to 220 kg of waste per day. Biogas containing methane is used in facility kitchens, generating 2 to 3 Nepalese Rupees (2 to 3 US cents) per kilogram of waste disposed.
- **Model replicated in other regions.** The biodigester concept has been replicated in United Republic of Tanzania and is now planned for Madagascar.

### Challenges and Opportunities:

Hospital management often expects that the energy generated from biogas will quickly recover construction costs. However, the system is primarily for safe waste management; energy production is a modest co-benefit. Hospitals capable of operating a good waste management system can easily maintain a biodigester, but it does require appropriate training and ongoing monitoring.

### Who:

Tribhuvan University Teaching Hospital, Kathmandu Medical College, with technical support from Health Care Foundation Nepal, Health Care Without Harm, WHO Nepal.

## CASE STUDY 9:



### How Madagascar is using friendly competition to increase access to WASH in primary health care centers

#### Trigger:

Having successfully used a competitive rating program called the “three-star” approach to improve WASH in schools, the Government of Madagascar decided to apply the approach to health facilities. The approach encourages facilities to make simple WASH infrastructure improvements and adopt good hygiene behavior. The guiding principle of the three-star approach is “Keep it simple, scalable, and sustainable.”

#### What:

Starting in 2014, the Ministry of Water, Sanitation and Hygiene (MOWSH) and the Ministry of Health (MOH), began implementing the three-star approach in five regions and then expanded to 10 of 22 regions. Facilities were equipped with ceramic filters to improve the safety of drinking water, as well as handwashing stations and soap to improve hygiene practices. Health personnel were given training, reminders, and incentives to provide information to patients and families on basic hygiene practices, methods for household water treatment, and the importance of using latrines. Under the three-star approach facilities work their way up from one to three stars by expanding hygiene promotion activities and improving infrastructure with the ultimate aim of achieving national standards. At the same time, at the national level, improved standards for WASH and health care waste were developed and enacted in 694 basic health facilities and 3 hospitals respectively, since 2014. These support more equitable and safer services and for health care waste, include the use of non-burn, environmentally friendly waste destruction technologies.

In 2018, new national standards for health care waste were enacted to provide equitable and safer health care waste services and encourage the adoption of environmentally-friendly waste destruction technologies.

#### Results:

- **Improved WASH services for 3.6 million care seekers.** As of 2018, the program has reached 590 health care facilities in rural areas, comprising 20% of the total rural primary health care facilities in the country.
- **Health care personnel better equipped to adopt hygienic practices.** With tools and training, health care staff have increased capacity to improve hygiene in health care facilities and promote better health behaviors in the community.
- **Increased patient satisfaction.** Improvements to WASH in health care facilities has transformed the way patients and communities view health care facilities and increased their trust in services.
- **Safer, more environmentally-friendly destruction of health care waste.** The implementation of the new national standards on safe health care waste management has provided alternatives to burning (e.g., low-cost autoclaves) and has been instrumental in safely disposing sharps (e.g., during the national measles vaccination campaign).

#### Challenges and Opportunities:

Health care personnel report that their high workload can prevent them from prioritizing WASH and IPC practices. Community engagement, however, has reinforced to health professionals the importance of WASH, and the three-star approach serves as an effective mechanism to drive change.

#### Who:

Ministry of Water, Sanitation and Hygiene (Director General and Director of Hygiene Promotion), Ministry of Health, Regional WASH and Regional Health Directors, UNICEF, WHO, UNDP, WATERAID, USAID/RANOWASH, WSUP.

## BOX 8:

**Alcohol-based hand rub is a lifesaving technology, but not a substitute for safe, reliable water**

WHO has recommended targeted use of alcohol-based hand rub (ABHR) in health care since 2009, and has made a formula and implementation guide available to facilitate the local production of ABHR in any health facility, anywhere in the world (30). In 2015, WHO included ABHR in the WHO List of Essential Medicines.

An increasing number of health care facilities across the WHO African Region are now successfully undertaking local production using the WHO formula (31, 32, 33). They report that the impact is especially high in facilities lacking hand hygiene resources, such as functioning sinks, water, soap, and paper towels. However, ABHR is not a substitute for

safe, reliable water supplies in health care facilities. During childbirth, attending health care staff should use soap and water and soap and water is recommended after using the toilet. Water is needed for a host of other activities beyond hand hygiene, including for drinking, cleaning and showering. Thus while ABHR can improve hand hygiene in low-resource settings, its availability should not derail efforts to secure safe and reliable water supplies. Fortunately, intermediate, low-cost options to providing handwashing and drinking-water stations at points of care, consisting of a simple covered bucket with a tap exist. These can be implemented while longer-term infrastructure is being planned and constructed.

**Further reading**

*Treating pathological and anatomical waste.* [Internet], Health Care Without Harm, c2019 [cited 15 February 2019]. Available from: <https://noharm-global.org/issues/global/treating-pathological-and-anatomical-waste>



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## 5 MONITOR AND REVIEW DATA



The best way to track the status or progress of WASH interventions is by monitoring and reviewing indicators on a regular basis. Appropriate data should be shared locally, nationally, and globally so that incremental progress can be documented and priority investments can be made.

Indicators for WASH in health care facilities are most easily tracked when they are embedded in existing health monitoring systems. In such cases, it can be helpful

to harmonize WASH in health care facility indicators with water sector indicators to avoid the two sectors collecting the same data independently or using different definitions. Indicators for WASH in health care facilities can also be embedded in externally-supported, nationally-representative surveys (e.g., Service Provision Assessments, Service Availability and Readiness Assessments, and health facility assessments) and programme-specific surveys (e.g., HIV/AIDS surveys, maternity and obstetric services assessments, and Herams surveys for emergencies).

Monitoring data are also essential for tracking progress toward SDG 6 (*clean water and sanitation*) and measuring inputs associated with Goal 3.1 (*maternal mortality*), 3.2 (*newborn mortality*), and 3.8 (*universal health care*).

### CASE STUDY 10:



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### How Uganda embedded WASH in health care facility indicators into regular health monitoring

#### Trigger:

Recognizing a need to collect reliable WASH data for planning and budgeting purposes, the Child Health Division of the Ministry of Health in Uganda worked with partners (WaterAid, UWASNET civil society network, AMREF, Water for People, UNICEF and WHO) to address this issue through the Diarrhea and Pneumonia Coordinating Committee (DPCC).

#### What:

In 2016, the DPCC recommended a standardized list of WASH indicators to be included in the national health management information system (HMIS). In 2018, the Division of Health Information formally adopted WASH in health care facility indicators as part of a recurring five-year review of national HMIS data.

#### Results:

- **Indicators embedded into electronic health monitoring systems.** Uganda is one of a handful of countries to have successfully incorporated indicators for WASH in health care facilities into a digital platform "District Health Information System 2", or [DHIS2](#).

#### Challenges and Opportunities:

It is difficult to standardize indicators with global monitoring systems while also retaining sufficient flexibility to reflect the national context. However, by adopting global core questions and response categories, data are more easily harmonized, which allows better analyses over time and between countries. This in turn, facilitates global analysis of WASH in health care facilities in the context of the 2030 SDG Agenda.



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## How Lao PDR is using national data to spark action

### Trigger:

Results from the country's 2014 Service Availability and Readiness Assessment showed that more than half of health centres and district hospitals in Lao PDR lacked functional, improved water and sanitation services.

### What:

From 2017 to 2018, the National Centre for Environmental Health and Water Supply (in the Ministry of Health) developed a national policy on WASH in health care facilities and health care waste management. The National Strategy for Rural WASH (2018-2030) aims to provide basic and safely-managed water supply and sanitation for households, schools, and health care facilities.

### Results:

- **New environmental health standards established.** Basic environmental health standards for health care facilities were developed based on WHO guidance.
- **WASH FIT used to implement policy.** The WASH FIT tool was introduced in 2018 (and is explicitly mentioned in the national strategy) to translate the newly formulated policy, strategy, regulations, and standards into action at the facility level.

### Who:

Lao PDR Ministry of Health, National Centre for Environmental Health and Water Supply, central hospital, provincial and district health office managers and selected health care facilities with support from WHO and UNICEF.

### Further reading

*2018 HMIS review report for harmonization of WASH indicators into the national HMIS* [Internet]. Kampala, Republic of Uganda, Ministry of Health, 2018 [cited 1 March 2019]. Available from: [https://www.washinhcf.org/documents/HMIS-Review-Report-WASH-Indicators\\_March-2018.pdf](https://www.washinhcf.org/documents/HMIS-Review-Report-WASH-Indicators_March-2018.pdf)

## 6 DEVELOP HEALTH WORKFORCE



*"People hush me up. I speak my mind and they dislike it. But unless I speak up, how else will the crisis here get solved?"*

Aruna B, Auxiliary Nurse Midwife,  
Nizamabad District, India.

A well-trained, well-supported, dedicated health workforce enables health systems to perform well and respond appropriately to challenges. Health facility staff (both clinical and non-clinical) deserve to work in an environment that protects their occupational health and safety and allows them to perform their job to the best of their ability. For this reason, preservice and in-service training and mentoring must be provided for all levels of health care staff and must emphasize the importance of good WASH and IPC practices, including safe hand hygiene. Health facility cleaners and health care waste operators need additional skills and competencies to safely and effectively conduct their work.

Processes and tools such as WASH FIT help staff identify and prioritize risks and develop improvement plans for WASH. Incremental improvements, such as the installation of simple hand hygiene stations, colored waste bins, and hygiene training are measures that are relatively inexpensive and quick to implement in health care facilities. Such improvements may also have positive ripple effects on WASH practices in communities.





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## How United Republic of Tanzania is training hospital cleaners to improve hygiene in health care facilities

### Triggers:

The number of women delivering in health care facilities in United Republic of Tanzania and across the world is increasing. However, overcrowding, an increase in obstetric interventions at the time of delivery, and overstretched staff are also increasing the risk of bacterial infections, contributing to about a third of newborn deaths in United Republic of Tanzania (34).

### What:

Between 2013 and 2017, The Soapbox Collaborative worked with partners in eight LMIC to conduct needs assessments of WASH and infection prevention and control in maternity units. One of the key findings across these diverse settings was that inadequate training and supervision, insufficient resources, and poor infrastructure were preventing cleaners from helping to maintain a safe and hygienic health care environment (35). A participatory training package (TEACH CLEAN) was developed by Soapbox to specifically address the lack of training of hospital cleaners. In 2018, the TEACH CLEAN package was adapted by United Republic of Tanzania's national training institute as part of a funded research study. The study is evaluating changes in cleaning behavior of cleaners and levels of hygiene following implementation of TEACH CLEAN in three hospitals. A baseline assessment (including measurement of the prevalence of HCAI) has been made and a suite of evaluation techniques are being used, including post-training assessments and measurements of cleanliness, and

questionnaires and interviews with staff. The findings will help inform the adaptation and implementation of TEACH CLEAN in other contexts.

