

STUDY / WASH IN HEALTH CARE FACILITIES

Existing approaches, tools, platforms and networks relevant for hand hygiene in institutional settings





hands4health project

hands4health is a research project to develop, test and evaluate a systemic approach to improve WASH services for schools and health care facilities not connected to a functional water supply system. The project is implemented in four specific contexts by 10 consortium members led by the University of Applied Sciences and Arts Northwestern Switzerland (FHNW).

Systemic approach

The systemic approach is a methodology for tackling water, sanitation and hygiene (WASH) challenges, focusing on strengthening actors and existing systems in the local context. It combines technology, management, monitoring and behaviour change concepts into well-designed interventions oriented towards rethinking the entire WASH system and aimed at achieving systemic change. The systemic approach takes into consideration the needs of users and implementers in a specific context, with the goal to make WASH interventions more effective and sustainable.

This document is part of a series of tools that make up the systemic approach. More information about the systemic approach is available here:
› <https://hands4health.dev/systemic-approach>

AUTHORS

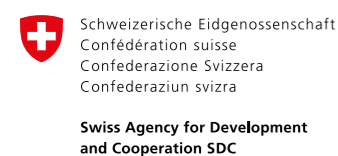
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Executive summary

Roughly, one in four health care facilities (HCF) globally lack basic water services and one in three lack hand hygiene at points of care (WHO & UNICEF, 2020). In the Least Developed Countries, half of all HCF lack basic water. In the Least Developed Countries the situation is even more dire, with half of all HCF lacking basic water. Over 1.8 million people are at greater risk of infection due to these conditions, and as a result, more people die from unsafe health care than lack of health care. Since 2015, UN agencies, governments, NGO and academic partners have joined together to develop resources for improving WASH in HCF (WHO & UNICEF, 2015).

The purpose of this study was to review existing approaches, tools, platforms and networks for planning and implementing WASH hardware and software interventions in HCF, as well as potential resources from the WASH and health sectors which could be applied to WASH in HCF in low- and middle-income countries (LMICs) where facilities have limited resources. Particular focus was paid to resources that could be applied in HCF not connected to a functional water supply (off-grid), as well as those which can be used in emergency contexts, specifically refugee camps.

A total of 31 tools and approaches were identified through this study. Of those identified, 17 were applicable to hardware and software improvements in HCF (Q1); 15 resources were applicable to off-grid HCF (Q1); nine were applicable to WASH in other settings (Q2); and six were applicable to non-WASH improvements in HCF, though several of those resources are linked to one another (Q3). Only four of the resources were had been designed for or used in emergency contexts and to-date, limited documentation exists on the best practices and approaches to improving WASH in HCF in refugee camps. Meanwhile, 12 platforms and networks were identified as possible for sharing learnings from the project.

No single tool or approach is currently capable of planning and implementing both WASH hardware and software improvements in a HCF, as well as ensuring their sustainability. However, there are several identified tools and approaches that in combination will provide a holistic approach to WASH in HCF improvements, from conception to program evaluation. Small adjustments may be needed, and, in some cases, it could be valuable to upon draw elements from other identified tools to supplement these primary recommendations. Additional adaptations are needed for off-grid and emergency contexts. To bring the programming all together, several new tools may need to be designed.

Background

Roughly, one in four HCF globally lack basic water services and one in three lack hand hygiene at points of care (WHO & UNICEF, 2020). In the Least Developed Countries, half of all HCF lack basic water. In the Least Developed Countries the situation is even more dire, with half of all HCF lacking basic water. Over 1.8 million people are at greater risk of infection due to these conditions, and as a result, more people die from unsafe health care than lack of health care.

To address this major challenge, WHO and UNICEF are coordinating global efforts with partners to support countries in strengthening policies, monitoring and implementation of climate resilient and sustainable WASH services in health care facilities. Multiple tools and strategies have been developed to support this process: the 8 Practical Steps, developed based on the 2019 World Health Assembly Resolution on WASH in HCF, provides a systematic framework for countries to follow in their efforts achieve universal coverage (WHO & UNICEF, 2019). WHO and UNICEF also a tool for improving WASH services at the facility-level, the Water and Sanitation for Health Facility Improvement Tool (WASH FIT), the second version of which will be published in February 2022 (WHO & UNICEF, 2018). Meanwhile, NGO partners have also developed tools and strategies for WASH in HCF over the past few years.

WASH is fundamental to the provision of safe, quality health care. Thus, WASH can be linked to multiple initiatives within the HCF, including quality of care and infection prevention and control (IPC), or to programs focused on pandemic preparedness and thwarting threats like antimicrobial resistance (AMR). When developing a WASH in HCF program, it is imperative to integrate or align with existing quality of care, IPC or pandemic preparedness strategies to ensure sustainability.

Study scope & questions

It is not the primary intention of the consortium to develop a new approach to hand hygiene for HCF, but to evaluate existing elements and potentially build on them (or develop them further) to obtain simple, yet effective tools for planning and implementing WASH improvements. There is a particular interest on emergency settings (e.g., camps of Internally Displaced People), but the approach also shall be applicable in the general context of low- and middle-income countries.

01	Which approaches, tools, platforms and networks exist already for planning and implementing hard- and software improvements, as well as operation & management concepts, in health care facilities, with a focus on WASH? (main question) a) Which of these elements are particularly relevant for HCF not connected to a functional water supply?
02	Are there holistic approaches for planning WASH (or hygiene only) improvements in other settings which might be adapted for the needs of HCF?
03	Are there holistic approaches for planning and implementing hardware and software improvements for HCF, not related to WASH, which might be adapted to WASH needs?
04	Which combination of tools, resources, platforms and networks is most likely needed to ensure sustainable provision of WASH, particularly hand hygiene, in off-grid HCF?

Methods

A mixed-methods approach was taken in this study, including both the review of the literature as well as interviews with key informants in the WASH, health, and emergency sectors. The literature review examined databases, including WHO and UNICEF's knowledge portal for WASH in HCF (www.washinhcf.org), Quality of Care Network (www.qualityofcarenetwork.org/home), Sustainable Sanitation Alliance (www.susana.org), and Rural Water Supply Network (www.rural-water-supply.net). Additional databases were tapped, including the author's own archive with over seven years' worth of resources compiled. *A list of the keywords used in the search can be found in the Annex A.*

Key informants were interviewed, both to learn more about the application of specific tools and approaches and to provide input on the mapping exercise. Informants included the Global Handwashing Partnership and Hand Hygiene for All, WHO HQ, Swiss Water and Sanitation Consortium, and UNC Water Institute.

For this study, the following inclusion criteria was used:

>	WASH in HCF Any tools, approaches, platforms or networks identified.
>	WASH Only tools, approaches, platforms or networks which provided a holistic approach. Narrowly applied tools (like assessment forms) were not considered.
>	Health Only tools, approaches, platforms or networks which provided a holistic approach. Narrowly applied tools (like assessment forms) were not considered.

Existing tools, approaches, platforms and networks

A total of 31 tools and approaches were identified through this study. Of those identified, 17 were applicable to WASH hardware and software improvements in HCF (Q1); 15 resources were applicable to off-grid HCF (Q1); nine were applicable to WASH in other settings (Q2); and five were applicable to non-WASH improvements in HCF, though several of those resources are linked to one another (Q3).

In total, only four of the resources identified were explicitly for use in or had been tested in emergency contexts. Of these, one of the tools was described as not being ideal for institutional settings (WASH 'Em) and another was specific the COVID-19 outbreak.

The most prominent tools, including WASH FIT and the Multimodal Improvement Strategy for Hand Hygiene (MMIS), were developed by UN agencies and are applied widely. The vast majority of the rest have been designed and used by NGOs, though often in partnership with governments. One approach, the CASH program, was developed as a government initiative.

In addition, 12 platforms and networks were identified as possible outlets to share learnings and exchanging with practitioners and WASH and health Communities of Practices. Of those 12 identified, two are specific to WASH in HCF, three are comprehensive of both WASH and health, four are broadly WASH, and two are broadly health. Meanwhile, one of the prominent hygiene knowledge hubs organized during COVID is no longer active, though the website remains.

The tables on the following pages summarize the identified resources. The first three tables of tools and approaches are organized by corresponding study question. The final table compiles all the platforms and networks.

See the Appendix B for a full description of the tool and links to the site. The Excel sheet that complements this report provides a more detailed breakdown of the identified tools, approaches, platforms, and networks.

