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A conceptual evaluation framework for the water and sanitation for health facility improvement tool (WASH FIT)

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ABSTRACT

Healthcare facilities (HCFs) in low- and middle-income countries frequently lack water, sanitation and hygiene (WASH) services that are adequate to implement infection prevention and control (IPC) practices, decrease healthcare-associated infections and antimicrobial resistance, and provide quality healthcare. The Water and Sanitation for Health Facility Improvement Tool (WASH FIT), initially published in 2017 and updated in 2018, is a risk-based, continuous improvement framework. The tool aims to improve WASH and related facility management and may contribute to quality of care (QoC) efforts. To date, there is no guidance available on how to monitor and evaluate the use of this tool nor is there rigorous evidence on its effectiveness. We developed a conceptual WASH FIT evaluation framework by drawing from the broader WASH, health systems strengthening, and QoC evidence base. This framework provides a common basis to plan, implement, monitor, and evaluate potential inputs, outputs, outcomes, and impacts from applying WASH FIT. Routine use of the tool, coupled with WASH infrastructure improvements as guided by the tool, can lead to better IPC practices, and may support improvements in occupational safety, QoC, global health security, and ultimately progress towards achieving Sustainable Development Goals 3 (good health and well-being) and 6 (clean water and sanitation).

Key words | evaluation, healthcare facilities, hygiene, outcomes, sanitation, water

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INTRODUCTION

Many healthcare facilities (HCFs) in low- and middle-income countries (LMICs) lack adequate water, sanitation, and hygiene (WASH) services. WASH in HCFs is defined here as the infrastructure, services, and behaviors encompassing water supply and water quality, sanitation facilities (including bathing or shower areas), availability of soap and water for handwashing, and some elements of healthcare waste management (e.g., waste bins, waste treatment equipment). According to a recent report, aggregating information from 78 LMICs, 50% of HCFs lack piped water on premises, 33% do not have improved sanitation, 39% do not have soap and water for handwashing, and 39% lack proper medical waste management services (Cronk & Bartram 2018). WASH is essential for practicing infection prevention and control (IPC), and IPC is, in turn, vital to patient, staff, and

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visitor safety. Through enabling/supporting certain elements of IPC, by extension, WASH is contributing to preventing antimicrobial resistance and healthcare-associated infections, thus improving global health security.

One tool that aims to improve WASH services and IPC practices in HCFs is the Water and Sanitation for Health Facility Improvement Tool (WASH FIT) (WHO/UNICEF 2018). The World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) initially published WASH FIT in 2017, after a two-year iterative piloting and stakeholder engagement process. WASH FIT is based on the WHO essential environmental health standards in health care (Adams *et al.* 2008) and the WHO guidelines on core components of IPC programs at the national and acute healthcare facility level (WHO 2016a). As of March 2018, WASH FIT had been implemented in at least 15 countries and with varying focuses including quality of care (QoC), maternal/newborn services, Ebola, and cholera (WHO/UNICEF 2018).

WASH FIT helps implementers identify risks in their facilities and provides a continuous improvement framework with practical tools and templates for undertaking changes in WASH and healthcare waste and facility management. WASH FIT aims to improve and maintain WASH services through incremental actions at the HCF level.

Strong national and health facility leadership is fundamental to the WASH FIT process. The process can begin with a WASH FIT training, or staff may use the tool directly. There are five main steps in the WASH FIT process: (1) Assemble and train the facility-based team; (2) Conduct a facility-wide assessment using WASH FIT with approximately 65 indicators; (3) Identify and prioritize areas for improvement; (4) Develop and implement an improvement plan; and (5) Continuously evaluate and adjust the plan (WHO/UNICEF 2018). WASH FIT is not a onetime exercise, rather it is an iterative process of improvement. Regularly planning and conducting activities, such as team meetings, WASH assessments, infrastructure and service improvements, and behavior change campaigns, can promote a continuous cycle of improvement.