### Results:

- **Training and supervision needs identified and addressed.** United Republic of Tanzania's national training institute adapted the TEACH CLEAN package and strengthened supervision with mentoring and regular follow-up.
- **Prevention became a top priority.** MOH prioritized prevention and reduction of HCAI in the national IPC programme, and invested in surveillance, outbreak investigation, laboratory research, and other prevention steps.
- **Stronger monitoring and accountability.** Discussions have been held to incorporate the suite of evaluation tools into routine monitoring in hospitals across United Republic of Tanzania and within existing quality improvement programme activities.

### Who:

Muhimbili University of Health and Applied Sciences, Ministry of Health (Infection Prevention Department at national and regional levels) and Ministry of Community Development, Gender, Elderly and Children, Ifakara Health Institute, with support from WaterAid, Soapbox Collaborative, and USAID.

For more information on TEACH CLEAN, refer to [Annex 4](#).



## How Cameroon is using hygiene committees to stop cholera in the Southwest Region

### Trigger:

In the Southwest Region of Cameroon, cholera episodes have occurred regularly since 2003. The last episode in 2010 lasted fourteen months and spread to 11 out of 18 districts; approximately 3,304 people were affected and 42 died.

### What:

After the 2010 outbreak, the Ministry of Public Health began focusing on prevention, implementing a contingency plan to prevent future outbreaks. Hygiene committees were created in all health care facilities and treatment centers located in cholera hotspots, resulting in functional, well trained, multidisciplinary professional teams who were ready to act within 72 hours. Community partnerships were strengthened and adherence to hand hygiene guidelines in health care facilities and disease surveillance activities improved at all levels.

### Results:

- **Improved WASH facilities and practices.** In treatment centers, wards were refurbished to provide isolation

areas, increase bed spacing, allow natural ventilation and lighting systems, and offer hand washing materials. Disinfection practices for wards and vehicles bringing patients into hospitals have also been improved.

- **Improved WASH practices at the community level.** Sensitization at the community level has improved practices for disinfection, household water treatment, and proper disposal of human waste and food hygiene.

### Challenges and Opportunities:

The resurgence of a cholera epidemic in Cameroon continues to be likely given its proximity to Littoral Region, where cholera is endemic. Continuous community sensitization about good hygiene practices helps to reduce the risk, but behavior change and limited funding remains a challenge.

### Who:

Center for the Control and Fight against Cholera (now known as Regional Center for Prevention and fight against Epidemics and natural Disasters), supervised by the Governor of the Region, and the Delegate of Public Health acting as technical adviser.

# 7 ENGAGE COMMUNITIES



Community members and community organizations play an important role in ensuring that health care facilities provide the level of care citizens deserve and expect. In some countries rural health care facilities are directly managed by the community, giving local leaders and community members agency in decision-making and management of WASH services and hygiene practices. Sometimes community members also provide technical expertise and ought to be consulted regarding preferences in design and use of WASH facilities. In communities where health care facilities and households share the same water source, they must work together to manage this common resource. SDG 6 aims for “universal” access to WASH and is based on a vision of community-wide WASH services in both households and institutions, including schools and health care facilities. Thus, there may be strategies and approaches used in improving WASH in schools and households, including tapping into community WASH and advocacy groups, that can be applied to health care facilities.

Since patients may feel uncomfortable speaking up about conditions in local health care facilities, it may be beneficial to explore anonymous or more discrete ways to provide feedback, using approaches that do not exclude

## BOX 9:

### Approaches to engage communities in designing, implementing and sustaining better services

- Hold regular “townhall” meetings to discuss user preferences and factors affecting experience of care, including facility cleanliness, toilet and shower designs and other WASH issues.
- Develop mechanisms for seeking user feedback (i.e. individual comment forms, through community scorecards) which are linked to care provider review and action.
- Organize community skits and street entertainment to inform care-seekers and their families about importance of good hygiene, especially hand hygiene.
- Regularly feature health issues, quality of care and importance of good WASH services and practices on local radio, social media platforms and newspapers.
- Develop gardens and “healing spaces” within facility grounds to improve experience of care, foster pride and encourage the community to use and care for the facility

low-literacy populations. Such mechanisms should be built into quality improvement cycles to help to design, improve, and maintain WASH services that meet user needs.



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## How Mali is involving communities in preventing future cholera outbreaks

### Trigger:

In 2012, a large cholera outbreak struck the northern, rebel-controlled regions of Mali. To understand the reasons for this outbreak, the Ministry of Health conducted a national assessment of health care facilities, finding gross inadequacies and large variability in quality. Up to 38% of facilities had inadequate water supply while up to 57% had signs of open defecation.

### What:

Following the assessment, an intersectoral taskforce (comprising the Ministry of Health, WHO, UNICEF, WaterAid, World Vision, BECEYA, Save the Children, One Drop and the Red Cross) was established to coordinate efforts and raise awareness of the importance of WASH in health care facilities. Less than a year later, in 2016, the Ministry of Health adopted a minimum national WASH package and conducted a national WASH FIT training-of-trainers, which has since been rolled out in four of Mali's eight regions. In 2017, a national maternal sepsis survey included WASH indicators, which were then integrated into routine national health systems monitoring. Partners are taking an incremental approach to improving services in the short-term (e.g., through simple handwashing and drinking water stations) and long-term (e.g., installing solar powered borewells and piped water supplies).

### Results:

- **All eight practical steps addressed.** Since 2015, Mali has tackled all eight steps described in this document. Over 200 health care facilities have benefited from infrastructure upgrades. Ministry of Health staff are now trained in assessing and managing risks (through WASH FIT) and local technicians have been trained to repair water services.

- **Communities hold health facilities accountable.**

Mali's decentralized health system empowers citizens to manage health facility resources as elected members of management committees called "ASACOs." These groups have learned to hold facilities accountable for better services and ensure that resources are allocated efficiently to best serve the interests of the various sub-groups of the population, including those traditionally excluded from more formalized discussions.

### Challenges and Opportunities:

Fostering open dialogue and collaboration can be a challenge in a highly hierarchical environment. Security also continues to be unstable in many regions of the country. Anecdotal evidence indicates that WASH efforts have re-instilled confidence in the government and local leaders, which has been important for improving security and defeating extremism.

### Who:

Ministry of Health, supported by WHO, UNICEF, WaterAid, World Vision, Save the Children, One Drop, and the Red Cross.

*"Our district is increasingly threatened by insecurity. We know providing basic services, including WASH in health care facilities, strengthens community resilience. And the impact is also immediate. Now mothers and children can drink safe water when coming to vaccination clinics before the long walk home."*

Commander, Kolikoro District, Central Mali

## How one Indian state is creating a safe environment for newborns

### Triggers:

When the Prime Minister of India made a national call to action in 2014 to improve cleanliness in all public settings, including health care facilities, several national actors quickly took up the challenge. The National Quality Assurance Programme for Public Health Facilities, the Swachhata Guidelines for Public Health Facilities, and the cleanliness programme, Kayakalp,<sup>5</sup> began facilitating improvements in partnership with several states.

### What:

The State of Madhya Pradesh focused its response on improving WASH in health care facilities and nutrition rehabilitation centres in nine districts with poor health indicators. The goal was to create an infection-free environment in 196 facilities handling more than 100 deliveries per year, reaching a total of 120,000 newborns. Government staff and partners developed policies, technical guidelines, and standard operating procedures to improve the safety and cleanliness of outpatient departments, labour rooms, newborn care units, post-natal wards, and nutrition rehabilitation centres. Based on a comprehensive assessment, they also developed facility plans and mobilized support for implementation of WASH and health care waste management improvements. A mobile app was used for bi-monthly grading and monitoring.

### Results:

- **More WASH services, better trained staff.** By the end of 2017, health care facilities in Madhya Pradesh saw improvements in adherence to WASH protocols and access to functional drinking water services, toilets, and hand washing stations. Over 1,000 health care workers attended training in implementation and management of standard WASH protocols. When surveyed, health care workers perceived that WASH and IPC systems had improved since the interventions; staff morale and performance also improved.



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- **Scaled up WASH improvements.** As part of Swachh Swastha Swarvatra and Kayakalp, improvements were scaled-up in 22 districts reaching over 200 health care facilities. Under Kayakalp the work was recognized nationally, particularly for its positive impact on teamwork and motivation.

### Who:

National Health Mission, Indian Institute of Health Management Research, the Department of Panchayat and Rural Development and UNICEF.

*"The perception of patients and public regarding the level of cleanliness and ambience of a (public health) facility directly affects the level of confidence they have in the health care offered in a facility. Low levels of cleanliness in public hospitals are a deterrent to use by people. Maintenance of the hygiene and cleanliness of health facilities is not only related to aesthetics and patient satisfaction but also reduces the incidence of hospital associated infections."*

–Ministry of Health and Family Welfare, 2015  
Swachhata Guidelines for Public Health Facilities

### Further reading

*Situational analysis of water, sanitation and hygiene and trachoma in Mali: implications and next steps* [Internet]. Geneva, World Health Organization, 2018 [cited 1 March 2019]. Available from: [www.washinhcf.org/resources](http://www.washinhcf.org/resources)

*Guidelines for implementation of "Kayakalp" initiative* [Internet]. New Delhi, Ministry of Health and Family Welfare, Government of India, 2018 [cited 25 February 2019]. Available from: <http://www.nhm.gov.in/publications/nhm-guidelines.html>

<sup>5</sup> Kayakalp includes an assessment of sanitation and hygiene within health care facilities, guidelines on WASH standards, and quality benchmarks for public health facilities with the objective of promoting cleanliness and IPC practices.

# 8 CONDUCT OPERATIONAL RESEARCH AND SHARE LEARNING



A stronger evidence base for WASH in health care facilities can drive continued action and investment. When learnings from every level (facility, sub-national, national, regional, and global) are distilled and shared, they can spark ongoing improvements, spur innovation,

and scale-up proven approaches. Operational research requires documenting not just what has been done but how it has been done, the associated challenges and how they have been addressed. While the links between WASH and infection prevention are clear, actually measuring them is complicated and expensive. In many situations it may be preferable to use indirect indicators such as uptake of services, patient and staff satisfaction, and visual cleanliness rather than health outcomes to measure the effect of WASH interventions in health care facilities.

## CASE STUDY 16:

### Using accountability to drive action among district hospitals in Kenya

#### Trigger:

In Kenya, WASH was identified as a major problem in several district hospitals that were part of a broader research programme about IPC and antibiotic stewardship. To address the problem, researchers sought to use the WASH FIT tool, but needed to adapt it to the complexities of district-level hospitals, where WASH services are spread across multiple wards with complex management and leadership arrangements.