WASH in HCF

TOOLS AND APPROACHES (Q1)

OFFERING / DESCRIPTION	ADVANTAGES	DISADVANTAGES
<p>> WASH FIT 1.0 & 2.0 ^{1,2}</p> <p>https://washfit.org/#</p>	<ul style="list-style-type: none"> Widely used tool specific to WASH in HCF in LMICs Includes a management component Comprehensive planning approach Offers a digital tool 	<ul style="list-style-type: none"> Does not include behavior as part of assessment Relies upon WASH FIT team to know how to implement improvements
<p>> WASH Facility Survey Tool (WASH FAST)</p> <p>https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0226548</p>	<ul style="list-style-type: none"> Specific tool for WASH in hospitals in LMICs Scoring metric for assessment 	<ul style="list-style-type: none"> Limited use (only in Kenya) Only used in hospitals
<p>> WASH FIT Assessment Simplified for COVID-19 ^{1,2}</p> <p>www.washinhcf.org/resource/wash-fit-simplified-covid-19</p>	<ul style="list-style-type: none"> Adapted to the COVID-19 context 	<ul style="list-style-type: none"> More applicable for assessment during COVID response
<p>> WASH in HCF in Emergencies Rapid Assessment Form ^{1,2}</p> <p>www.unhcr.org/what-we-do/respond-emergencies/water-sanitation-and-hygiene?utm_source=wash.unhcr.org</p>	<ul style="list-style-type: none"> Specific to WASH in HCF in emergencies 	<ul style="list-style-type: none"> Written prior to the WASH in HCF JMP indicators (2018)
<p>> Clean Clinic Approach ¹</p> <p>https://washforhealthcare.mcsprogram.org</p>	<ul style="list-style-type: none"> Management and accountability focus underpins sustainability of improvements Competition element provides an incentive for improvement Emphasis on coaching and continual improvements 	<ul style="list-style-type: none"> Does not address infrastructure improvements directly May be difficult to conduct the full CCA without working with the national or subnational government
<p>> Clean and Safe Health Facilities (CASH) ¹</p> <p>https://iris.who.int/rest/bitstreams/1083779/retrieve</p>	<ul style="list-style-type: none"> Approach focused on quality improvement and hygiene culture through WASH 	<ul style="list-style-type: none"> Developed and implemented by national government

1) Applicable in off-grid settings
2) Specific to emergency contexts

>> WASH in HCF TOOLS AND APPROACHES (Q1)

OFFERING / DESCRIPTION	ADVANTAGES	DISADVANTAGES
<p>> Facility Evaluation Tool for WASH in Institutions (FACET) ¹</p> <p>www.eawag.ch/en/department/sandec/projects/resp/facet</p>	<ul style="list-style-type: none"> Specific to WASH in HCF assessments in HCF Aligned with the JMP Includes expanded questions beyond core indicators Offers mobile data collection and visualization platform 	<ul style="list-style-type: none"> Not as widely applied as WASH FIT
<p>> WASH Conditions in Healthcare Facilities Tool (WASHCon) ¹</p> <p>http://washconhcf.org/research-tools/washcon</p>	<ul style="list-style-type: none"> Specific to WASH in HCF assessments in HCF Aligned with the JMP Pre-coded excel scoring metric 	<ul style="list-style-type: none"> Overly long assessment tool, focused on water quality Digital tool no longer available
<p>> WASH in Catholic-Run HCF Assessment Tool ¹</p> <p>www.washinhcf.org/resource/wash-in-hcf-evaluation-and-reporting-tools</p>	<ul style="list-style-type: none"> Specific to WASH in HCF assessments in HCF Aligned with the JMP Automated reports through R and pre-coded excel scoring metric 	<ul style="list-style-type: none"> Has not been used outside the 150 HCF assessment with the Vatican
<p>> CDC WASH in HCF Toolkit ¹</p> <p>www.cdc.gov/healthywater/global/healthcare-facilities/tools.html</p>	<ul style="list-style-type: none"> Specific to WASH in HCF assessments in HCF Aligned with the JMP 	<ul style="list-style-type: none"> No digital tool publicly available
<p>> WASH & CLEAN ¹</p> <p>www.qualityofcarenetwork.org/oldsite/resources/assessments/wash-and-clean-toolkit</p>	<ul style="list-style-type: none"> Focus on hygiene in maternity units 	<ul style="list-style-type: none"> Doesn't appear to be available any longer
<p>> Systems, TRaining, Empowerment And Monitoring Support (STREAMS) ¹</p>	<ul style="list-style-type: none"> Only approach for WASH in HCF which focuses on O&M 	<ul style="list-style-type: none"> Still in validating process

1) Applicable in off-grid settings

>> WASH in HCF TOOLS AND APPROACHES (Q1)

OFFERING / DESCRIPTION	ADVANTAGES	DISADVANTAGES
<p>> Safe Water Sustainability Metric http://washconhcf.org/research-tools/sustainability-metric</p>		
<p>Assessment / A metric used to evaluate the sustainability of safe water provision a in HCF</p>	<ul style="list-style-type: none"> › Specific to safe water delivery in hospitals › Literature review identified four domains important for sustaining safe water delivery in hospitals › Pre-coded excel scoring metric 	<ul style="list-style-type: none"> › Not applicable to off-grid facilities › Not tested widely
<p>> Budgeting Tool for WASH in HCF¹</p>		
<p>Planning / A toolkit walks through the planning, collecting, and disseminating data on costs of environmental health services in HCF, based on a 10-step process model</p>	<ul style="list-style-type: none"> › First tool for budgeting for WASH services in HCF 	<ul style="list-style-type: none"> › Lengthy process › May not be necessary for project
<p>> TEACH CLEAN¹ www.lshtm.ac.uk/research/centres/march-centre/soapbox-collaborative/teach-clean</p>		
<p>Training / The materials required to deliver comprehensive, participatory training on safe environmental cleaning, tailored towards use with cleaning staff with limited literacy skills</p>	<ul style="list-style-type: none"> › Specific to hygiene in HCF in LMICs › Only tool to focus on cleaners 	<ul style="list-style-type: none"> › None except that it hasn't had an external evaluation
<p>> Participatory Management Tool for User-Friendly WASH Facilities in HCF¹ https://washmatters.wateraid.org/sites/g/files/jkxooof256/files/developing-a-participatory-management-tool-for-user-friendly-wash-in-healthcare-facilities.pdf</p>		
<p>Community Engagement / A tool designed to diagnose the extent to which WASH in health care facilities is user-friendly and accessible</p>	<ul style="list-style-type: none"> › Inclusive WASH in HCF approach 	<ul style="list-style-type: none"> › Unclear if it has been applied outside of Cambodia
<p>> WASH for Health Data Exchange Platform (WHdx)¹</p>		
<p>Platform / A new data exchange platform which seeks to harmonize WASH datasets for HCF into a singular, publicly available dataset through the establishment of a data standard</p>	<ul style="list-style-type: none"> › Focus on hygiene in maternity units 	<ul style="list-style-type: none"> › Too early to tell

¹) Applicable in off-grid settings

WASH

TOOLS AND APPROACHES (Q2)

OFFERING / DESCRIPTION	ADVANTAGES	DISADVANTAGES
<p>> Risks, Attitudes, Norms, Abilities and Self-regulation (RANAS)¹ www.ranamosler.com/about-us</p>		
<p>Approach, Assessment / An established method for designing and evaluating behavior change strategies that target and change the factors influencing a specific behavior in a specific population, originally developed for WASH-related behaviors but can be applied in a variety of settings</p>	<ul style="list-style-type: none"> › Specifically design for WASH behavior change programs 	<ul style="list-style-type: none"> › Never been applied in a HCF setting
<p>> Behaviour Centred Design¹ www.lshtm.ac.uk/research/centres-projects-groups/bcd</p>		
<p>Approach / An approach to the problem of changing behavior, using the latest findings about how brains learn with a practical set of steps and tools to design successful behavior change programs, including WASH program</p>	<ul style="list-style-type: none"> › Developed specifically to design WASH behavior change programs › Applied in a hospital in the US for hand hygiene 	
<p>> Integrated Behavioural Model for Water, Sanitation and Hygiene¹ https://bmcpublihealth.biomedcentral.com/articles/10.1186/1471-2458-13-1015#Tab2</p>		
<p>Approach / A model which aims to provide both a conceptual and practical tool for improving our understanding and evaluation of the multi-level multi-dimensional factors that influence WASH practices in infrastructure-constrained settings</p>	<ul style="list-style-type: none"> › Developed based on the various WASH behavior change theories in low-resource settings 	<ul style="list-style-type: none"> › No information on this theory and its use following this article's publication in 2013
<p>> Circuit Rider Model¹ www.dri.edu/ciwas/international-circuit-rider-program</p>		
<p>O&M / A model by which a group of technicians each visit a "circuit" of 30 to 40 communities regularly to check on their water systems and provide ongoing water quantity monitoring, training, and education to the communities</p>	<ul style="list-style-type: none"> › One of the only approaches to focus on operations and maintenance 	<ul style="list-style-type: none"> › Requires a cadre of technicians › Applies to community boreholes
<p>> Water Safety Planning (WSP) https://wsportal.org/what-are-water-safety-plans</p>		
<p>Approach / A comprehensive risk assessment and risk management approach from catchment to consumer, with the aim of consistently ensuring the safety and acceptability of a drinking-water supply</p>	<ul style="list-style-type: none"> › Applies a risk-based approach to WASH infrastructure planning 	<ul style="list-style-type: none"> › Not applicable to HCF settings (larger scale utilities)
<p>> Sanitation Safety Planning www.who.int/publications/i/item/9789241549240</p>		
<p>Approach / A step-by-step risk-based approach to assist in the implementation of local level risk assessment and management for the sanitation service chain</p>	<ul style="list-style-type: none"> › Applies a risk-based approach to WASH infrastructure planning 	<ul style="list-style-type: none"> › Not applicable to HCF settings (larger scale utilities)