The conceptual framework proposed herein (Figure 1) provides a common basis for stakeholders, such as governments and donors, to plan, implement, monitor, and evaluate the potential inputs, outputs, outcomes, and impacts from applying WASH FIT. The framework indicates the elements important to measure, but methods for measurement are beyond the scope of the paper. This conceptual framework is adapted from, and draws heavily on, an earlier conceptual framework to evaluate Water Safety Plans (WSPs) (Gelting *et al.* 2012). It was developed based on the WASH FIT guide, grey literature, agency reports, existing case studies, and our prior knowledge from the broader domains of WASH, QoC, and health systems strengthening (HSS). Additionally, the framework draws from the Global Action Plan for WASH in HCFs (WHO/UNICEF 2016).

Logic models are commonly used and easily understood models for public donors and governments (Team Technologies 2005; USDHHS 2011; USAID 2012; DFID 2013; Nutley & Reynolds 2013) and are commonly applied in WASH and in health program evaluations. The logic model is the basis for the common monitoring and evaluation framework developed by the International Health Partnership+ to enable targeted monitoring and evaluation of HSS initiatives (WHO 2010). Logic models have also been employed to design and evaluate quality and patient safety programs (Goeschel *et al.* 2012).

The WASH FIT conceptual framework can be adapted for program evaluations across multiple facilities. Intended audiences include implementers, evaluators, and program planners.

The objectives of the conceptual framework are to:

- Elucidate the varied and potential health and non-health related outcomes and impacts that can result from the use of WASH FIT
- Provide a common framework, terminology and timeframe for defining outcomes and impacts
- Provide a basis to develop and modify existing indicators and evaluation tools for future evaluations of WASH FIT.

Structure of the conceptual framework to evaluate WASH FIT

The framework has four components: inputs, activities and outputs, outcomes, and impacts (W.K. Kellogg Foundation 2004) and are defined below:

- Inputs: the political, financial and material, human and community resources needed to implement activities