#### What:

A research team from the University of Oxford, United Kingdom, in collaboration with the Kenyan Ministry of Health adapted WASH FIT and created the WASH Facility Survey Tool (WASH-FaST). Figure 1 illustrates how services are scored, in this case showing the percentage of indicators that met targets for segregation of health care waste in four hospitals. In two hospitals the mean ward score was 20% lower than the facility score, indicating huge variability in health care waste practices and services among different wards in the same hospital.

#### Results:

- **Powerful assessment tool developed for larger, more complex facilities.** WASH-FaST allowed the research team to assess larger, more complex secondary and tertiary health care facilities with multiple wards, aggregate results, and compare them within and across hospitals.
- **WASH actions prioritized.** Overall, hospital staff, managers, and district health administrators found the process highly valuable for identifying “quick wins” such as increasing the number of waste bins and improving segregation practices. More generally, the tool helped raised the profile and importance of WASH.

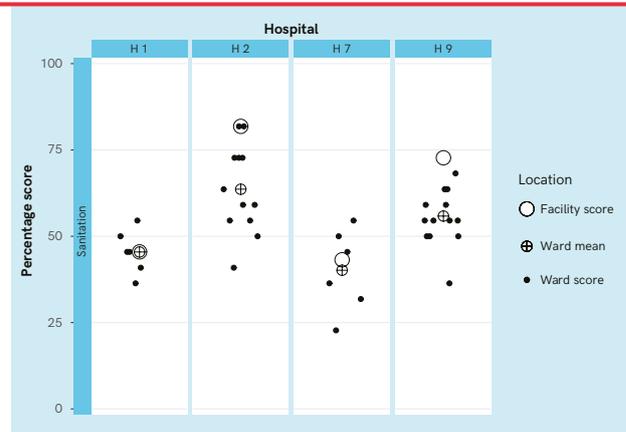


Figure 1. WASH-FaST scores for segregation of health care waste in four hospitals

#### Challenges and Opportunities:

Scores assigned to an indicator can be subjective. Thus, standard operating procedures for data collection are essential to improve the reliability of inter-hospital comparisons. In addition, indicators are not weighted, which may over- or under-emphasize certain problems within a facility. WASH-FaST makes it easier to assign responsibility to different levels (ward/IPC committee, facility management team, county government) for each of the WASH FIT indicators and establish which services can be addressed locally or at higher levels of the health system.

*"Across the hospital, in [ward X] is where I know there is strict infection prevention because once you go into [ward X], you remove your lab coat, wash your hands and then get into the unit where you fold your [gown]... Now, in other wards we don't have such strict infection prevention, you just get in and you start..."*

-Medical Officer, District Hospital

### Global WHO/UNICEF knowledge portal for WASH in health care facilities

The WHO/UNICEF knowledge portal, launched in 2015 and completely revised in 2019, includes a broad range of resources. The site includes:

- Examples of national standards, guidelines, and policies on WASH and health care waste management in health care facilities, quality of care, infection prevention and control;
- Case studies, including more details and further reading relating to the case studies found in this document;
- Useful resources, including assessment tools, training

materials;

- Journal articles, blog posts and other popular media (including newspaper articles and videos), on all aspects of WASH in health care facilities; and
- News and upcoming WASH and health events.

It is updated regularly with content from partners and countries. To contribute content, email [washinhcf@who.int](mailto:washinhcf@who.int) or visit the site ([www.washinhcf.org](http://www.washinhcf.org)) to submit directly.



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SECTION 4

# Addressing the Global Call to Action

# Addressing the Global Call to Action

The UN Secretary-General's Call to Action on WASH in health care facilities (37) elevates the urgency of WASH in health care facilities and brings the issue to the attention of the highest levels of UN institutions, financing entities, and Member States. In May 2018 WHO and UNICEF hosted a global strategic meeting with key partners to define the response to the Global Call to Action on WASH in health care facilities (37). The response includes a vision, measurable targets, and a set of metrics to track progress (for a list of targets and metrics see [Section 1. Background](#)).

## Implementing incremental improvements

Recognizing that achieving basic services will remain an ambitious goal in many facilities, WHO and UNICEF encourage countries to adopt an incremental improvement approach that recognizes and values all progressive steps toward the goal. Where there are no services, the objective is to provide at least some WASH services, even if these do not meet "basic" requirements (see [Annex 2](#) for definitions of basic services). The next step is to provide and maintain basic WASH services throughout the facility. Such services, as defined by global standards and supported more broadly by the SDG agenda, should be inclusive and equitably distributed to users. Where basic services already exist, efforts should focus on achieving higher service levels including access to a safe, continuous, piped supply of drinking water (and, where relevant, medical-grade water) to prevent waterborne outbreaks, such as legionella, and ensuring that faecal waste does not exacerbate risks linked to highly-contagious pathogens and antimicrobial-resistant bacteria. In addition, at all services levels, environmentally-sustainable solutions, such as reducing water wastage, installing more energy-efficient water pumping and heating

*"Water, sanitation and hygiene services in health facilities are the most basic requirements of infection prevention and control, and of quality care. They are fundamental to respecting the dignity and human rights of every person who seeks health care and of health workers themselves. I call on people everywhere to support action for WASH in all health care facilities. This is essential to achieve the Sustainable Development Goals.*

António Guterres, UN Secretary-General

systems, and reducing harmful emissions from health care waste treatment should be prioritized.

## Global network

Working with committed partners, WHO and UNICEF have established a global network to provide technical support to countries and regions. An advisory group comprised of twelve international members from implementing partners, donors, policy think-tanks and academic organizations provides strategic direction and reviews progress against the established indicators. Advocacy on WASH in health care facilities is channeled through existing health and WASH campaigns and global days such as World Health Day, World Water Day, World Toilet Day, and 5<sup>th</sup> May Hand Hygiene day and the new International Patient Safety Day. The [www.washinhcf.org](http://www.washinhcf.org) knowledge portal has been revamped to focus on commitments and knowledge management and exchange. At the core of the platform is the opportunity to exchange the latest standards, tools and approaches for improving and sustaining WASH in health care facilities with national and sub-national government and partners.

### BOX 11:

#### WASH and global public health security

Global public health security, or minimizing the impact of acute events that endanger the health of populations living across geographic regions, is an increasingly important issue. The 2015 West Africa and 2018 and 2019 Democratic Republic of Congo Ebola outbreaks and ongoing cholera transmission in almost 50 countries, demonstrate that much more needs to be done to prevent

and control outbreaks. Climate change, migration, conflict and urbanization all threaten to undermine efforts to improve health security. Strengthening health systems with a focus on fundamental WASH services and IPC, are critical and likely to substantially improve health security and resilience to future events.

## A solvable problem

Every patient and every family member and facility staff who cares for them deserves a clean and safe health care environment with high quality water, sanitation, and hygiene services. Every child that is born deserves a healthy start, and no mother should worry that she or her child will become ill or die because of dirty hands, equipment, or water. The fundamental systems, technologies and expertise to provide, monitor and sustain safe and sustainable WASH services exist. Dozens of countries, in every region are taking action on the eight practical steps outlined in this document. In addition, thousands of communities, and millions of health workers globally are taking steps to improve WASH services and practices. They are using practical

tools and climate-friendly approaches, all with the aim of improving the quality of care. A greater emphasis on collaboration and multi-sectoral planning and implementation is needed along with commitment, humility and courage.

At the core of these efforts is the prevention of millions of deaths; celebrating millions more first birthdays; greater trust in and respect for health workers; and healthier and stronger communities. The Global Call to Action, a renewed focus on quality and primary health care, and the growing importance of addressing AMR, all offer new momentum towards tackling an old but solvable problem. It is clear what needs to be done and it is now up to us to act.



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# Annex 1. Key Definitions

## Basic WASH services in health care facilities

WHO has developed a set of minimum, global standards for environmental health in health care facilities (38). Deriving from this standards, a “basic” level of service has been defined and is achieved when key conditions are met in five areas: water, sanitation, hygiene, waste management and environmental cleaning.

To allow for inter-country comparability and global monitoring WHO and UNICEF have created set of questions that classify facilities in relation to “service ladders” (see Figure 2). For more information on how the service ladders are defined and measured, refer to

the JMP “Core questions and indicators for monitoring WASH in health care facilities in the Sustainable Development Goals” (39) and the 2019 JMP SDG Baseline report for WASH in health care facilities (1).

At the national level, countries are encouraged to define more ambitious, higher levels of service and to set and monitor corresponding indicators. Higher levels of service may consider further important aspects, including water quality (e.g. legionella, pseudomonas), including medical-grade water, water efficiency, safe plumbing, climate resilience of water and sanitation services, sustainability (including non-burn waste destruction methods), and safe collection, transport and treatment and the quality of disposed wastewater.

	WATER	SANITATION	HYGIENE	WASTE MANAGEMENT	ENVIRONMENTAL CLEANING
	<b>Higher levels of service</b> To be defined at national level	<b>Higher levels of service</b> To be defined at national level	<b>Higher levels of service</b> To be defined at national level	<b>Higher levels of service</b> To be defined at national level	<b>Higher levels of service</b> To be defined at national level
<b>Basic service</b>	Water is available from an improved source <sup>6</sup> on the premises.	Improved sanitation facilities <sup>7</sup> 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.	Functional hand hygiene facilities (with water and soap and/or alcohol-based hand rub) are available at points of care, and within five metres of toilets.	Waste is safely segregated into at least three bins, and sharps and infectious waste are treated and disposed of safely.	Basic protocols for cleaning are available, and staff with cleaning responsibilities have all received training.
<b>Limited service</b>	An improved water source is within 500 metres of the premises, but not all requirements for basic service are met.	At least one improved sanitation facility is available, but not all requirements for basic service are met.	Functional hand hygiene facilities are available either at points of care or toilets but not both.	There is limited separation and/or treatment and disposal of sharps and infectious waste, but not all requirements for basic service are met.	There are cleaning protocols and/or at least some staff have received training on cleaning.
<b>No service</b>	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 premises; or there is no water source.	Toilet facilities are unimproved (e.g. pit latrines without a slab or platform, hanging latrines, bucket latrines) or there are no toilets.	No functional hand hygiene facilities are available either at points of care or toilets.	There are no separate bins for sharps or infectious waste, and sharps and/or infectious waste are not treated/disposed of.	No cleaning protocols are available and no staff have received training on cleaning.

Figure 2. Service ladders for WASH in health care facilities

<sup>6</sup> Improved water sources are those which by nature of their design and construction have the potential to deliver safe water. These include piped water, boreholes or tubewells, protected dug wells, protected springs, rainwater, and packaged or delivered water.

<sup>7</sup> Improved sanitation facilities are those designed to hygienically separate human excreta from human contact. These include wet sanitation technologies – such as flush and pour flush toilets connecting to sewers, septic tanks or pit latrines – and dry sanitation technologies – such as dry pit latrines with slabs, and composting toilets.