¹) Applicable in off-grid settings

>> WASH TOOLS AND APPROACHES (Q2)

OFFERING / DESCRIPTION	ADVANTAGES	DISADVANTAGES
<p>> Community-Led Total Sanitation (CLTS) ¹ https://archive.ids.ac.uk/clts</p>		
<p>Approach / A methodology for mobilizing communities to completely eliminate open defecation</p>	<p>› A widely applied approach to sanitation behavior change adaptation</p>	<p>› Not applicable to HCF settings</p>
<p>> School-Led Total Sanitation ¹ www.hydratelife.org/a-different-approach-school-led-total-sanitation-part-1/</p>		
<p>Approach / The program using schools as the entry point for sanitation promotion, based on the CLTS model</p>	<p>› The only approach to sanitation behavior change adaptation utilizing institutions as the entry point</p>	<p>› Not applicable to HCF settings</p>
<p>> Wash 'Em ² https://washem.info/en</p>		
<p>Approach / A WASH behavioral approach, designed specifically for use in emergencies (non-institutions)</p>	<p>› Only tool specific to WASH in emergencies to address hygiene behaviors</p>	<p>› Not applicable to HCF settings</p>

¹) Applicable in off-grid settings
²) Specific to emergency contexts

Health

TOOLS AND APPROACHES (Q3)

OFFERING / DESCRIPTION	ADVANTAGES	DISADVANTAGES
<p>> Hand Hygiene Multimodal Improvement Strategy (MMIS) www.who.int/publications/i/item/a-guide-to-the-implementation-of-the-who-multimodal-hand-hygiene-improvement-strategy</p>		
<p>Approach, Assessment, Monitoring / A multi-pronged approach developed by WHO to improve hand hygiene behaviors in HCF, with 5 essential, complementary elements, simplified Build it; Teach it; Check it; Sell it; Live it</p>	<p>› Widely applied approach to hand hygiene in high and LMIC settings › Specific to health care workers › Includes both hardware and software</p>	<p>› Limited use by the WASH sector, so the coordination between WASH & IPC on MMIS has not been well documented</p>
<p>> Infection Prevention and Control in Primary Care www.who.int/publications/i/item/9789240035249</p>		
<p>Approach / WHO's guidance on IPC, specified for primary HCF and inclusive of the implementation tools.</p>	<p>› Explicitly includes WASH as a core component of IPC › Entry point for those HCF already focused on IPC</p>	<p>› Not a holistic approach to WASH in HCF</p>
<p>> 5S/Kaizen/Total Quality Management https://tropmedhealth.biomedcentral.com/articles/10.1186/s41182-016-0022-9</p>		
<p>Approach / 5S-Kaizen-TQM is a participatory management approach where everybody participates. The 5S (Sort, Set, Shine, Standardize and Sustain) is aimed at bringing satisfaction of staff and patients through improvement of working environment. The next step of the process is Kaizen or continuous quality improvement, directed to improve the management system/process, making small, incremental changes. Total Quality Management is achieved through achievement of 5S and incremental but continuous improvement of service delivery process.</p>	<p>› Widely applied approach to quality improvement in high and LMIC settings › Emphasis on small, incremental improvements</p>	<p>› A whole quality improvement is too big for a hand hygiene project to implement</p>
<p>> Plan-Do-Study-Act (PDSA) www.ahrq.gov/ncepcr/tools/pf-handbook/mod4.html</p>		
<p>Approach / An iterative, four-stage problem-solving model used for improving a process or carrying out change, particularly used in the health care setting</p>	<p>› Holistic approach to problem-solving, applied to quality improvement in HCF › Used in Clean Clinic Approach</p>	<p>› Doesn't use quality improvement language</p>
<p>> SafeCare www.safe-care.org</p>		
<p>Approach, Platform / SafeCare empowers health care providers to progress by helping them measure, monitor, and improve their services through mentorship, a quality platform and accreditation</p>	<p>› Quality improvement approach for LMIC facilities</p>	<p>› Applied only to SafeCare program private HCF</p>
<p>> SureWash app https://surewash.com/surewash-app-hand-hygiene-training</p>		
<p>Training, Monitoring / An engaging hand hygiene app for health care professionals, providing training and monitoring through the mobile device</p>	<p>› Only app for hand hygiene improvement</p>	<p>› Primary focus on proper handwashing motions</p>

WASH in HCF / WASH / Health

PLATFORMS AND NETWORKS

DESCRIPTION	OPPORTUNITIES
<p>> WASH in HCF Knowledge Portal www.washinhcf.org</p> <p>WHO and UNICEF's website for WASH in HCF which includes a robust resource archive. Also includes regular newsletter updates.</p>	<ul style="list-style-type: none"> › Share project resources on their website › Connect with WHO/UNICEF colleagues when calls for success stories or lessons learned are announced
<p>> WASH in HCF Community of Practice www.washinhcf.org/cop</p> <p>Hosted by Emory University, the Community of Practice (COP) offers bimonthly events and shares regular newsletter updates, with opportunities for sharing experiences. The COP lives within the WASHinHCF.org website.</p>	<ul style="list-style-type: none"> › Share success stories or lessons learned when calls for case studies are announced › Suggest a topic for COP discussion or request an opportunity to share experiences › Share lessons learned during applicable webinar or event
<p>> WASH & Health Interest Group https://coregroup.org/our-work/working-groups/#1593199020853-176dff9f-e445</p> <p>Hosted by CORE Group, the forum is for stakeholders who are working to reduce preventable deaths around the world by bridging the technical and advocacy leadership of the health and WASH sectors to promote the linkages between health and WASH in both development and humanitarian contexts. Includes a listserv to share events and news and gathers for quarterly meetings and the annual CORE Group Conference.</p>	<ul style="list-style-type: none"> › Share project experiences during quarterly meeting › Share project events or resource links via listserv › Identify others working in this same space
<p>> Global Handwashing Partnership https://globalhandwashing.org</p> <p>A coalition of international stakeholders working to promote handwashing with soap and recognize hygiene as a pillar of international development and public health. Includes regular newsletter updates, events and a resource library.</p>	<ul style="list-style-type: none"> › Share project resources on their website
<p>> Hand Hygiene for All www.who.int/initiatives/hand-hygiene-for-all-global-initiative</p> <p>An initiative bringing together international partners, national governments, public and private sectors, and civil society to ensure affordable products and services are available, especially in disadvantaged areas, and to enable a culture of hygiene.</p>	<p>Unlikely an opportunity to share on this platform but could link to the initiative in the countries where you work. Could also see whether countries are undertaking Hand Hygiene Action Plans and connect to their activities.</p>
<p>> Rural Water Supply Network www.rural-water-supply.net/en/e</p> <p>A global network for rural water supply professionals with the goal of sharing experiences and resources. Includes a library of resources. Host sponsored webinar series and events.</p>	<ul style="list-style-type: none"> › Share project resources on their website › Share lessons learned during applicable webinar or event