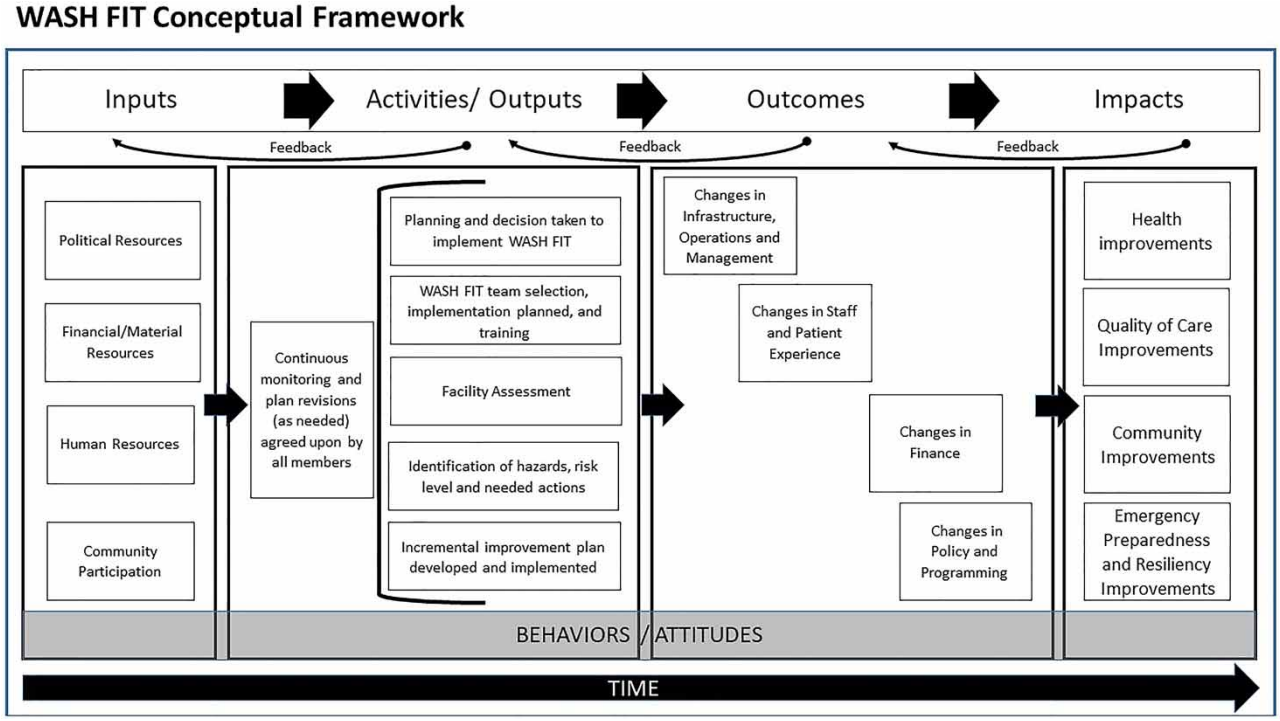

Figure 1 | WASH FIT conceptual framework.

- Activities and outputs: the processes, tools, and actions of WASH FIT (e.g., assessment tool)
- Outcomes: intermediate changes that result from the processes (e.g., improved staff knowledge of WASH and related IPC practices)
- Impacts: the broader, long-term changes in HCFs (e.g., changes in QoC).

Below we discuss each component and provide examples where available. The framework is a series of hypotheses about the possible outcomes and impacts, which could result from the use of WASH FIT. These hypothesized outcomes and impacts draw on the evidence from efforts to improve WASH services in HCFs, as there is limited documentation of the application of WASH FIT to date. There is also a need to develop and validate indicators to evaluate WASH FIT interventions. As WASH FIT interventions are evaluated, and key indicators are validated, the conceptual framework may be refined. This iterative evaluation process can lead to continuous refinement of the WASH FIT approach and to a greater understanding of the tool as applied in different settings. This conceptual framework is similar to that of *Figure 2.1 Outcomes associated with WASH FIT* in the WASH FIT guide (WHO/UNICEF 2018) but provides greater detail and specific examples.

The process, activities, and the related outcomes and impacts do not necessarily occur as a linear process (note the feedback arrows in Figure 1). The process is dependent upon the priority actions of each facility and the resources available. Nevertheless, the framework contains a time component to show that the activities, outcomes, and impacts occur over time. Outcomes are the direct changes that could occur from the use of WASH FIT, such as infrastructure or operational changes. Impacts are the broader and longer-term changes, beyond the direct changes to the HCF, resulting from the use of WASH FIT. For example, a cleaner and safer delivery environment may reduce maternal and neonatal deaths. Finally, behaviors and attitudes of leaders, medical personnel, administrators, patients, and caregivers are crosscutting elements affecting all components of the framework.

DISCUSSION: THE WASH FIT CONCEPTUAL EVALUATION FRAMEWORK

Inputs to the WASH FIT conceptual framework

In this context, the inputs are the political, financial and material, human and community resources that go into conducting the WASH FIT assessment and developing and implementing a facility-based action plan (Figure 1). This plan leads to the physical and service improvements that in turn, are intended to result in facility system changes and improved population-level health outcomes.

Political resources

Political commitment, engagement at the district and national levels, and support from external partners and donors may facilitate the initiation and implementation of WASH FIT. Situating the program at the intersection of WASH, IPC, HSS, and QoC with governmental stakeholders may contribute to buy-in, as these are current priorities for many countries in keeping with the Sustainable Development Goals (SDGs). Supportive national government policies, guidelines, or standards within these domains facilitate the integration and institutionalization of WASH FIT. Political advocacy can play an important role in activating the WASH FIT process and fostering ownership of WASH FIT actions. In Liberia, the health ministry played an instrumental leadership role by convening multi-stakeholder meetings to develop a national WASH and environmental health package (Abrampah *et al.* 2017). In Zambia, stakeholders used the results from a pilot WASH in HCFs project to advocate for a review of the national IPC guidelines for inclusion of WASH indicators and for the inclusion of WASH and IPC indicators in the Health Management Information System. This included proposing to add key WASH indicators, such as availability of water and functional hand hygiene facilities, cleaning/decontamination of surfaces, and medical waste management (Namonje 2017).