## Health care facilities

Health care facilities are formally-recognized facilities that provide health care. These may be primary, secondary, or tertiary, public or private (including faith-run), and temporary structures designed for emergency contexts (e.g., cholera treatment centers). They may be in urban or rural areas. Primary care facilities are 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 centers. Secondary and tertiary facilities are generally upon referral and provided more intensive technology and sub-specialized care. Facilities where births occur should be prioritized for WASH investments.

## WASH practices

WASH practices are specific IPC behavior practices including regular handwashing by care providers, care seekers, and their families at key moments. It also includes regular environmental cleaning of surfaces, floors, and walls in care areas, toilets and showers, and laundry, cooking, and waiting areas.

## Infection prevention and control

Infection prevention and control (IPC) is broadly defined as the scientific approaches and practical solutions designed to prevent harm caused by infection to patients and health workers associated with delivery of health care (40). It is a unique specialty encompassing and overlapping with almost every health care programme and system in health care.

WASH services alone will not reduce infections. They must be accompanied by effective IPC programmes and practices. Conversely, effectiveness of IPC will be severely hampered where there are no or limited WASH services. Thus, efforts to establish functional WASH services should be linked to national- or facility-level IPC programmes.

## Antimicrobial resistance

Antimicrobial resistance (AMR) is the ability of a microorganism (like bacteria, viruses, and some parasites) to stop an antimicrobial (such as antibiotics, antivirals, and antimalarials) from working against it. As a result, standard treatments become ineffective, infections persist and may spread to others. Poor infection control and inadequate sanitary conditions contribute to the spread of AMR.

## Universal health coverage

Universal health coverage (UHC) means that all individuals and communities receive the health services they need without suffering financial hardship. It includes the full spectrum of essential, quality health services, from health promotion to prevention, treatment, rehabilitation, and palliative care. Without WASH services, the goal of UHC cannot be achieved.

## Quality of care

Quality of care is the "extent to which health care services provided to individuals and patient populations improve desired health outcomes. In order to achieve this [quality care], health care must be safe, effectively, timely, efficient, equitable, and people-centred" (41).

# Annex 2: Key Achievements Since 2015

## Global guidelines, tools and advocacy materials

Standards for WASH in health care facilities are now included in many global guidelines and tools (See Table 2). These tools are being implemented actively in over 50 countries through established networks, for example the [Quality of Care Network](#) and the [WHO Global Learning Laboratory](#) for quality universal health care (see [Additional Resources](#)).

## The role of WASH in primary health care

WASH in health care facilities is an important component of the emerging work on primary health care, which stresses a multisectoral approach and the benefits of quality, person-centered care (42). The emerging operational framework on primary health care includes WASH in health care facilities, both under quality care and innovation and technology. With the aim of serving more people through primary health care facilities and given the great inadequacies of WASH services in such settings, establishing monitoring and support mechanisms for WASH will be essential to achieve incremental progress.

GUIDELINES AND STANDARDS		<a href="#">Essential environmental health standards in health care (2008)</a>
		<a href="#">Safe management of wastes from health-care activities (2014)</a>
		<a href="#">Standards for improving quality of maternal and newborn care in health facilities (2016)</a>
		<a href="#">Global guidelines on the prevention of surgical site infection (2016)</a>
		<a href="#">Guidelines on the core components of infection prevention and control programmes at the national and acute health care facility level (2017)</a>
		<a href="#">Standards for improving the quality of care for children and young adolescents (2018)</a>

POLICY, ASSESSMENT AND ACTION-ORIENTED DOCUMENTS		<a href="#">Water and sanitation for health facility improvement tool (WASH FIT) (2018)</a>
		<a href="#">National infection prevention and control assessment tool (IPCAT2) (2017)</a>
		<a href="#">WHO infection prevention and control assessment framework (IPCAF) (2018)</a>
		<a href="#">Global action plan on antimicrobial resistance (2016)</a>
		<a href="#">Ending cholera: A global roadmap to 2030 (2017)</a>
		<a href="#">Handbook for national quality policy and strategy (2018)</a>
		<a href="#">International health regulations (2005)</a>
		<a href="#">State Party self assessment and annual reporting tool (updated 2018)</a>
		<a href="#">Working together: An integration resource guide for planning and strengthening immunization services throughout the life course (2019)</a>

**TABLE 2:** Global health standards, guidelines, and tools that address WASH in health care facilities

## Regional initiatives on WASH in health care facilities

The WHO Regional Committees of the **Middle Eastern** and **Western Pacific** Regions have embedded WASH standards and improvement plans into larger strategies for achieving universal health care, managing emergencies, and addressing climate resilience.

In **Africa** and **Southeast Asia**—where quality of care is a priority—countries are integrating WASH in health care facilities into relevant monitoring, and implementation packages and training health care workers, environmental officers, and engineers in WASH and IPC.

The WHO Regional Offices for the **Americas** and **Europe** have led national surveys and organized forums to discuss results and prioritize actions.

WHO Regional Offices for **Africa**, **Europe**, and the **Western Pacific** have been engaged in “deep dive” analyses to identify opportunities to embed WASH in health care facility protocols in quality, universal health care, and further embed WASH into health systems strengthening. Finally, in the **European Region**, multilateral instruments such as the Protocol on Water and Health, in addition to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes (27) and the Ostrava Declaration of the Sixth Ministerial Conference on Environment and Health (43), place due emphasis on WASH in health care facilities and encourage European Member States to set and track targets and work towards progressive improvements.

### BOX 12:

#### The Protocol on Water and Health

The Protocol on Water and Health is a unique international agreement that aims to protect human health and well-being through better water management. Its main principle is promoting universal and equal access to safe drinking water and sanitation for everyone. The Protocol is a recognized regional platform for achieving SDG 3 and 6 targets and operationalizing the UN Secretary-General’s Call to Action on WASH in health care facilities and the targets elaborated in the WHO/UNICEF global work plan on water, sanitation and hygiene in health care facilities (see [Section 3](#)).

Improving WASH in institutional settings such as in schools and health care facilities has been identified one of the priority areas of work under the Protocol. Countries in the region are supported to improve monitoring, conduct situation assessments of the status of WASH services in health care facilities, and translate global and regional commitments into national targets and action plans. This support has led to increased awareness and action, such as setting specific targets (Azerbaijan, Georgia) or strengthening evidence base and surveillance of WASH in health care facilities (Hungary, Kazakhstan, Serbia).

### CASE STUDY 17:



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#### How Serbia improved surveillance of WASH conditions in health care facilities by integrating JMP core indicators and questions

##### Trigger:

Serbia signed onto the Protocol on Water and Health in 2013 and followed up by setting national targets on water, sanitation, and health in accordance with the Protocol provisions. Responding to the global and regional calls for action, Serbia is taking concrete actions to improve WASH in health care facilities.

**What:**

Health care facilities in Serbia are monitored as part of a national programme for protection against communicable diseases, led by the Ministry of Health and a network of public health institutes. One of the main objectives of this programme is to improve sanitary and hygienic conditions in health care facilities to prevent hospital-associated infections, making it an ideal place for integrating WASH indicators in the national monitoring programme. In 2017, the government updated the surveillance programme to align with JMP core indicators and service ladders and SDG targets 3.8 (*universal health coverage*), 6.1 (*drinking water*), and 6.2 (*sanitation and hygiene*). At this time, Serbia decided to include indicators beyond those describing “basic” services, taking its first step towards defining national criteria for achieving an “advanced” service level. These indicators include the proportion of water samples that comply with national standards for water quality with special focus on *Escherichia coli*, *Streptococcus faecalis*, *Pseudomonas aeruginosa* and *Legionella*.

**Results:**

- **Improved monitoring.** National monitoring for WASH in health care facilities now tracks progress toward achieving SDGs 3 and 6. When initial results showed unsatisfactory sanitary and hygienic conditions, particularly for sanitation, immediate improvement measures were undertaken and new priorities set for implementing national targets under the Protocol.
- **Deeper understanding of rural and primary health care facilities.** Monitoring results also led to a deeper policy analysis and a nationally-representative survey targeting rural and primary health care facilities that had not been covered by the surveillance scheme. Outcomes of this work will provide the evidence base to review regulations and initiate improvements.

**Challenges and Opportunities:**

Despite these achievements, the country is facing some challenges, including limited coverage of different types and level of health care facilities in routine surveillance; lack of a mechanism to monitor the quality of surveillance in each region; insufficient human and financial resources; as well as a need for improved dissemination and use of WASH data to improve quality of health care services.

**Who:**

Ministry of Health, Institute of Public Health of Serbia “*Dr Milan Jovanovic Batut*,” together with the network of public health institutes.

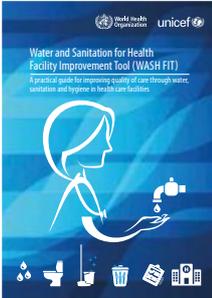
## Global monitoring

In 2018, the WHO/UNICEF Joint Monitoring Programme developed and disseminated a set of harmonized, global indicators for WASH in health care facilities (39) that are used to officially report progress on *SDG 6*. These indicators have been integrated into several national health monitoring information systems, health facility assessment surveys, and within specific programmes such as those focusing on child and maternal health, vaccines, cholera, sepsis, and neglected tropical diseases.

In addition, the WHO-led, UN-Water Global Analysis and Assessment of Sanitation and Water (GLAAS) provides an important mechanism to track policy and policy implementation on WASH in health care

facilities. GLAAS also provides a process to strengthen country engagement and hold countries accountable for collecting accurate data and acting on it. In the 2018–2019 GLAAS cycle, specific questions were included on approved policies and plans for WASH in health care facilities, including targets; lead ministries and institutions; measures to address AMR and quality of care; and the extent of IPC and health care waste management programmes. Additional questions addressed budget and policy measures that would ensure ongoing operation and maintenance of WASH services (44). A full analysis of all the data, including highlights on WASH in health care facilities, will be available in August 2019. A list of the GLAAS survey questions and other resource materials can be found on the GLAAS [website](#) (see [Additional Resources](#)).

## Annex 3. WASH FIT: An Overview



### What is WASH FIT?

The WHO/UNICEF Water and Sanitation for Health Facility Improvement Tool (WASH FIT) is a risk-based approach for improving and sustaining water, sanitation, hygiene, and health care waste management services in health care facilities. WASH

FIT guides multisectoral teams through a continuous cycle of assessing and prioritizing risks, defining and implementing improvements, and continually monitoring progress. The four broad areas covered by WASH FIT include: water, sanitation (including health care waste), hygiene (hand hygiene and cleaning and environmental disinfection), and general management. Improvement activities are designed to be integrated into a facility's existing efforts on IPC and quality improvement.