>> WASH in HCF, WASH, Health PLATFORMS AND NETWORKS

DESCRIPTION	OPPORTUNITIES
<p>> Sustainable Sanitation Alliance www.susana.org</p> <p>An informal network of people and organizations who share a common vision on sustainable sanitation. They organize events and the website hosts a library of resources.</p>	<p>Note: less applicable given the focus on sanitation, however if projects include a sanitation element:</p> <ul style="list-style-type: none"> › Share project resources on the website › Share lessons learned during applicable webinar or event
<p>> Aguasan https://aguasan.chp</p> <p>An interdisciplinary Swiss community of practice (CoP) that brings together a broad range of specialists to promote wider and deeper understanding of key WASH issues in LMICs.</p>	<ul style="list-style-type: none"> › Share lessons learned during applicable webinar or event
<p>> Knowledge Point https://forum.knowledgepoint.org</p> <p>Organized by CAWST WaterAid, RedR and Practical Action to provide humanitarian and development works with knowledge sharing opportunities through online discussion, a library of resources, and hosting of communities of practice.</p>	<ul style="list-style-type: none"> › Share project resources on their website
<p>> Quality of Care Network www.qualityofcarenetwork.org</p> <p>The Network for Improving Quality of Care for Maternal, Newborn and Child Health (Quality of Care Network) is a broad partnership of committed governments, implementation partners and funding agencies working to ensure that every pregnant woman, newborn and the child receives good quality care with equity and dignity. Focused on 11 Network countries and an additional 11 associated countries. With WHO as the secretariat, WASH has been included in documentation and recommendations. Includes a network library.</p>	<ul style="list-style-type: none"> › Join the Community of Practice in order to share project lessons and resources
<p>> WHO AMR National Action Plans https://ezcollab.who.int/amr-nap?ReturnUrl=%2famr-nap%2fdiscussions%2f97ldf8ra</p> <p>Online discussion forum for those who are developing or implementing national action plans for AMR. Active listserv.</p>	<ul style="list-style-type: none"> › Share project events or resource links via listserv
<p>> COVID-19 Hygiene Hub www.hygienehub.info/en/covid-19</p> <p>The COVID-19 Hygiene Hub was established as a free service that supported actors in LMICs to rapidly design evidence-based hygiene interventions to combat the coronavirus. The hub is now inactive but the site lives on.</p>	<p>N/A (no longer an active network)</p>

Discussion

WASH in Health Care Facilities

When examining existing tools, approaches, platform and networks for WASH in HCF, **WASH FIT** is the first tool that should be considered. This multi-step, iterative process aims to support incremental improvements of WASH service delivery in the HCF in resource-limited settings. Given its broad use in 40+ countries by both governmental and NGO partners, its application various contexts including in a refugee camp, and its evaluation by external partners, it is by far the most tested tool available. The management module includes important indicators that guide recommendations around oversight over WASH within the HCF (though would not lead a robust quality improvement cycle at the facility on their own). The new assessment tool, published in September 2021, includes a stronger focus on climate and gender and the full tool being published in February 2022 will include additional training materials and clear linkages to the 8 Practical Steps.

The **Clean Clinic Approach** is similarly a robust strategic approach that includes both national-level action for system strengthening and facility-level support and coaching in order to see sustainable improvements. It may be more difficult to use if partners do not have access to influence policymaking. Its inclusion of competition between the facilities and rewards for high performance is a unique element which could be brought in to a WASH FIT process, depending on the context (note: may not recommend this tactic in an emergency setting, where resources are scarce).

Multiple tools specific to assessing the conditions of WASH in HCF are available, including: WASH FIT 2.0, WASH FAST, Simplified WASH FIT for COVID-19, FACET, WASH in Catholic-Run HCF assessment tool, CDC Toolkit, and WASHCon. **WASH FIT 2.0 assessment** has been updated recently and will be available digitally. It mostly aligns with JMP. A group of academics in Kenya transformed WASH FIT 1.0 into **WASH FAST**, an adapted version of the assessment tool for hospitals, while another group **simplified WASH FIT** for rapid assessment during COVID.

Meanwhile, **FACET** is a digital tool that aligns with JMP and includes expanded indicators on issues like water quality. It also offers data visualization for initial analysis. The **WASH in Catholic HCF assessment tool** was originally created for an assessment of Catholic-run facilities, however has been adapted for use in any type of facility. Similar to FACET it includes JMP indicators plus additional questions and while it cannot be completed digitally, the data entered from an excel sheet in to the R platform pops out a report for each facility with strengths, major issues and minor issues. Additional assessment tools, including the **CDC Toolkit's** facility assessment and **WASHCon** are

both paper-based and used in specific programs, making them less applicable. **WASH & CLEAN** was developed as an assessment of environmental cleanliness in labor and delivery wards, but has seen limited use and the tools were not accessible via the website. Lastly, the **WASH in HCF in Emergencies** guidance document includes an assessment. Because the document precedes the JMP indicators on WASH in HCF, it is out of date and should not be the sole assessment, however the tool may provide useful adjustments that would be needed when assessing health care facilities in refugee contexts.

Several tools address unique aspects of planning and implementation of WASH in HCF. **STREAMS** is currently being tested by Transform International in Malawi and takes the concept of the Circuit Rider Model and pairs it with quality improvement for a specific approach to ensuring WASH services are sustainable after intervention. While **STREAMS** is not yet validated, the team is willing to discuss their approach with interested parties and share their experiences. The **Safe Water Sustainability Metric** measures the sustainability of safe water provision in health care facilities with water treatment systems. As such, this tool would not be applicable to off-grid facilities; however, the four domains to assess sustainability (technical feasibility, on-site capacity, financial and operational accountability, and institutional engagement) could be adapted.

A few of the WASH in HCF tools are less applicable: WaterAid developed a **Participatory Management Tool** for user-friendly WASH services in HCF. While initially designed in the Cambodian context, they do suggest that it can be used in other contexts, though this scenario remains untested. Lastly, **TEACH CLEAN** is the only training tool available for cleaners in HCF in resource-limited settings and can be used with low-literate populations. The **Budgeting Toolkit for Environmental Health Services in HCF** walks through a plan for planning and costing for facilities.

WASH Sector

Additional tools from the WASH sector may be of value in providing a holistic approach to planning WASH in HCF interventions. The **Circuit Rider Model** is an approach to operations and maintenance whereby a trained technician visits the WASH installations, like boreholes, on a rotating basis in a given region, to provide “post-construction support” – namely, preventative maintenance and repairs. The majority of other operations and maintenance tools are technology-specific.

Several behavior change models and approaches are specific to the WASH sector, including **RANAS**, **Behaviour-Centred Design (BCD)** and the **Integrated Behavioural Model for Water, Sanitation and Hygiene**. Of the three, the former two have broad usage (including beyond the WASH sector) and are currently in use, while little is written about the Integrated Behavioural Model for WASH since it was published.

Both RANAS and BCD offer a holistic approach to behavior change by identifying drivers of behaviors and determining appropriate behavior change strategies. BCD has been used to improve hand hygiene among clinicians in American hospitals.

While multiple tools exist for WASH in Schools, none of them were applicable to the context of WASH in HCF, including the **WASH in Schools Surveillance Tool**. Other WASH in household tools like **WASH BAT**, **CLTS** and the **WASH & NTDs toolkit**, were considered but similarly are not sufficient as a holistic approach.

While **Water Safety Plans and Sanitation Safety Plans** aren't applicable in this context, particularly for off-grid facilities, it should be noted that WHO and UNICEF designed WASH FIT initially using a similar risk-based planning approach was used in WHO's Water Safety Plans.

Health Care Sector

Multimodal Improvement Strategy is WHO's five-pronged approach for hand hygiene, though the concepts can be expanded to WASH behavior change interventions more broadly within the HCF. It is comprehensive and has been tested in low- and high-income contexts (though not refugee settings). It is the gold standard approach for addressing hand hygiene in HCF among clinicians, however it does not prescribe any specific infrastructure or behavior change intervention. **PDSA (Plan-Do-Study-Act)** and **5S-Kaizen-Total Quality Management** are similar in their application to quality improvement in the health care setting. Both take a continuous improvement approach, though Kaizen has a stronger ethos behind it, which could be valuable in rallying staff and leadership behind.

ENABLING ENVIRONMENT: Supervisory Health & WASH Offices

A health care facility is not an island – it is part of the larger health system. As such, many of the tools and approaches include a focus on the enabling environment to support the interventions. In particular, the major recommendation is to engage subnational leadership, particularly the office that directly supervises the HCF. This office (often the District Health and/or WASH office) may be part of the planning and design of the program and participating or oversee the various steps from assessment to implementation. The office is also responsible for monitoring and evaluation. One approach, **STREAMS**, worked with District Health officials to integrate monitoring indicators into their routine system. While there isn't a specific approach or tool for the enabling environment, it is a facet worth considering.

UNIQUE CONTEXT: Off-Grid Water Supplies

None of the tools, approaches, platforms or networks in existence are specific to off-grid water supplies. That said, the vast majority of the resources identified can be applied in these contexts, including **WASH FIT** (note: the WASH FIT 2.0 assessment differentiates between higher-level facilities with piped water and primary care facilities which may be off-grid). However, it may be beneficial to tweak existing assessment and monitoring tools to better capture off-grid water supply challenges and needs, as well as maintenance.