Financial and material resources

WASH FIT requires financial and material resources for set-up and implementation and for continued functioning of services over the long term. These can include training and refreshers for staff on WASH FIT on specific subjects such as cleaning, waste management, or water treatment. Facilities may lose revenue due to staff's absence from daily responsibilities during training. This may be substantial for facilities that rely on consultations for revenue or for centers with limited staff who cannot provide standard services while staff are in training.

Different improvements may require a significant range of funding levels. For example, costs may be incurred for performing water supply or latrine interventions, rehabilitating or purchasing incinerators, purchasing consumable cleaning supplies, printing hand hygiene posters, incentives for staff (if appropriate and aligned with the Ministry of Health strategies), and conducting monitoring and evaluation. The costs of some improvements may be minor – such as putting up signage on existing latrines to separate them by gender. Depending on the state of the current infrastructure, some improvement plan elements may require significant funds. Ensuring adequate financing for WASH FIT requires that these costs be prioritized within the country's health budget. Finally, decision makers need to anticipate running costs. Consumables such as fuel for incinerators, soap for handwashing, and chlorine for water treatment should be included in the facility budget and procurement plan to avoid shortages.

Human resources

Facility staff, technical expertise, and leadership skills are required for implementation. Staff participation at the facility level is key, as this is a facility-led tool. Team members' participation in assessments, meetings, and activities is imperative to plan and implement improvements. Facilities require enough personnel for operation, maintenance, and cleaning. Technical expertise in WASH and management are needed to orient leadership, staff, and patients and visitors, including caregivers. In addition, this expertise is needed to hold training sessions, improve infrastructure and services, and to conduct supervision, monitoring, and evaluation. This expertise may exist internally or require support by the district or national government ministries or partners. The Liberian health ministry, as part of their strategy to ensure universal coverage of WASH in HCFs,

trained county health teams and subsequently established a roster of certified country trainers which was shared with WASH partners (Abrampah *et al.* 2017).

Strong leadership at the facility level can drive WASH FIT and is a key factor for success. In Chad, following training of HCF staff in cholera hotspot communities, facilities with leaders committed to the WASH FIT process made greater progress than those without. Improvements in overall cleanliness of the facility and advances in sanitation and hand hygiene facilities were observed (WHO/UNICEF 2017). In Ethiopia, facilities whose senior management were actively involved with the process were associated with the greatest improvements in the national Clean and Safe Hospitals (CASH) initiative. CASH team members had a range of skills and expertise, with a mixture of health and non-health professionals who could contribute to quality improvements (WHO 2017a). In Zambia, the national WASH and IPC training curriculum recognizes this leadership component by including a session on leadership and coaching skills in the training video on what makes a good trainer. This video covers elements of leadership and facilitation including the character traits of leadership, strategies for facing leadership challenges, facilitation skills, and the role of a trainer in establishing facility level IPC committees (Ministry of Health Zambia & UNICEF Zambia 2017).

Community participation

Community members' participation in health systems, particularly at the primary level, has been recognized as an essential component in HSS, QoC, and WASH interventions and is highlighted in the 1978 Declaration of Alma-Ata. The WASH FIT guide recommends that both male and female representatives from the community as well as any change agents or influencers are engaged in the WASH FIT process (WHO/UNICEF 2018). In many resource-limited settings, family members or visitors often provide care to the patients (Unicomb *et al.* 2018). Hence, their inclusion within the WASH FIT process can serve a dual purpose to both increase awareness around patient and visitor safety, as well as encourage community buy-in to the WASH FIT process.

Activities and outputs

As the WASH FIT implementation is both an activity and an output, we combine these within the framework, as described in Figure 2. The WASH FIT process requires time, as well as the inputs introduced above, to design implementation, funding, and monitoring and evaluation strategies. One of the first activities may include modifying the tool for the context and for the level of care. In both Madagascar and Cambodia, health ministries have modified elements of WASH FIT for inclusion in the national standards for WASH in HCFs (Ministère de Santé Publique Madagascar 2016; Ministry of Health Kingdom of Cambodia 2018). In addition, community engagement, particularly with HCF users and WASH or health committee members is important, to introduce this approach. This may occur in parallel with creating a WASH FIT team, conducting training and a facility assessment, and identifying hazards, risk levels, and actions. Subsequently, the team develops and revises the improvement plan and routine supervision and monitoring plan. Outputs from these activities may include team meeting minutes, a hazard-ranking list, and an action plan (WHO/UNICEF 2018). This plan for facilities to improve their service and QoC, as well as continued monitoring is essential.