WASH FIT was adapted from the water safety plan (WSP) and sanitation safety planning (SSP) approach recommended in the WHO Guidelines for Drinking-Water Quality (45) and WHO Sanitation and Health Guidelines (46). The WASH FIT guide is available in Arabic, English, French, Russian and Spanish. A summary of other tools and their application in health care facilities is provided in [Annex 4](#).

### Where is it used?

WASH FIT was designed for use in primary health care facilities (e.g., health centres, health posts, and small district hospitals) that provide outpatient services, such as family planning, antenatal care, and maternal, newborn, and child health services (including delivery). It can be adapted to more advanced facilities (see [Practical Step 8](#), [Kenya case study](#)) and/or used in conjunction with broader quality improvement efforts (e.g., improving quality of care for mothers and newborns).

Since its inception in 2015, WASH FIT has been implemented in over 20 countries. Implementation efforts have ranged in focus (e.g., cholera hotspots in Chad, post-Ebola recovery in Liberia, health care waste management in Madagascar), duration, and scale (e.g., a pilot in three facilities in Tajikistan, 30 facilities in three regions in Mali, and over 100 facilities throughout Liberia). While

a majority of these efforts have been led by Ministries of Health, partners have also used and adapted the tool independently in a range of regions and settings.

While WASH FIT is predominately used in non-emergency settings, it can be applied in emergency settings. For example, it was used to conduct a rapid assessment and identify areas for improvement in over 200 health care facilities in Cox's Bazaar, Bangladesh. It has also been used in peacekeeping efforts and military and civilian camps in South Sudan, reaching over 20,000 individuals and leading to improvements in the safety, reliability, and efficiency water, wastewater, and waste management.

### How is WASH FIT used?

WASH FIT takes place in three broad stages: preparation, implementation and action, and follow up and evaluation.

#### Preparation:

Before launching the tool, a situation analysis should describe the broader context in which WASH FIT will be implemented and the human and financial resources required to implement and follow-up on the tool (see [Practical Step 1](#)). WASH infrastructure and service improvements need to be budgeted and implemented as part of wider health systems strengthening and supported with appropriate national policies and standards. Using WASH FIT without these elements in place will make improvements more difficult to achieve and sustain.

#### Implementation and action:

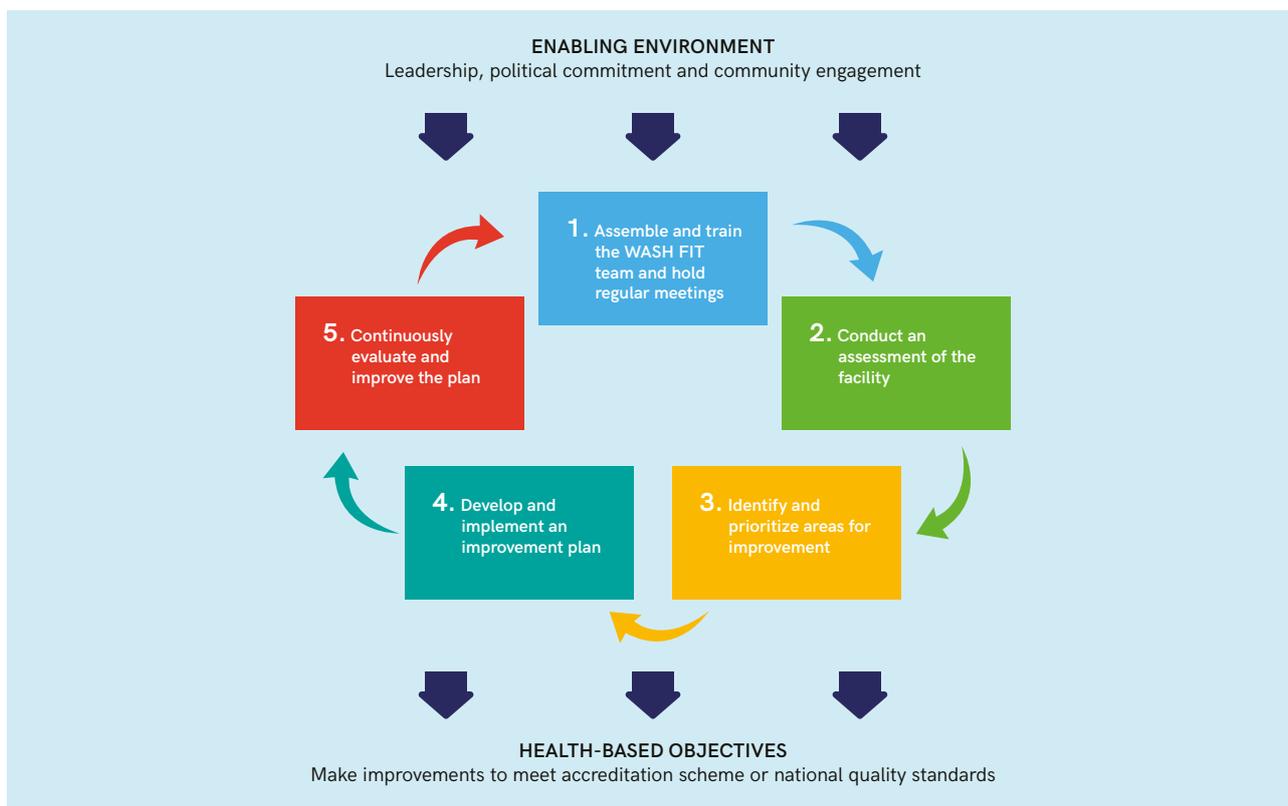
WASH FIT implementation is a five-step process (see Figure 3):

1. form a team (or training an existing team),
2. conduct an assessment,
3. prioritize risks and develop an improvement plan,
4. make incremental improvements, and
5. monitor, evaluate and revise the improvement plan.

For more detailed guidance on each step, refer to the WASH FIT guide.

#### Follow up:

WASH FIT implementation frequently requires technical support from outside of the facility. Regular (at least



**Figure 3.** WASH FIT five-step process

every six months) visits to the facility by local or national government or supporting partners can help guide and encourage facilities through the WASH FIT process. These visits are also important for data collection and evaluation of WASH FIT (see [Practical Step 3, Liberia case study](#)) (47).

## WASH FIT training

A set of training modules is available online in English, French and Russian. The training modules are provided as a guide and should be adapted to the local context, for example swapping photos with more relevant examples from the region and replacing technical guidance with local standards, where applicable. The training package also includes an overview of the WASH FIT methodology and a module for each of the WHO Essential Environmental Health Standards (e.g., water, sanitation, environmental cleaning, health care waste). Materials for running a training, including sample agendas, evaluation sheets, and a pre- and post-test quiz are also available. For technical assistance or to share experiences of using the tool, please contact [washinhcf@who.int](mailto:washinhcf@who.int) and visit [www.washinhcf.org](http://www.washinhcf.org).

## Mobile application

A mobile application of WASH FIT is available and free to download ([www.washfit.org](http://www.washfit.org)). The application allows facility teams to track more easily and rapidly and follow up on actions and government and partners to provide real-time support. In addition, it can be used by facility teams to share approaches on overcoming challenges or engage in friendly competitions.

## Related reading:

*Water and Sanitation for Health Facility Improvement Tool (WASH FIT): A practical guide for improving quality of care through water, sanitation and hygiene in health care facilities* [Internet]. Geneva, World Health Organization and UNICEF, 2018 [cited 1 March 2019]. Available from: [http://www.who.int/water\\_sanitation\\_health/publications/water-and-sanitation-for-health-facility-improvement-tool/en/](http://www.who.int/water_sanitation_health/publications/water-and-sanitation-for-health-facility-improvement-tool/en/)

## Annex 4. WASH in Health Care Facility Tools and their Application

NAME	USE	DESCRIPTION	AUTHOR(S), LINKS
<b>WASH BAT</b> WASH Bottleneck Analysis Tool	Online planning, costing and prioritization tool  <b>Covers:</b> drinking water, sanitation, hygiene	WASHBAT analyses the complex interplay of institutional infrastructure and processes that determine how effectively human, material and financial inputs are turned into sustainable access to drinking water supply and sanitation. Provides a rational evidenced-based approach for formulating an investment strategy for multiple sector aims of efficiency, equity and sustainability. Result is a costed and prioritized plan to remove the bottle necks that constrain progress in the WASH sector and make progress toward achieving SDGs.	<i>UNICEF</i> <a href="https://washbat.org/">https://washbat.org/</a> <b>Published:</b> 2018 <b>Languages:</b> EN, FR, SP <sup>8</sup> <b>Resources:</b> Manual, tools, assessment forms <b>Contact:</b> <a href="#">UNICEF WASH Section</a>
<b>Strengthening Enabling Environment for water, sanitation and hygiene</b>	Guidance note on strengthening the enabling environment for water, sanitation, and hygiene  <b>Covers:</b> water, sanitation and hygiene	An enabling environment (EE) is a set of interrelated functions that impact the capacity of governments and partners to engage in the WASH service delivery development processes in a sustained and effective manner. The EE focuses on WASH sector EE functions but recognizes that the WASH EE sits in a broader country context. It contains references and tools offering more in-depth knowledge and guidance for users and forms the basis for analyses and discussions that UNICEF and development partners may wish to undertake.	<i>UNICEF</i> <a href="https://www.unicef.org/wash/files/WASH_guidance_note_draft_10_3_hr.pdf">https://www.unicef.org/wash/files/WASH_guidance_note_draft_10_3_hr.pdf</a> <b>Published:</b> 2016 <b>Languages:</b> EN <b>Resources:</b> Manual, tools, assessment forms <b>Contact:</b> <a href="#">UNICEF WASH Section</a>
<b>Programming for Sustainability in Water Services – A Framework</b>	Framework to increase sustainability of WASH programmes  <b>Covers:</b> sustainability, water, sanitation, and hygiene	The framework considers different programming intervention levels and models, the upstream enabling environment, as well as the importance of communities in ensuring better access to sustainable water and sanitation services. It offers guidance on how to understand and integrate sustainability in WASH programming throughout the programme cycle, from assessment to implementation to monitoring and how to use feedback to make course corrections.  <b>Where it has been used:</b> Burkina Faso, Lao PDR, Democratic Republic of the Congo.	<i>UNICEF, Stockholm International Water Institute (SIWI), UNDP, Water Governance Facility</i> <a href="https://www.unicef.org/wash/files/Programming_for_Sustainability_in_Water_Services_A_Framework.pdf">https://www.unicef.org/wash/files/Programming_for_Sustainability_in_Water_Services_A_Framework.pdf</a> <b>Published:</b> 2019 <b>Languages:</b> EN <b>Resources:</b> Framework, sample monitoring tools <b>Contact:</b> <a href="mailto:antoine.delepiere@siwi.org">antoine.delepiere@siwi.org</a>
<b>OneHealth Tool</b>	Software tool designed to inform national strategic health planning in low- and middle-income countries  <b>Covers:</b> Child health; reproductive and maternal health; immunization; nutrition; water and sanitation (WASH); HIV; TB; malaria, noncommunicable diseases, and mental health	The OneHealth Tool attempts to link strategic objectives and targets of multiple disease control and prevention programmes to the required investments in health systems. The tool provides planners with a single framework for scenario analysis, costing, health impact analysis, budgeting and financing of strategies for all major diseases and health system components. It is thus primarily intended to inform sector wide national strategic health plans and policies.  The tool is modular in format and can easily be adapted to different country contexts to strengthen the overall capacity of the national health system.  <b>Where it has been used:</b> 40 countries, largely sub-Saharan Africa.	<i>UNAIDS, UNDP, UNFPA, UNICEF, World Bank and WHO</i> <a href="https://www.who.int/choice/onehealthtool/en/">https://www.who.int/choice/onehealthtool/en/</a> <b>Published:</b> 2011 <b>Languages:</b> EN, SP, FR <b>Resources:</b> start-up manual, online support, costing, budgeting, financing, scenario planning tools <b>Platform:</b> Windows-based software program <b>Contact:</b> <a href="mailto:onehealthtool@unfpa.org">onehealthtool@unfpa.org</a>