UNIQUE CONTEXT: Emergency Settings

Few of the resources identified are specific to or have been used in emergency contexts. Of the tools described, only the **WASH in HCF in Emergencies Assessment Tool** is specific to the emergency context. It includes considerations specific to refugee camp settings, where WASH services may have been provided in a less systematic way than in a non-camp setting. This assessment tool however we developed prior to the JMP standards for WASH in health care facilities and therefore needs to be adapted. As such, it would be valuable to review the tool for any additional indicators that may be useful for assessment and monitoring purposes as a supplement to the assessment like WASH FIT or FACET, which are aligned with current global guidelines.

Meanwhile, **WASH FIT** has been used in 250 health care facilities in Cox's Bazaar. Lessons documented from the experience described that it is possible to apply the tool in a refugee camp. It was noted that improvements in access to water and sanitation were dependent on the WASH sector outside the HCF.

It is worth noting that while few tools and approaches are specific to the emergency context, there are several guidelines and recommendations around implementation that do focus solely on **WASH in HCF in emergencies**. This includes the previously mentioned WASH in HCF in Emergencies Guidance Document (from which the assessment above is included in the Appendix). Meanwhile **Sphere** also offers guidance document for WASH in emergencies, including HCF.

Recommendations

No single tool or approach is currently capable of planning and implementing WASH hardware and software improvements in a HCF, as well as ensuring their sustainability. However, there are several identified tools that in combination will provide a holistic approach to WASH in HCF improvements, from conception to program evaluation. Small adjustments may be needed, and, in some cases, it could be valuable to upon draw elements from other identified tools to supplement these primary recommendations. Additional adaptations are needed for off-grid and emergency contexts. There are several new tools that may be valuable to include in this programming.

The following recommendations of tools and approaches are organized by programmatic process:

1. OVERARCHING FRAMEWORK: Continuous Quality Improvement (Kaizen)

For WASH interventions to be sustained, they need to be considered part of the health system. As such, embedding them within existing facility initiatives and demonstrating their support of goals like patient safety will be critical. One of the recommended entry points is quality of care. If the facility already has a quality improvement strategy, WASH can be incorporated within this work. If the facility is not already involved in quality improvement, this could be an opportunity to introduce it through the lens of WASH. 5S-Kaizen-Total Quality Management looks at the processes within the facility and focuses on small, incremental improvements, often with no additional funding. While WASH partners are not in the position to start an entire quality improvement program, as that is not within their scope or capacities, using the language and framing of quality improvement would be valuable.

2. ACTION PLANNING/STRATEGY: WASH FIT + MMIS + RANAS

None of the existing resources cover both hardware and software strategies, so a combination of approaches is needed. WASH FIT is tailored to the WASH in HCF context, has been used in diverse contexts, including off-grid HCF and refugee camps, and is familiar to many Ministries of

Health. For planning a risk-based approach to hardware improvements and taking stock of managerial needs, this is the most comprehensive tool.

When addressing hand hygiene of clinicians, the MMIS from WHO is the gold standard and provides a framework of the five elements needs for long-term behavior change (including hardware availability). Ensuring that the interventions touch on each of these elements will ensure nothing is overlooked in the process. Though untested, it would be logical that this framework would apply to other WASH-related behaviors in the HCF, like health care waste management.

To go about implementing a behavior change intervention with clinical and non-clinical staff, RANAS can be used to determine what strategies would be most appropriate based on behavioral factors of the target populations and tailor interventions accordingly. As it has not been used in health care facilities, it may be valuable to consult some of the perception survey tools WHO has developed for hand hygiene in HCF.

It is worth noting that neither WASH FIT or MMIS explicitly include patients as a target population. If the goal is to include them in behavior change interventions, that will need to be added to the strategy.

For the enabling environment, incorporating the supervisory health and/or WASH office as part of the action plan and implementation will be important for sustainability and accountability, including their participating and oversight throughout the process. One of the criticisms of WASH FIT was that it focused solely on the HCF without considering the broader environment. The Clean Clinic Approach or STREAMS both offer examples of how this might take place.

3. ASSESSMENT: WASH FIT 2.0 + Hand Hygiene Self-Assessment + Hand Hygiene Observation Form + RANAS

The newly published WASH FIT 2.0 assessment covers a wide variety of WASH hardware issues within the HCF and has been updated to include climate resilience and gender. This tool is used widely and familiar to many NGOs and governments, allowing for greater alignment. It includes the JMP indicators for the most part, however small adjustments may be needed for reporting. The management modules questions could link back to a broader discussion around quality improvement and Kaizen. If working in an emergency context, it would be useful to review the WASH in HCF in Emergencies assessment to further tailor WASH FIT.

For software, several assessment tools will be needed. The Hand Hygiene Self-Assessment Form can be used to determine the needs of the five elements of the MMIS.

While the first element does overlap somewhat with the WASH FIT assessment, but provides greater focus on the access to hand hygiene materials within the wards and thus would be worth completing. The Hand Hygiene Observation Form captures hand hygiene compliance by staff and can be used as a baseline before initiating programming. Lastly, the RANAS qualitative and quantitative surveys would be needed to determine which behavior change models are applicable in the setting.

4. IMPLEMENTATION

No specific tools or approaches for WASH improvements and behavior change beyond those that are mentioned would be recommended for the implementation phase. However, there are numerous resources to support trainings on hand hygiene for clinicians, as well as hand hygiene posters for HCF. If there is a focus specifically on cleaners, TEACH CLEAN could be used for training.

Should hygiene promotion among patients be a desired intervention, resources specific to this context may be valuable. While it has been stated that health care workers are role models within the community, limited research has been conducted on the education and empowerment of patients to practice hand hygiene, either while at the HCF or at home. Hand hygiene may be discussed during prenatal care visits for example, but best practices around this, by either the WASH or IPC communities, has been minimal.

5. SUSTAINABILITY: STREAMS

Sustainability should be built in throughout the program through existing tools and approaches. For example, elements like the overarching framework and strategy, the WASH FIT management module, the safety climate component of the MMIS, and the inclusion of the district health offices as an accountability mechanism all strengthen the system such that these interventions are more likely to be maintained and sustained after the program closes. However, one tool in addition to those already listed may be additionally valuable to add a component that often hinders sustainability – operations and maintenance.

STREAMS take the Circuit Rider Model from WASH in communities and creates circuit riders for WASH infrastructure and quality of care, individuals whose role is to oversee the sustainability of the hardware and software interventions. While the latter individual may also be identified through the MMIS program, it is the WASH circuit rider that would add value, particularly for projects that include multiple HCF in a given region that cannot hire full-time WASH maintenance.

The full STREAMS approach is a holistic approach including training and hardware improvements. It may be possible that this full approach could be replicate in the future, however in its current state undergoing validation, it is more prudent to use tested approaches like WASH FIT and only draw upon STREAMS for the elements which are otherwise missing, namely the focus on operations and maintenance.

6. MONITORING & EVALUATION: FACET + Hand Hygiene Observation Form + additional tools

FACET can be used as a monitoring tool for the core JMP indicators as well as expanded indicators of WASH service. It is less cumbersome than WASH FIT 2.0 assessment and has the visualization and analysis platform which would be valuable to mark progress. Note that if FACET is used for monitoring, it may be valuable to transfer the responses from the WASH FIT baseline survey in to the FACET digital tool so that comparison to the baseline is possible. Swiss Water and Sanitation Consortium also added additional program outcome indicators in FACET which could be inserted as well. The Hand Hygiene Observation Form should be used throughout the process as a spot check on the compliance of hand hygiene by the health care workers and additional tools to determine behavior change may be applied from RANAS. Measuring the number of facilities to meet basic services based on the JMP indicators is a common outcome measurement.

Regarding evaluation, there are no publicly available tools for assessing impact of WASH in HCF programs. This is one area where a new tool may be valuable. Though tools exist for evaluating impact on WASH in other settings, due to the unique nature of the HCF context and the specific target populations, it would be most effective to develop a unique tool for this purpose.

Gaps

Based on the recommendations above, there are a few key gaps which could be addressed in future programming in this specific context (off-grid HCF in refugee camps):

1. Adaptation of existing tools and approaches to the refugee context

Particularly for WASH FIT assessment tool, it may be valuable to add in questions specific to the refugee or emergency context, using the WASH in HCF in Emergencies assessment or other WASH in emergencies guidance documents. The WASH FIT cycle has been shown through the experience in Cox Bazaar to be applicable, but nuances in the assessment as well as the selections of interventions may vary in a refugee camp.