One key activity to ensure that improvements are conducted and sustained may be regular supervision. Supportive supervision tools, such as WASH FIT, are common within HSS and QoC initiatives. A recent systematic review on supportive supervision as a strategy to improve primary healthcare services in Sub-Saharan Africa reported that it can increase job satisfaction and health worker motivation, although evidence is mixed if this results in improved clinical skills or outcomes (Bailey *et al.* 2016). In a recent study in 137 HCFs in India, on average, there was a significant improvement in the WASH functional status of the HCF between two supportive supervision visits that were done three months apart (Subramaniam & Selvavinayagam 2018). In an evaluation of a pilot WASH FIT project in three Togolese HCFs, WASH FIT team members reported that national supervision was a motivating factor for acting on their WASH improvement plan (Weber *et al.* 2018). In Liberia, the IPC minimum standards include aspects of WASH and are assessed monthly at the facility level by the health ministry and partners (Abrampah *et al.* 2017).

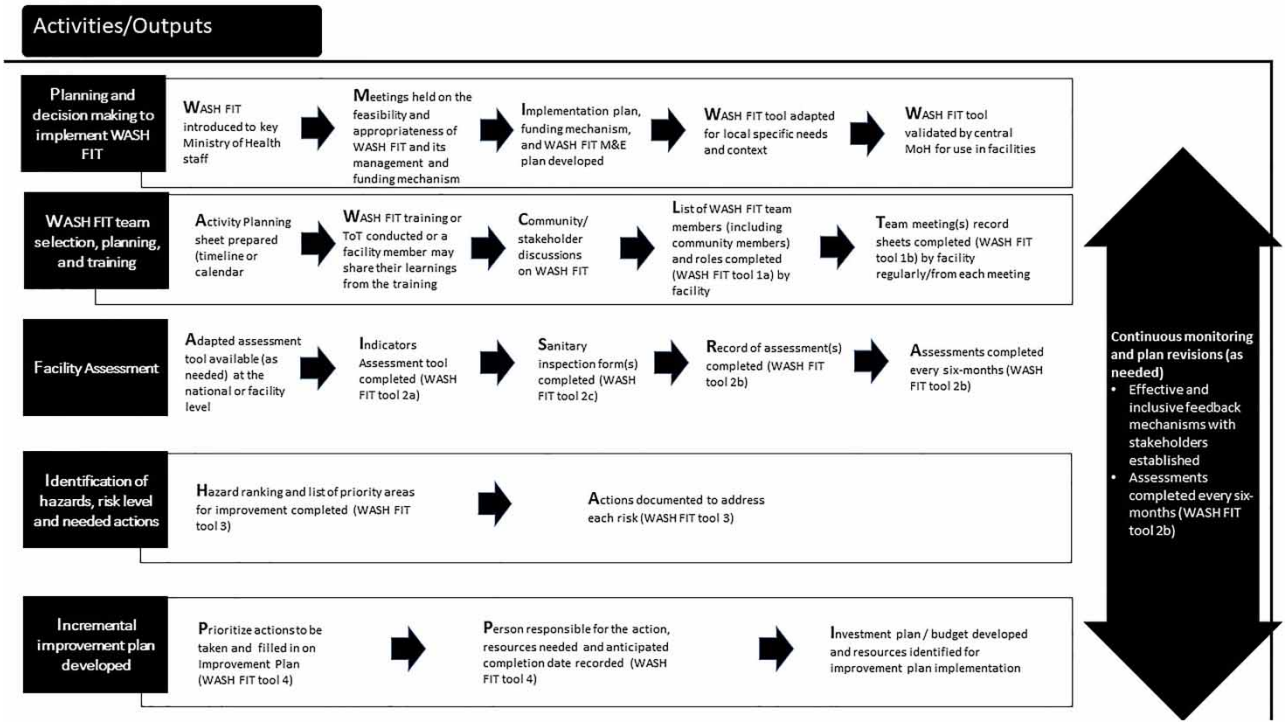

Figure 2 | WASH FIT activities and outputs.