<sup>8</sup> **Languages:** AR: Arabic EN: English FR: French NP: Nepali POR: Portuguese RUS: Russian SP: Spanish

NAME	USE	DESCRIPTION	AUTHOR(S), LINKS
<b>FACET</b> WASH Facility Evaluation Tool	Baseline assessment, monitoring and evaluation, advocacy and project design  <b>Covers:</b> water, sanitation, hygiene and health care waste management  (indicators for cleaning and delivery rooms will be added in 2018/19)	FACET is a simple, adaptable tool for mobile data collection on WASH services in schools and primary care health facilities.  FACET is based on JMP-recommended service ladders and core and expanded indicators for WASH in schools and health care facilities; it is applicable across humanitarian and development settings.  The data collected is directly analysed with standard online-offline tools and can be used for project design, monitoring, evaluation, and advocacy. The process integrates health authorities in the planning and as part of survey teams. A manual elaborates how FACET works, local context adaptation, survey planning, and training enumerators.  <b>Where it has been used:</b> Bangladesh, Burkina Faso, Guinea, India, Iraq, Mali, Mauritania, Myanmar, Nepal, South Sudan.	<i>Ewag-Sandec, Terre des hommes, with support from JMP and CartONG</i>  <a href="http://www.sandec.ch/facet">www.sandec.ch/facet</a> <b>First developed:</b> 2016 <b>Published:</b> 2018 <b>Languages:</b> EN, FR, AR, NP <b>Resources:</b> Manual (70p); data analyser; app <b>Platform:</b> Kobo/ODK (XLS tools) <b>Contact:</b> <a href="mailto:info@sandec.ch">info@sandec.ch</a>
<b>WASH Con</b> WASH in health care facilities Conditions Assessment Tool	Baseline assessment, monitoring and evaluation, data for advocacy, and project design  <b>Covers:</b> water, sanitation, hygiene and health care waste management	WASHCon is a survey that provides a comprehensive overview of the status of WASH conditions, infrastructure, and resources in a given health care facilities. The data collected can inform and prioritize programmatic activities to improve WASH in health care facilities, as well as support advocacy efforts. Aligned with the JMP indicators, the tool can be deployed at any level of health care facilities and is available as a mobile tool with automated online dashboards and reports. The survey questions and scoring metric are available to download on the Emory website.  <b>Where it has been used:</b> Afghanistan, Cambodia, Ethiopia, Ghana, Haiti, Kenya, Lesotho, Malawi, Uganda, Zambia.	<i>Emory University, Center for Global Safe WASH</i>  <a href="http://washconhcf.org/research-tools/washcon/">http://washconhcf.org/research-tools/washcon/</a> <b>First Developed:</b> 2014 <b>Published:</b> 2016 <b>Languages:</b> EN, FR <b>Resources:</b> Implementation toolkit including training guide and user's manual; app <b>Platform:</b> CommCare <b>Contact:</b> <a href="mailto:winhcfaction@emory.edu">winhcfaction@emory.edu</a>
<b>WASH FIT</b> Water and Sanitation for Health Facility Improvement Tool	Participative risk management process for improving quality of care through WASH  <b>Covers:</b> water, sanitation, hygiene and health care waste management and facility management	WASH FIT is a risk-based, continuous improvement framework with a set of tools for undertaking WASH improvements as part of wider quality improvements in health care facilities. It is aimed at primary, and in some instances secondary health care facilities in low- and middle-income countries. WASH FIT's five-step cycle is a participatory process with a strong focus on prioritization, leadership, and community engagement. It can be adapted to suit the local context (e.g., by focusing on a disease priority such as cholera or domain such as health care waste management). The tool is designed for facility-level action, although data collected through the assessment can be used for monitoring and national-level planning.  <b>Where it has been used:</b> Bangladesh, Bhutan, Cambodia, Chad, Comoros, the Democratic Republic of the Congo, Ethiopia, Ghana, Guinea, India, Indonesia, Iraq, Kenya, the Lao PDR, Liberia, Madagascar, Malawi, Mali, Nepal, the Philippines, Senegal, Tajikistan, the United Republic of Tanzania, Togo, Viet Nam.	<i>WHO, UNICEF</i>  <a href="http://www.who.int/water_sanitation_health/publications/water-and-sanitation-for-health-facility-improvement-tool/en/">http://www.who.int/water_sanitation_health/publications/water-and-sanitation-for-health-facility-improvement-tool/en/</a> <b>First developed:</b> 2015 <b>Published:</b> 2018 <b>Languages:</b> AR, EN, FR, RUS, SP <b>Resources:</b> Field guide; training package; app <b>Platform:</b> mWater <b>Contact:</b> <a href="mailto:washinhcf@who.int">washinhcf@who.int</a>

NAME	USE	DESCRIPTION	AUTHOR(S), LINKS
<b>CCA</b> Clean Clinic Approach	Incremental improvement approach in delivery rooms and postnatal care wards  <b>Covers:</b> WASH and IPC, accountability and management systems	CCA is programming process tool that encourages ministries of health and health care facilities to establish or update WASH and infection prevention standards and objectives within the general facility and specific wards and realize progressive improvements toward the status of <i>Clean Clinic</i> (defined against national standards and JMP indicators). CCA motivates individuals, facilities, and local governments by establishing a public accountability system using annual facility certifications and rewards. The approach promotes implementation of WASH and infection prevention activities that are integrated within broader quality of care efforts. CCA advocates for ministries of health to lead the coordination of stakeholders to make WASH improvements in health care facilities.  <b>Where it has been used:</b> the Democratic Republic of the Congo, Guatemala, Haiti, Kenya, Mali.	<i>USAID Maternal Child Survival Program, Save the Children</i>  <a href="https://www.mcsprogram.org/resource/clean-clinic-approach-brief/">https://www.mcsprogram.org/resource/clean-clinic-approach-brief/</a>  <a href="http://washforhealthcare.mcsprogram.org/">http://washforhealthcare.mcsprogram.org/</a>  <b>First developed:</b> 2016  <b>Published:</b> 2016  <b>Languages:</b> EN, FR, SP  <b>Resources:</b> Website including case studies, videos  <b>Platform:</b> N/A  <b>Contact:</b> <a href="mailto:info@mcsprogram.org">info@mcsprogram.org</a>
<b>WASH &amp; CLEAN Toolkit</b>	Internal audit process, as part of continuous quality improvement cycle, or part of a wider research study  <b>Covers:</b> WASH and IPC on maternity wards	The WASH & CLEAN Toolkit enables health care facility IPC Committees (or equivalent), researchers, or external agencies commissioned for the purpose to conduct a situation analysis of the state of hygiene on the maternity unit, as measured by visual cleanliness, the presence of potential pathogens, and individual and contextual/systems level determinants.  The data gathered can be used by health facility senior management, district and regional health management teams, policy makers, and research institute(s) to identify priority areas and develop interventions, monitor performance indicators, and inform policy.  <b>Where it has been used:</b> India, Bangladesh, Malawi, the United Republic of Tanzania, Myanmar	<i>The Soapbox Collaborative</i>  The study was conducted with partners Indian Institute of Public Health, Gandhinagar (IIPHG), BRAC in Bangladesh, Immpact at University of Aberdeen)  <a href="http://soapboxcollaborative.org/?page_id=3232">http://soapboxcollaborative.org/?page_id=3232</a>  <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5155114/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5155114/</a>  <b>Platform:</b> N/A  <b>First Developed:</b> 2013  <b>Published:</b> 2014  <b>Languages:</b> EN  <b>Resources:</b> maternity assessment tools
<b>TEACH-CLEAN</b> Training in Environmental Hygiene and Cleaning in Healthcare	Stand-alone training or as part of continuous quality improvement cycle  <b>Covers:</b> IPC and environmental hygiene training on maternity wards (can be applied to wider clinical areas)	The TEACH-CLEAN package provides information and materials for a comprehensive, participatory training in basic IPC and environmental hygiene. The package is tailored towards low-literate cleaning staff in maternity units but can be applied to wider facility staff.  The package is made of seven modules based on essential topics, including an introduction to IPC, PPE, hand hygiene, and waste handling. Each module is accompanied by a 'Clean Box' containing essential information and resources on the corresponding topic. A 'how to train' instruction document is included along with two additional modules covering basic supportive supervision and quality improvement for environmental hygiene.  The package references international standards and guidelines and was developed in consultation with local experts from NHS Grampian (UK).  <b>Where it has been used:</b> The Gambia, India, Cameroon (implementation in the United Republic of Tanzania and Myanmar early 2019).	<i>The Soapbox Collaborative</i>  (Piloted in The Gambia with support from Horizons Trust Gambia & MOH IPC Task Force)  <b>First developed:</b> 2016  <b>Published:</b> 2018  <b>Languages:</b> EN (Gujarati, FR <sup>9</sup> )  <b>Resources:</b> Basic training needs assessment tool; training package; illustrated cleaning guidelines; evaluation tools.  <b>Platform:</b> N/A  <b>Contact:</b> <a href="mailto:info@soapboxcollaborative.org">info@soapboxcollaborative.org</a>

<sup>9</sup> The French and Gujarati versions were translated externally. Soapbox does not currently have the capacity to guarantee quality assurance of these versions, but they are available for use if requested.