2. Hygiene promotion tool to encourage proper handwashing by patient population

While patients may not be the primary population targeted for behavior change interventions, if programs want to include them it should be noted that very few resources exist to support hygiene promotion by health care workers to their patients in the LMIC clinical setting. This may not require much to develop, but should be noted that it does not otherwise exist.

3. Evaluation tool

Significant focus has been placed on initial assessment of WASH conditions in HCF, as this is a relatively new area for many organizations and Ministries of Health and they are just starting to understand the needs. As such, limited improvement programming has taken place. There is no widely used evaluation tool (for program evaluation or impact evaluation) or on a smaller scale a framework for evaluation that could be adapted for various uses.

Exclusion

When developing this list of recommendations, several well-developed tools and approaches were excluded. The table below provides arguments for why those were not listed as recommendations.

OFFERING	EXCLUSION EXPLANATION
> WASH Facility Survey Tool (WASH FAST)	
Assessment	The new WASH FIT 2.0 assessment tool can be applied in hospital settings.
> WASH FIT Assessment Simplified for COVID-19	
Assessment	Too specific to the COVID-19 context.
> Clean Clinics Approach (CCA)	
Approach	Though a strong approach to WASH in HCF, unless the partner is working closely with the government this may be difficult to implement. Also, pairing the 8 Practical Steps with WASH FIT would lead to similar outcomes. As noted, the competition element may be valuable to draw upon in certain settings.
> Clean and Safe Health Facilities (CASH)	
Initiative Audit	Not replicable by NGOs.
> WASH Conditions in Healthcare Facilities Tool (WASHCon)	
Assessment	Too long and no longer offered digitally.
> WASH in Catholic-Run HCF Assessment Tool	
Assessment	Could be valuable if individualized reports are needed but other assessment tools are available that do the same thing and are more widely used/accepted.
> CDC Toolkit	
Assessment	Other assessment tools are available that do the same thing and are more widely used/accepted.
> Safe Water Sustainability Metric	
Assessment	The domains could be useful when determining sustainability of WASH infrastructure but the tool itself is not available digitally and is narrowly applicable.
> Budgeting Tool for WASH in HCF	
Assessment	Very specific function (budgeting) and thus only applicable based on program scope.

OFFERING	EXCLUSION EXPLANATION
> Participatory Management Tool for User-Friendly WASH Facilities in HCF	
Community Engagement	Not very clear how to apply this in other contexts and again would be specific to program scope.
> WASH & CLEAN	
Assessment	The resources are no longer available online and other assessment tools are more up-to-date.
> TEACH CLEAN	
Training	Very specific function (training cleaners) and thus only applicable based on program scope.
> WASH for Health Data Exchange Platform (WHdx)	
Platform	Under development.
> Behaviour Centred Design (BCD)	
Approach	Given the program's current partnership with RANAS, this model was not recommended, but could similarly be used to develop behavior change programming.
> Integrated Behavioural Model for Water, Sanitation and Hygiene	
Approach	Given the program's current partnership with RANAS, this model was not recommended. However, there is little written about this model since it was first published in 2013, so RANAS or BCD would be a better option.
> Water Safety Plan (WSP)	
Approach	Though not applicable to this context, WHO designed WASH FIT using risk-based approach from their WSPs.
> Sanitation Safety Planning	
Approach	Not applicable to this context.
> WASH 'Em	
Approach	Not applicable to this context.
> Community-Led Total Sanitation (CLTS)	
Approach	Not applicable to this context.
> School-Led Total Sanitation	
Approach	Not applicable to this context.

OFFERING	EXCLUSION EXPLANATION
> Infection Prevention and Control in Primary Care	
Approach	The other tools touch in the same elements in greater depth, though if IPC is the entry point this document and the related tools will be valuable.
> Plan-Do-Study-Act (PDSA)	
Approach	This approach could be swapped in for the Kaizen approach, though there is less of a philosophy behind it. PDSA is used in the CCA.
> SafeCare	
Approach Platform	This program supports private HCF in Africa, however their approach of quality improvement and WASH as a component of that is something which can be emulated.
> SureWash app	
Training Monitoring	The focus on handwashing technique may be helpful but is not comprehensive enough and relies heavily on technology

APPENDIX A

Keywords for literature review

RELEVANT EXISTING TOOLS, APPROACHES, PLATFORMS AND NETWORKS:

PART 1: WASH in HCF

- › Network, platform, tool, approach, resource
- › Hand hygiene, hand washing, infection prevention and control
- › Water, soap, alcohol-based hand sanitizer (sanitiser), alcohol-based hand rub, sanitizer (sanitiser)
- › Borehole, tubewell, well, dug well, protected dug well, standpipe, protected spring, rainwater catchment, improved water source, off-grid, non-piped
- › Training, capacity building, mentoring, coaching
- › Health care facility, hospital, health center, health post
- › Operations and maintenance, monitor, audit
- › Emergency, refugee camps, internally displaced people
- › Low- and middle-income countries, resource-limited

PART 2: WASH in non-HCF settings

- › Network, platform, tool, approach, resource
- › Schools
- › Communities
- › Households
- › Refugee Camps
- › Emergency
- › WASH in institution

PART 3: Non-WASH in HCF settings

- › Quality improvement, quality of care, high-quality care
- › Maternal, newborn and child health
- › Pandemic preparedness, infection prevention and control (IPC)
- › Health emergencies
- › Antimicrobial resistance (AMR)
- › Primary health care
- › Infrastructure

APPENDIX B
Tool description

> WASH FIT

Including WASH FIT 1.0, WASH FIT 2.0 and the WASH FIT Assessment Simplified for COVID-19

WHO and UNICEF's Water and Sanitation for Health Facility Improvement Tool, known as WASH FIT, is a multistep, iterative process to facilitate improvements in WASH services, quality and experience of care. It was adapted initially from WHO's approach to Water Safety Planning. WASH FIT is designed for use by HCF managers and staff to make improvements in settings where resources are limited. The approach covers four broad areas: water, sanitation (including health care waste management), hygiene (hand hygiene and environmental cleaning) and management. WASH FIT is primarily designed for use in primary health-care facilities (e.g., health centers, health posts and small district hospitals) that provide outpatient services, family planning, antenatal care, maternal, newborn and child health services (including delivery). WASH FIT has been used in 30+ countries include Cox's Bazaar in Bangladesh. The tool has been evaluated by the US CDC in Togo. A digital tool is available.

WASH FIT 2.0 will be published in February 2022. Based the same 5-step process as WASH FIT 1.0, the updated tool includes a more comprehensive assessment tool that covers integrated climate resilience and gender and can be applied in various health care settings, including hospitals. The tool also has expanded training guides and a greater linkage to the 8 Practical Steps. The assessment tool was published in September in English and in French.

The WASH FIT assessment simplified for COVID-19 was developed by Food for the Hungry and Engineers Without Borders to respond rapidly to the pandemic and determine which facilities are prepared with WASH services. It provides a simple scoring metric via excel.

> <https://washfit.org/#>

> www.washinhcf.org/resource/wash-fit-simplified-covid-19

> WASH FAST

The WASH Facility Survey Tool (WASH FAST) took WASH FIT 1.0 and extended its use in to hospitals by a group of researchers in Kenya. It also added a numeric scoring approach to the assessment, translating WASH FIT three-tiered qualitative responses into quantitative scores. Lastly, the tool required assigning responsibility for actions identified through the assessment.

> <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0226548>

> WASH in Healthcare Facilities in Emergencies Rapid Assessment

WHO's WASH in Health Care Facilities in Emergencies guidance document includes a rapid assessment tool. The rapid assessment tool is a short, two-page, emergency response survey tool that can be used to quickly assess sanitary hazards in HCF including temporary facilities. The assessment has been kept as short and simple as possible so that it can be quickly completed by multiple responding actors whose staff may not be WASH specialists. This tool is paper-based and was developed prior to the JMP indicators for WASH in HCF but is the one of the only assessment tools specific to WASH in HCF in emergencies.

> www.unhcr.org/what-we-do/respond-emergencies/water-sanitation-and-hygiene?utm_source=wash.unhcr.org



> Clean Clinic Approach

The Clean Clinic Approach (CCA) uses a 10-step process to support HCF in making incremental, effective cleanliness and IPC improvements, without relying on external investments. The goal of CCA is to empower HCF staff and health systems to implement simple, low-cost, and effective WASH improvements that are proven to help protect patients and staff from infection. CCA focuses primarily on management, motivation, and accountability as key drivers to maintaining WASH and IPC services. This approach is similar to the Plan-Do-Study-Act (PDSA) model for quality improvements that has been successfully used for IPC and has been previously modeled for use in LMICs. CCA has been used in Haiti, the Democratic Republic of the Congo, and Guatemala. It has not been evaluated externally but the tool has been adopted by others outside USAID.