Activities and outputs are process oriented and do not yet represent actual changes or outcomes, which are discussed in the next section.

Outcomes

Outcomes are the intermediate changes that result from the WASH FIT process. These include changes in infrastructure, operations and management, staff and patient experience, finance, and policy. The outcomes presented herein and in Figure 3 are potential outcomes that may not be achieved in every facility. Outcomes may depend on adherence to the methodology, context, available inputs, infrastructure and service interventions conducted, and the length of time that the tool is used. Policy or financial outcomes may drive change in operations and management. Alternatively, staff might start with small changes in infrastructure and services that eventually influence standard operating procedures. When implemented within broader QoC, IPC initiatives, or in conjunction with health programming, the use of WASH FIT may yield more significant results.

Changes in infrastructure, operations, and management

WASH FIT helps teams to identify deficiencies in WASH infrastructure, services, and supplies through a facility-level assessment. Based on the deficiencies identified, teams develop and implement an improvement plan. This can target infrastructure and supplies such as water supply and toilets, appropriate personal protective equipment for cleaning and waste management staff, the safe disposal and elimination of sharps, adequate spacing between beds, and handwashing stations with soap and water. In Togo, an evaluation of a WASH FIT pilot project demonstrated that on average, the three HCFs improved from 18% of total indicators meeting WASH FIT standards at baseline to 44% after seven months. Examples of improvements included improved drinking water supply, medical waste segregation, and increased soap at handwashing stations (Weber *et al.* 2018). Additionally, services such as regular water quality testing, maintaining incinerators or chlorine-dosing units may be targeted through improved management and the availability of written, up-to-date protocols and educational