## At a Glance

	CLEAN CLINIC APPROACH	WASH FIT	FACET	WASHCON	WASH & CLEAN	TEACH-CLEAN
Assessment tool for national monitoring	x	(✓) <sup>10</sup>	✓	✓	✓	X
Indicators aligned with JMP indicators	(✓) <sup>11</sup>	✓	✓	✓	✓	x
Data can be used to inform advocacy	✓	✓	✓	✓	✓	✓
Requires creation of facility WASH committee	✓	✓	x	x	x	x
Evaluation of the health care facilities can inform interventions	✓	✓	✓	✓	✓	✓
Based on minimum package/WASH standards	✓	✓	x	x	✓	✓
Includes a progress monitoring tool for onsite WASH committees	x	✓	x	x	(✓) <sup>12</sup>	✓
Includes competition between health care facilities to stimulate actors and recognize achievements	✓	x	x	x	x	x
Offers a mobile platform for data collection and/or visualization	x	✓	✓	✓	x	x
Language:						
EN	✓	✓	✓	✓	✓	✓
FR	✓	✓	✓	✓	x	✓
SP	✓	✓	x	x	x	x
AR	x	✓	✓	x	x	x
RUS	x	✓	x	x	x	x
POR	x	x	x	x	x	x
Other	-	Lao, Khmer	Nepali	Haïtien	-	Gujarati

<sup>10</sup> Data collected through the WASH FIT assessment tool can be used at the national level, however for more regular or larger-scale data collection, FACET or WASHCon would be more suitable.

<sup>11</sup> CCA is a process tool that incorporates the JMP standards by leveraging WASH FIT, WASH & Clean, WASHCon, or other tools. CCA refers to JMP indicators and WHO Standards for Environmental Health and IPC.

<sup>12</sup> WASH & CLEAN does not require a facility to create a WASH committee but does include tools that can be used as part of the continuous quality improvement cycle within facilities driven by WASH and/or IPC committees.

## Additional Resources

### Guidelines and Companion Documents

*Core questions and indicators for monitoring WASH in Health Care Facilities in the Sustainable Development Goals* [Internet]. Geneva, World Health Organization and UNICEF, 2018 [cited 18 December 2018]. Available from: <https://washdata.org/report/jmp-2018-core-questions-and-indicators-monitoring-winhcf-1>

*Ebola virus disease: Key questions and answers concerning health care waste* [Internet]. Geneva, World Health Organization, 2014 [cited 18 December 2018]. Available from: <http://www.who.int/csr/resources/publications/ebola/health-care-waste/en/>

*Ebola virus disease: Key questions and answers concerning water, sanitation and hygiene* [Internet]. Geneva, World Health Organization, 2014 [cited 18 December 2018]. Available from: <http://www.who.int/csr/resources/publications/ebola/water-sanitation-hygiene/en/>

*Essential environmental health standards in health care* [Internet]. Geneva, World Health Organization, 2008 [cited 18 December 2018]. Available from: [http://www.who.int/water\\_sanitation\\_health/publications/ehs\\_hc/en/](http://www.who.int/water_sanitation_health/publications/ehs_hc/en/)

*Global guidelines on the prevention of surgical site infection* [Internet]. Geneva, World Health Organization, 2016 [cited 18 December 2018]. Available from: <http://www.who.int/gpsc/ssi-guidelines/en/>

*Guide to Local Production: WHO-recommended handrub formulations* [Internet]. Geneva, World Health Organization, 2010 [cited 25 February 2019]. Available from: [https://www.who.int/gpsc/5may/Guide\\_to\\_Local\\_Production.pdf?ua=1](https://www.who.int/gpsc/5may/Guide_to_Local_Production.pdf?ua=1)

*Guidelines for drinking-water quality* [Internet]. Fourth edition. Geneva, World Health Organization, 2011 [cited 18 December 2018]. Available from: [http://www.who.int/water\\_sanitation\\_health/publications/2011/dwq\\_guidelines/en/](http://www.who.int/water_sanitation_health/publications/2011/dwq_guidelines/en/)

*Guidelines on core components of infection prevention and control programmes at the national and acute health care facility level* [Internet]. Geneva, World

Health Organization, 2016 [cited 18 December 2018]. Available from: <http://www.who.int/gpsc/ipc-components/en/>

*Guidelines on Sanitation and Health* [Internet]. Geneva, World Health Organization, 2018 [cited 22 February 2019]. Available from: [https://www.who.int/water\\_sanitation\\_health/sanitation-waste/sanitation/sanitation-guidelines/en/](https://www.who.int/water_sanitation_health/sanitation-waste/sanitation/sanitation-guidelines/en/)

*Infection prevention and control guidance for care of patients in health-care settings, with focus on Ebola* [Internet]. Geneva, World Health Organization, 2015 [cited 18 December 2018]. Available from: <http://apps.who.int/ebola/publications-and-technical-guidelines/infection-prevention-and-control-guidance-focus-ebola>

*International Health Regulations (2005)* [Internet]. Second edition. Geneva, World Health Organization, 2008 [cited 10 March 2019]. Available from: <https://www.who.int/ihr/publications/9789241596664/en/>

*Safe management of wastes from health-care activities* [Internet]. Second edition. Geneva, World Health Organization, 2014 [cited 18 December 2018]. Available from: [https://www.who.int/water\\_sanitation\\_health/publications/wastemanag/en/](https://www.who.int/water_sanitation_health/publications/wastemanag/en/)

*Safe management of wastes from health-care activities: a summary*. [Internet]. Geneva, World Health Organization, 2017 [cited 18 December 2018]. Available from: [https://www.who.int/water\\_sanitation\\_health/publications/safe-management-of-waste-summary/en/](https://www.who.int/water_sanitation_health/publications/safe-management-of-waste-summary/en/)

*Standards for improving quality of maternal and newborn care in health facilities* [Internet]. Geneva, World Health Organization, 2016 [cited 18 December 2018]. Available from: [http://www.who.int/maternal\\_child\\_adolescent/documents/improving-maternal-newborn-care-quality/en/](http://www.who.int/maternal_child_adolescent/documents/improving-maternal-newborn-care-quality/en/)

*Standards for improving the quality of care for children and young adolescents in health facilities* [Internet]. Geneva, World Health Organization, 2018 [cited 18 December 2018]. Available from: [https://www.who.int/maternal\\_child\\_adolescent/documents/quality-standards-child-adolescent/en/](https://www.who.int/maternal_child_adolescent/documents/quality-standards-child-adolescent/en/)

*WHO guidelines on hand hygiene in health care* [Internet]. Geneva, World Health Organization, 2009 [cited 18 December 2018]. Available from: [http://www.who.int/gpsc/information\\_centre/hand-hygiene-2009/en/](http://www.who.int/gpsc/information_centre/hand-hygiene-2009/en/)

*WHO-recommended handrub formulations* [Internet]. Geneva, World Health Organization, 2010 [cited 18 December 2018]. Available from: [http://www.who.int/gpsc/information\\_centre/handrub-formulations/en/](http://www.who.int/gpsc/information_centre/handrub-formulations/en/)

## Tools

*Handbook for national quality policy and strategy: A practical approach for developing policy and strategy to improve quality of care* [Internet]. Geneva, World Health Organization, 2018 [cited 10 March 2019]. Available from: [https://www.who.int/servicedeliverysafety/areas/qhc/nqps\\_handbook/en/](https://www.who.int/servicedeliverysafety/areas/qhc/nqps_handbook/en/)

*OneHealth Tool* [Internet]. Geneva, World Health Organization, UNAIDS, UNDP, UNFPA, UNICEF, and World Bank, 2011 [cited 10 March 2019]. Available from: <https://www.who.int/choice/onehealthtool/en/>

*Safety planning for small community water supplies: Step-by-step risk management guidance for drinking-water supplies in small communities* [Internet]. Geneva, World Health Organization, 2012 [cited 18 December 2018]. Available from: [http://apps.who.int/iris/bitstream/10665/75145/1/9789241548427\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/75145/1/9789241548427_eng.pdf)

*Sanitation safety planning: Manual for safe use and disposal of wastewater, grey water and excreta* [Internet]. Geneva, World Health Organization, 2015 [cited 18 December 2018]. Available from: [http://www.who.int/water\\_sanitation\\_health/publications/ssp-manual/en/](http://www.who.int/water_sanitation_health/publications/ssp-manual/en/)

*State Party self-assessment annual reporting tool (2005)* [Internet]. Geneva, World Health Organization, 2018 [cited 10 March 2019]. Available from: <https://www.who.int/ihr/publications/WHO-WHE-CPI-2018.16/en/>

*Strengthening Enabling Environment for water, sanitation and hygiene (WASH)* [Internet]. New York, UNICEF, 2016 [cited 10 March 2019]. Available from: [https://www.unicef.org/wash/files/WASH\\_guidance\\_note\\_draft\\_10\\_3\\_hr.pdf](https://www.unicef.org/wash/files/WASH_guidance_note_draft_10_3_hr.pdf)

*WASH BAT: WASH Bottleneck Analysis Tool* [Internet]. New York, UNICEF, 2018 [cited 10 March 2019]. Available from: <https://washbat.org>

*Water and sanitation for health facility improvement tool (WASH FIT)* [Internet]. Geneva, World Health Organization, 2015 [cited 18 December 2018]. Available from: [https://www.who.int/water\\_sanitation\\_health/publications/water-and-sanitation-for-health-facility-improvement-tool/en/](https://www.who.int/water_sanitation_health/publications/water-and-sanitation-for-health-facility-improvement-tool/en/)

*Water safety plan: A field guide to improving drinking-water safety in small communities* [Internet]. Copenhagen, WHO Regional Office for Europe, 2010 [cited 18 December 2018]. Available from: [http://www.euro.who.int/\\_data/assets/pdf\\_file/0004/243787/Water-safety-plan-Eng.pdf?ua=1](http://www.euro.who.int/_data/assets/pdf_file/0004/243787/Water-safety-plan-Eng.pdf?ua=1)

*Water safety plan manual: Step-by-step risk management for drinking-water suppliers* [Internet]. Geneva, World Health Organization, 2009 [cited 18 December 2018]. Available from: [http://apps.who.int/iris/bitstream/10665/75141/1/9789241562638\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/75141/1/9789241562638_eng.pdf)

## Reports

*Results of Round 1 of the International Scheme to Evaluate Household Water Treatment Technologies* [Internet]. Geneva, World Health Organization, 2016 [cited 18 December 2018]. Available from: [http://www.who.int/water\\_sanitation\\_health/publications/household-water-treatment-report-round-1/en/](http://www.who.int/water_sanitation_health/publications/household-water-treatment-report-round-1/en/)

*UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS) 2017 report* [Internet]. Geneva, World Health Organization, 2017 [cited 2 November 2018]. Available from: [http://www.who.int/water\\_sanitation\\_health/publications/glaas-report-2017/en/](http://www.who.int/water_sanitation_health/publications/glaas-report-2017/en/)