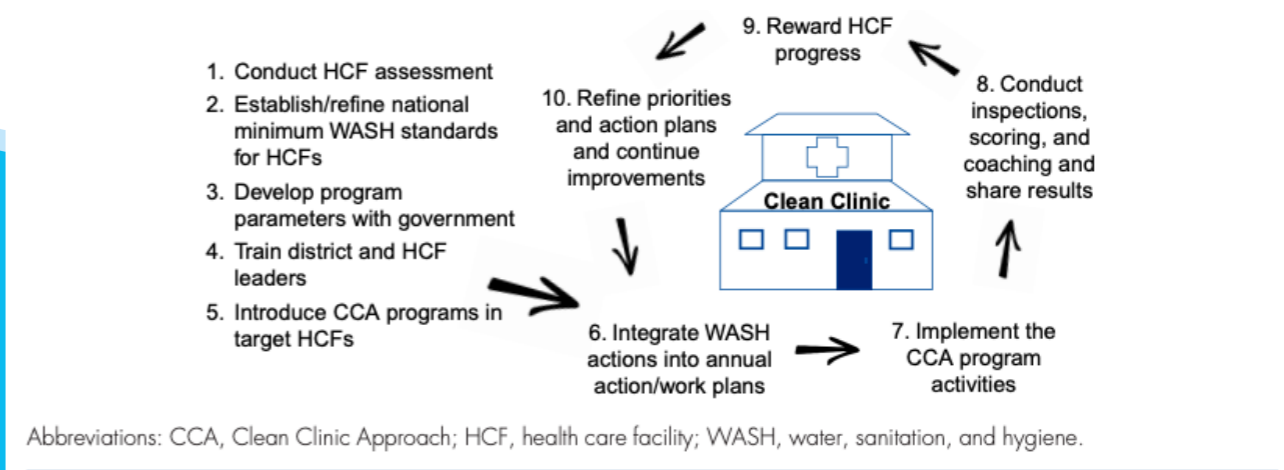
> <https://washforhealthcare.mcsprogram.org>

> Clean and Safe Health Facilities (CASH)

The Clean and Safe Health Facilities Initiative (CASH) was launched by the Ethiopian Federal Ministry of Health in 2014 and aimed to reduce health care-associated infections and make hospitals safer, by improving IPC and patient safety, providing a safe and sufficient water supply and sanitation facilities and health care waste management, improving hospital grounds, visitor crowd management systems and kitchen and laundry services. This can be achieved through staff training, implementing the CASH audit tool and supporting hospitals to develop and implement charters for cleanliness. CASH was primarily being implemented in hospitals. Since 2019, CASH was replaced by a new initiative, CATCH-IT, which focused on timeliness of care as well as the cleanliness.

> <https://iris.who.int/rest/bitstreams/1083779/retrieve>

FIGURE 1. 10-Step Clean Clinic Approach for WASH Quality Improvements



Abbreviations: CCA, Clean Clinic Approach; HCF, health care facility; WASH, water, sanitation, and hygiene.

> FACET

The Facility Evaluation Tool for WASH in Institutions (FACET) is a short and easy to use mobile assessment and monitoring tool developed to do evaluations of water, sanitation, hygiene and waste management (WASH) in HCF (FACET WIH). The tool is suitable in both humanitarian and development interventions. FACET offers state-of-the-art online/offline mobile data collection on an open-source platform and a corresponding online/offline analysis tools that allows a WASH delivery service level graduation of surveyed institutions. Core questions plus expanded questions are based on the JMP.

Although not a full-fledged action planning process for improving WASH services on an individual facility basis, FACET can complement other specific methodologies for interventions in health institutions, such as the Facility Improvement Tool (WASH FIT) by WHO and UNICEF.

› www.eawag.ch/en/department/sandec/projects/sesp/facet

> WASHCon

WASH Conditions in Healthcare Facilities Tool (WASHCon) a broad assessment of WASH conditions, infrastructure and resources in HCF in low and middle-income countries. The tool encourages users to engage with regional and national stakeholders to undertake the assessment, which include surveys, observations, and water quality data – a total of 175 questions.

› <http://washconhcf.org/research-tools/washcon>

> WASH in Catholic-Run HCF Assessment Tool

Originally written for the Vatican's WASH in Healthcare Facilities Initiative, the assessment has been adapted for use in any facility. The tool is a rapid assessment of WASH conditions in HCF (~45 minutes) based on basic JMP indicators, and creates reports that highlight each facilities' Strengths, what issues could be addressed without additional funding (Minor Issues to Resolve), and what issues require additional funding to resolve (Major Issues to Resolve). The tool is available for both R and Excel, in both English and French. The R version automatically produces facility reports, and the Excel version provides all prompts that need to be pasted into the reports.

› www.washinshcf.org/resource/wash-in-hcf-evaluation-and-reporting-tool

> CDC WASH in HCF Toolkit

To support the foundational first step of conducting a situational analysis and assessment of WASH in HCF based on the 8 Practical Steps, CDC developed a suite of tools to evaluate WASH in primary HCF, which includes: facility assessment; knowledge, attitudes, and practices (KAP) surveys; hand hygiene observations; qualitative interviews with facility directors, staff and patients.

› www.cdc.gov/healthywater/global/healthcare-facilities/tools.html

> WASH & CLEAN

The WASH & CLEAN Toolkit is a set of tools used to perform a situation analysis of the state of hygiene on the maternity unit, as measured by visual cleanliness and the presence of potential pathogens, and individual and contextual/systems level determinants. The tools can be used as part of an internal audit process, as part of a continuous improvement cycle, or as part of a wider research study. The suite includes a facility needs assessment tool, document availability checklist, walkthrough checklist, and semi-structured interviews.

› www.qualityofcarenetwork.org/oldsite/resources/assessments/wash-and-clean-toolkit

> STREAMS

STREAMS – Systems, TRaining, Empowerment And Monitoring Support – is designed to address the gaps identified above by melding two approaches – supportive supervision, developed to provide support through the health system, and the circuit rider methodology, developed to support community WASH systems. Delivery of STREAMS at each facility is carried out by two Circuit Riders (CRs) working collaboratively: the Technical Circuit Rider and the Quality of Care Circuit Rider. Each type of CR has distinct but complementary skills and responsibilities. STREAMS is still under development by Transform International and Desert Research Institute. The point of contact to learn more about it is Dr. Nancy Gilbert:

› nancy.gilbert@transforminternational.org

> Safe Water Sustainability Metric

The Safe Water Sustainability Metric is used to evaluate the sustainability of safe water provision via treatment in HCF. The sustainability metric and its accompanying surveys were designed for rapid data collection and evaluation. Sustainability is evaluated using four domains: Technical Feasibility, On-Site Capacity, Financial and Operational Accountability, and Institutional Engagement. Each domain is divided into four subdomains. The subdomains are evaluated based on survey questions, observations, and water quality data.

› <http://washconhcf.org/research-tools/sustainability-metric>

> Budgeting Toolkit

Developed by the Water Institute at UNC, this toolkit walks through planning, collecting, and disseminating data on costs of environmental health services in health care facilities. Completing this toolkit in full will produce the following outputs: Data collection plan and documentation of the data collection process; Contextual assessment on facility characteristics (e.g., facility size, type of services provided); Contextual assessment of environmental health characteristics (e.g., number and type of improved sanitation facilities); Cost spreadsheet detailing line item expenses and associated costs; Assessment of the completeness, accuracy, and limitations of costs data; Dissemination plan for distributing and applying costs findings.

> TEACH CLEAN

TEACH CLEAN presents information and materials required to deliver comprehensive, participatory training on safe environmental cleaning, applying aspects of essential IPC for these tasks. The package is tailored towards use with cleaning staff with limited literacy skills but can be applied to wider facility staff. The TEACH CLEAN package contains: A 'How to Train' instruction document and Training of Trainer modules on Supportive Supervision & Quality Improvement; Seven essential Clean Box training modules addressing IPC and environmental hygiene; Competency Assessment Checklists; Written and Illustrated Cleaning Procedure Guidelines; An Advocacy & Communications Resource Pack.

› www.lshtm.ac.uk/research/centres/march-centre/soapbox-collaborative/teach-clean

> Participatory Management Tool for User-Friendly WASH in HCF

User-friendly' WASH is people-centered, accessible and inclusive, encompassing physical accessibility as well as socio-cultural acceptability, provided through the security, privacy, independence and dignity afforded by the designs. WaterAid Cambodia developed a Participatory Management Tool to diagnose the extent to which WASH in health-care facilities is user-friendly and accessible, including an assessment tool that can be adapted to other contexts.