*Water, sanitation and hygiene in health care facilities: Status in low- and middle-income countries and way forward* [Internet]. Geneva, World Health Organization, 2015 [cited 18 December 2018]. Available from: [http://apps.who.int/iris/bitstream/10665/154588/1/9789241508476\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/154588/1/9789241508476_eng.pdf)

*WHO International Scheme to Evaluate Household Water Treatment Technologies* [Internet]. List of products and disclaimers. Geneva, World Health Organization, 2016 [cited 9 February 2019]. Available from: [http://www.who.int/water\\_sanitation\\_health/water-quality/household/list-of-products/en/](http://www.who.int/water_sanitation_health/water-quality/household/list-of-products/en/)

## Meeting reports

*Water, sanitation and hygiene in health care facilities: Urgent needs and actions* [Internet]. Meeting report. Geneva, World Health Organization and UNICEF, 2015 [cited 18 December 2018]. Available from: [http://www.who.int/water\\_sanitation\\_health/facilities/WASH\\_in\\_HCF-geneva.pdf](http://www.who.int/water_sanitation_health/facilities/WASH_in_HCF-geneva.pdf)

*Global strategy, burden of disease and evidence and action priorities (London 2016)* [Internet]. Workshop Report. Geneva: World Health Organization, UNICEF, and Sanitation and Hygiene Applied Research for Equity, 2016 [cited 25 February 2019]. Available from: [https://www.who.int/water\\_sanitation\\_health/facilities/en/](https://www.who.int/water_sanitation_health/facilities/en/)

*Global learning event - WASH in health care facilities: action oriented solutions and learning (Kathmandu, 2017)* [Internet]. Meeting Report. Geneva : World Health Organization and UNICEF, 2017 [cited 25 February 2019]. Available from: [https://www.who.int/water\\_sanitation\\_health/facilities/en/](https://www.who.int/water_sanitation_health/facilities/en/)

*Meeting the challenge: responding to the global call to action on WASH in health care facilities* [Internet]. Meeting report. Geneva, World Health Organization and UNICEF, 2018 [cited 18 December 2018]. Available from: [https://www.who.int/water\\_sanitation\\_health/facilities/WASH\\_in\\_HCF--strategy-meeting-may2018.pdf?ua=1](https://www.who.int/water_sanitation_health/facilities/WASH_in_HCF--strategy-meeting-may2018.pdf?ua=1)

## Useful websites

Network for improving quality of care for mothers, newborns and children: <http://www.qualityofcarenetwork.org/about>

UNICEF, Water, Sanitation and Hygiene: <http://www.unicef.org/wash/>

USAID, Maternal and Child Survival Program, WASH in Health Care Facilities: <https://washforhealthcare.mcsprogram.org/>

WHO, Global Analysis and Assessment of Sanitation and Water: [https://www.who.int/water\\_sanitation\\_health/monitoring/investments/glaas/en/](https://www.who.int/water_sanitation_health/monitoring/investments/glaas/en/)

WHO, Global Learning Laboratory for Quality Universal Health Coverage: <http://www.integratedcare4people.org/communities/global-learning-laboratory-for-quality-universal-health-coverage/>

WHO, Infection prevention and control (implementation tools and resources): <http://www.who.int/infection-prevention/tools/en/>

WHO, Maternal, Newborn and Child Health [http://www.who.int/maternal\\_child\\_adolescent/topics/quality-of-care/network/en/](http://www.who.int/maternal_child_adolescent/topics/quality-of-care/network/en/)

WHO, Water sanitation hygiene: [http://www.who.int/water\\_sanitation\\_health/en/](http://www.who.int/water_sanitation_health/en/)

WHO, Water sanitation hygiene (International Scheme to Evaluate Household Water Treatment Technologies): [http://www.who.int/water\\_sanitation\\_health/water-quality/household/scheme-household-water-treatment/en/](http://www.who.int/water_sanitation_health/water-quality/household/scheme-household-water-treatment/en/)

WHO/UNICEF Joint monitoring programme data portal <https://washdata.org/>

WHO/UNICEF, WASH in Health Care Facilities knowledge portal: [www.washinhcf.org](http://www.washinhcf.org)

# Acknowledgements

Maggie Montgomery and Arabella Hayter (WHO) and Silvia Gaya and Irene Amongin (UNICEF) drafted the document with input from Claire Kilpatrick and Julie Storr. Leadership and strategic guidance was provided by Bruce Gordon (WHO) and Kelly Ann Naylor (UNICEF). Administrative support was provided by Romy Gebregziabher (WHO) and the document was edited by Heidi Lasher (independent).

## WHO and UNICEF wish to thank the following individuals for preparing case studies:

- Mamane Amadou, World Vision, Mali
- Vandana Bhatia, UNICEF, India
- Sory Bouare, World Health Organization, Mali
- Bimala Damaru, Health Care Foundation, Nepal
- Prerana Dangol, Health Care Foundation, Nepal
- Shyam Narayan Dave, UNICEF, India
- Mike English, Kemri Wellcome Trust, Kenya
- Tayphasavanh Fengthong, Ministry of Health, Lao PDR
- Nkwan Jacob Gobte, Infection Control Africa Network, Cameroon
- Quincy d’Goll, World Health Organization, Liberia
- Wendy Graham, Soapbox Collaborative, United Kingdom
- Valentina Grossi, WHO European Centre for Environment and Health, Bonn, Germany
- Safo Kalandarov, World Health Organization, Tajikistan
- Chanda Karki, Kathmandu Medical College, Nepal
- Shrawasti Karmacharya, Health Care Foundation, Nepal
- Prem Khadga, TU Teaching Hospital, Nepal
- Diala Ktaiche, C4D, Lebanon
- Waltaji Kutane, World Health Organization, Ethiopia,
- Alison Macintyre, WaterAid, Australia
- Deepak Prasad Mahara, TU Teaching Hospital, Nepal
- Michuki Maina, Kemri Wellcome Trust, Kenya
- Rania Maroun, Consultant, Lebanon
- Pankaj Mathur, UNICEF, India
- Emma Morrison, Soapbox Collaborative, United Kingdom
- Mahesh Nakarmi, Health Care Foundation, Nepal
- Sudan Panthi, World Health Organization, Nepal
- Sameer Panwar, UNICEF, India
- Nageshwar Patidar, UNICEF, India

- Molly Patrick, CDC, United States of America
- Maggie Person, CDC, United States of America
- Panom Phongmany, Ministry of Health, Lao PDR
- Ute Pieper, Independent, Germany
- Damodar Prasad Pokhrel, Kathmandu Medical College, Nepal
- Rob Quick, CDC, United States of America
- Channa Sam Ol, WaterAid, Cambodia
- Deepika Sharma, UNICEF, India
- Pankaj Shukla, State Government of Madhya Pradesh, India
- Ruth Stringer, Health Care Without Harm, United Kingdom
- Saraswoti Thakuri, Health Care Foundation, Nepal
- Souvanaly Thammavong, World Health Organization, Lao PDR
- Olivier Thonet, UNICEF, Lebanon
- Olga Tosas, Oxford University, United Kingdom
- Fiona Ward, UNICEF, United States of America
- Habib Yakubu, Emory University, Uganda
- Marijn Zandee, Independent Consultant, Netherlands

## Appreciation is extended to all those who reviewed the document:

- Lauren Alcorn, OneDrop, Canada
- Benedetta Allegranzi, World Health Organization, Switzerland
- Greg Allgood, World Vision, United States of America
- Chander Badloe, UNICEF, United States of America
- Robert Bain, UNICEF, United States of America
- Shannon Barkley, World Health Organization, Switzerland
- John Brogan, Terre des hommes, Switzerland
- Leanne Burney, UN Water, Switzerland
- Christie Chatterley, UNICEF, United States of America
- Claire Chase, World Bank, United States of America
- Oliver Cumming, London School of Hygiene and Tropical Medicine, United Kingdom
- Lindsay Denny, United States of America
- Veronique Doyon, OneDrop, Canada
- Omar El Hattab, UNICEF, Jordan
- Rick Gelting, CDC, United States of America
- Anna Gren, Sida, Sweden
- Tedbabe Hailegebrial, UNICEF, United States of America
- Helen Hamilton, WaterAid, United Kingdom
- Alexander Hildebrand, World Health Organization, India

- Richard Johnston, World Health Organization, Switzerland
- Dan Jones, WaterAid, United Kingdom
- Dragana Jovanovic, Ministry of Health, Serbia
- Waltaji Kutane, World Health Organization, Ethiopia
- Akosua Kwakye, World Health Organization, Ghana
- Oyuntogos Lkhasuren, World Health Organization, Lao PDR
- Steve Luby, Stanford University, United States of America
- Rolf Luyendijk, WSSCC, Switzerland
- Boniface Magtibay, World Health Organization, Philippines
- Shamsul Mahmud, World Health Organization, Bangladesh
- Guy Mbayo, World Health Organization, Congo
- Frances McConville, World Health Organization, Switzerland
- Francesco Mitis, World Health Organization, Switzerland
- Ian Moise, Catholic Relief Services, United States of America
- Klaus Moldeus, UN Water, Switzerland
- Carolyn Moore, Global Handwashing Partnership, United States of America
- Josephine Okine, Nurse, Ghana
- Sudan Panthi, World Health Organization, Nepal
- Jennifer Piccin, OneDrop, Canada
- Federico Properzi, UN Water, Switzerland
- Rochelle Rainey, USAID, United States of America
- Pavani Ram, USAID, United States of America
- Anthony Rock, Global Water 2020, United States of America
- Chandrakant Ruparelia, Jhpiego, United States of America
- Steve Sara, Save the Children, United States of America
- Deepak Saxena, Indian Institute of Public Health, India
- Oliver Schmoll, WHO European Centre for Environment and Health, Bonn, Germany
- Theresa Shaver, USAID, United States of America
- Enkhtsetseg Shinee, WHO European Centre for Environment and Health, Bonn, Germany
- Tom Slaymaker, UNICEF, United States of America
- Elizabeth Tayler, World Health Organization, Switzerland
- Lavuun Verstraete, UNICEF, Zambia
- Rob Quick, CDC, United States of America
- Willbald Zeck, UNICEF, United States of America

## WHO and UNICEF gratefully acknowledge the financial support provided by:

- Australian Department of Foreign Affairs and Trade (DFAT)
- Netherlands Directorate-General for International Cooperation (DGIS)
- General Electric (GE) Foundation
- Global Environment Facility/United Nations Development Programme
- Conrad N. Hilton Foundation
- New Venture Fund
- Swedish International Development Cooperation Agency (Sida)
- United Kingdom Department for International Development (DFID)
- United States Agency for International Development (USAID)



*For information on the global status of WASH in health care facilities, refer to the companion document by the WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene.*

*"First do not harm. Primum non nocere."*

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