› <https://washmatters.wateraid.org/sites/g/files/jkxooof256/files/developing-a-participatory-management-tool-for-user-friendly-wash-in-healthcare-facilities.pdf>

> WASH for Health Data Exchange Platform (WHdx)

The new WASH for Health Data Exchange Platform (WHdx) will harmonize HCF's WASH data into a singular, publicly available dataset through the establishment of a data standard, providing unique data analysis and decision-making tools for both the water and health sectors. Furthermore, WHdx will be able to provide WASH service records from individual HCF over time and compare HCF across geographies from village to country-levels, showing locations of greatest need, problematic issues, and recommendations for highest impact interventions.

> RANAS

The Risks, Attitudes, Norms, Abilities and Self-regulation (RANAS) approach to systematic behavior change is an established method for designing and evaluating behavior change strategies that target and change the factors influencing a specific behavior in a specific population. In brief, it is an easily applied method for measuring behavioral factors, assessing their influence on behavior, designing tailored strategies that change behavior, and measuring the effectiveness of these. It was initially developed for WASH behavior change programming but has been applied in other contexts.

› www.ranasmosler.com/about-us

> Behaviour Centred Design

Behaviour Centred Design (BCD) is an approach to the problem of changing behavior. Using an evolutionary framework, it unites the latest findings about how brains learn with a practical set of steps and tools to design successful behavior change programs. This approach mixes both science and creativity based on the premise that behavior will only change in response to something new and challenging. The approach has been employed was initially developed for WASH programming but has been used successfully on a range of public health behaviors as well as in commercial product design and marketing.

› www.lshtm.ac.uk/research/centres-projects-groups/bcd

> Integrated Behavioural Model for Water, Sanitation, and Hygiene

A number of WASH-specific models and frameworks exist, yet with some limitations. The Integrated Behavioural Model for WASH aims to provide both a conceptual and practical tool for improving our understanding and evaluation of the multi-level multi-dimensional factors that influence water, sanitation, and hygiene practices in infrastructure-constrained settings. We outline future applications of our proposed model as well as future research priorities needed to advance our understanding of the sustained adoption of water, sanitation, and hygiene technologies and practices.

› <https://bmcpublihealth.biomedcentral.com/articles/10.1186/1471-2458-13-1015#Tab2>

> Circuit Rider Model

The International Circuit Rider Program is based on a model proven in rural communities in the United States. A group of technicians each visit a "circuit" of 30 to 40 communities regularly to check on their water systems. Circuit Riders can also provide ongoing water quantity monitoring, training, and education to the communities. This is a low-cost method to promote good hygiene and ensure ongoing water services and working toilets, ultimately leading to improved health impacts. The goal is to improve sustainability by supporting the initial investments in water, sanitation, and hygiene programs, as well as strengthening and expanding these critical services. The Circuit Rider Methodology is distinct from other post-construction frameworks because it provides training in all essential aspects of WASH services sustainability. Rather than focusing solely on technical capacity, Circuit Riders are also trained to provide management, governance, financial, and community engagement support in the communities they serve.

› www.dri.edu/ciwas/international-circuit-rider-program

> Water Safety Planning & Sanitation Safety Planning

A water safety plan is a plan to ensure the safety of drinking water through the use of a comprehensive risk assessment and risk management approach that encompasses all steps in water supply from catchment to consumer. Water safety plans are considered by the WHO as the most effective means of maintaining a safe supply of drinking water to the public. Their use should ensure that water is safe for all forms of human consumption and that it meets regulatory water standards relating to human health. Sanitation safety planning applies the same risk management approach to the safe use and disposal of wastewater, greywater and excreta.

> <https://wspportal.org/what-are-water-safety-plans>
> www.who.int/publications/i/item/9789241549240

> Community-Led Total Sanitation (CLTS) & School-Led Total Sanitation

Community Led Total Sanitation (CLTS) is a method for mobilizing communities to completely eliminate open defecation (OD). Communities are facilitated to conduct their own appraisal and analysis of open defecation (OD) and take their own action to become ODF (open defecation free). School-Led Total Sanitation takes the same approach within the school context, where students and teachers are the change agents.

> <https://archive.ids.ac.uk/clts>
> www.hydratelife.org/a-different-approach-school-led-total-sanitation-part-1

> Wash 'Em

The Wash'Em approach augments hygiene promotion in emergency response by focusing on behavior change. The Wash'Em process involves using 5 rapid assessment tools to understand behavior. Enter your findings into the Wash'Em software for tailored program recommendations. WASH'Em is developed for household and community settings and is not applicable in institutions.

> <https://washem.info/en>

The Five Components of the WHO multimodal hand hygiene improvement strategy



> Multimodal Improvement Strategy for Hand Hygiene

Successful and sustained hand hygiene improvement is achieved by implementing multiple actions to tackle different obstacles and behavioral barriers. Based on the evidence and recommendations from the WHO Guidelines on Hand Hygiene in Health Care, a number of components make up an effective multimodal strategy for hand hygiene. The WHO multimodal hand hygiene improvement strategy has been proposed to translate into practice the WHO recommendations on hand hygiene and is accompanied by a wide range of practical tools (implementation toolkit) ready to use for implementation. It includes 5 components: system change, training/education, evaluation and feedback, reminders in the workplace and institutional safety climate. It links to a suite of hand hygiene tools from WHO which include a self-assessment tool, action plan template, and hand hygiene observation form.

> www.who.int/publications/i/item/a-guide-to-the-implementation-of-the-who-multimodal-hand-hygiene-improvement-strategy

> Infection Prevention and Control in Primary Care

This document aims to support those working in primary care to strengthen IPC, informed by existing WHO IPC guidance and implementation resources. Many of the existing WHO IPC guidance and implementation resources initially developed for acute HCF have a potential utility for IPC in primary care. However, navigating these resources to locate relevant content for IPC in primary care can be challenging as some documents can span over 100 pages. This document extracts relevant content, bringing together existing WHO IPC standards, indicators and implementation approaches that are focused on, or directly relevant to IPC in primary care. It should also be used to identify resources suitable for use in primary care that can be embedded within relevant IPC or other health programs. It includes for example a description of MMIS.

> www.who.int/publications/i/item/9789240035249

> 5S – Kaizen – Total Quality Management

Based on a Japanese business philosophy notably used by Toyota, the 5S-Kaizen-Total Quality Management process is a stepwise approach for better management & quality of health care. Total quality management refers to the maximum use of the capacity of the entire organization and is a multidisciplinary and participatory processes with continuity by all categories of staff for realizing high quality services. Kaizen (in Japanese “continuous improvement” or “change for better”): is participatory problem-solving process which utilizes existing resources. Its philosophy is no improvement is too small and can help a hospital to create “continuous quality improvement culture”. 5S is a philosophy and a way of organizing and managing the workspace and work flow with the intent to improve efficiency by eliminating waste, improving flow and reducing process unreasonableness. Its tenets are 1) sort, 2) set in order, 3) shine, 4) standardize, 5) and sustain. It has been applied in hospitals in LMICs.

> <https://tropmedhealth.biomedcentral.com/articles/10.1186/s41182-016-0022-9>

> Plan – Do – Study – Act (PDSA)

Plan-Do-Study-Act (PDSA) is an iterative, four-stage problem-solving model used for improving a process or carrying out change. It has been applied to health care under the Model for Improvement in both high- and low-income settings. PDSA is shorthand for testing a change by developing a plan to test the change (Plan), carrying out the test (Do), observing and learning from the consequences (Study), and determining what modifications should be made to the test (Act).

> www.ahrq.gov/ncepcr/tools/pf-handbook/mod4.html

> SafeCare

Health care providers in emerging countries often struggle with patient safety and quality demands and have limited data and insights on overall quality performance. SafeCare empowers their progress by helping them measure, monitor and improve their services using innovative solutions which inspire and provide real value. The program offers steps to follow to improve quality of care, a platform of digital tools and accreditation. This program has been applied only in private health care facilities.

> www.safe-care.org

> SureWash

SureWash is the only validated training system that can teach and assess hand hygiene technique and deliver IPC education.

> <https://surewash.com/surewash-app-hand-hygiene-training>

NOTES

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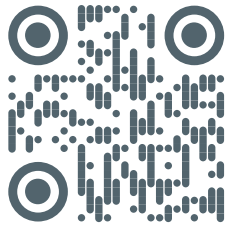
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A research project to improve hand hygiene, water quality and sanitation in health care facilities and primary schools not connected to functional water supply systems