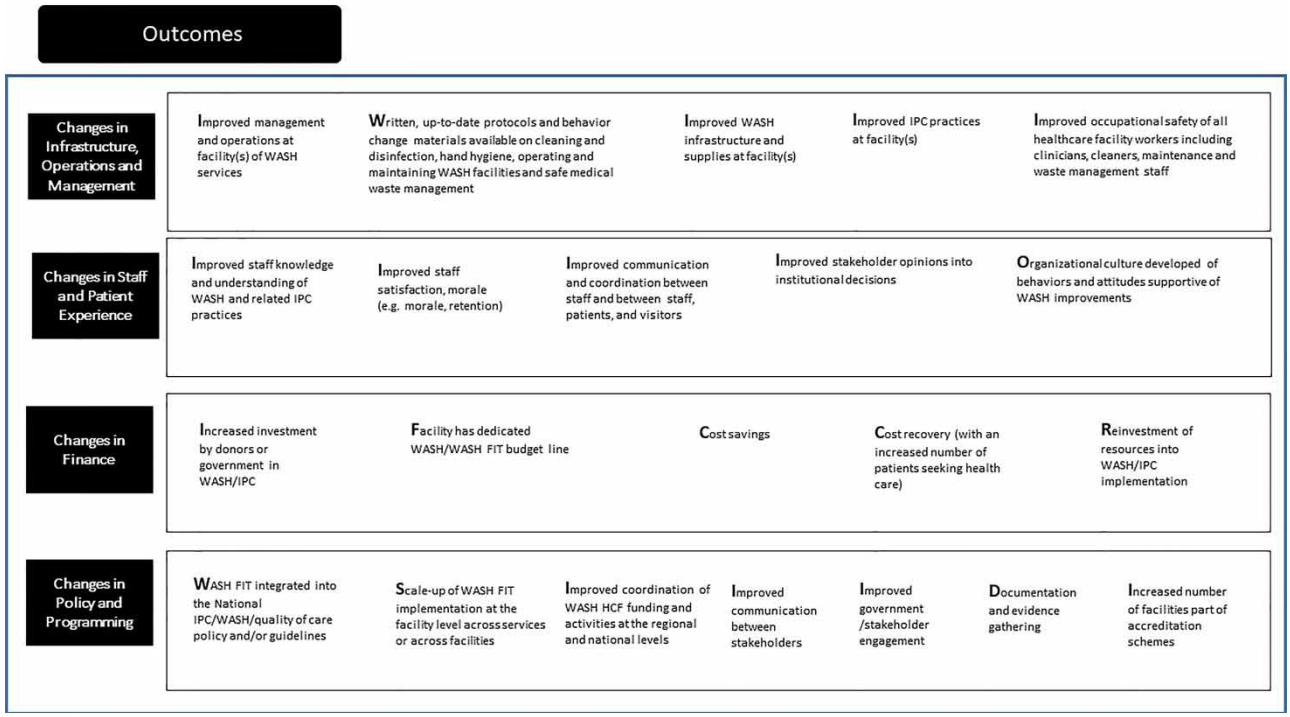

Figure 3 | Potential outcomes of WASH FIT.

materials on WASH. WASH FIT provides HCF staff with clear position descriptions to detail their roles and responsibilities for WASH and IPC. Regular team meetings as suggested in the WASH FIT guide may enhance communication.

These changes can subsequently lead to improvements in IPC practices and health in the shorter term as well as broader health impacts in the longer term. In the shorter term, this could mean improvements to occupational safety for care providers, cleaners, and waste management staff. As highlighted during the recent West African Ebola epidemic, workers in facilities with inadequate WASH and IPC infrastructure and supplies face health risks (Cooper *et al.* 2016). A systematic review on the infection rates and risk factors for healthcare workers during Ebola and Marburg virus outbreaks reported that inadequate, insufficient, and/or the incorrect use of personal protective equipment as the most frequently cited exposure risk. Additionally, some studies reported a lack of electricity, running water, medical waste management issues, or shortages of soap, chlorine, and other disinfection supplies as risk factors (Selvaraj *et al.* 2018). The implementation of the WASH FIT incremental improvement plan can address some risk factors. In Togo, participants across the three pilot HCFs felt that using the WASH FIT process improved occupational safety (Weber *et al.* 2018).

Changes in staff and patient experience

WASH FIT may enhance attitudes, behaviors, skills, communication, and coordination among HCF staff both through the process of participation and the resulting improved infrastructure and services. Improved working conditions, among other factors including improved water and sanitation, may contribute to worker retention (Henderson & Tulloch 2008). Both the process of participating in WASH FIT and in having better WASH services can affect attitudes and practices. Conducting the WASH FIT assessment as a team exercise may contribute to knowledge gained about WASH and IPC practices and risky behaviors. In turn, this may result in positive changes in staff knowledge and practice of key WASH behaviors by personnel. Once infrastructure and services are improved, staff may also change behaviors because they work in an environment

conducive to WASH and IPC practices. In Kenya, training coupled with the installation of water stations, provision of soap, and chlorine products resulted in the sustained maintenance and replacement of handwashing and drinking water stations, years after the intervention, although fewer HCFs had detectable chlorine levels in stored water (Sreenivasan *et al.* 2015; Rajasingham *et al.* 2018). However, additional behavioral determinants, beyond just knowledge and the physical environment, influence WASH practices (Dreibelbis *et al.* 2013) and these factors may also need to be addressed to ensure sustained behavior change.

Changes in finance

The establishment of an action plan as part of WASH FIT may also help HCFs prioritize funds for WASH and IPC during their internal budgetary process and in seeking funds from national governments or external donor support. As WASH FIT is a continuous process, outcomes from the process may then become inputs as implementation continues. For example, a budget line dedicated to WASH or WASH FIT at the facility may be an outcome of this process. Over time, the budget line may be considered an input as it will serve as a financial resource for the continuation of WASH FIT.

While WASH FIT may incur costs to the facilities, it may also lead to potential cost savings through the efficient use of resources, cost recovery, and increased investment by the facility, donors, and governments. An active WASH committee may contribute to preventive maintenance of WASH infrastructure. This may help avoid larger replacement costs for equipment such as incinerators. By improving the physical environment, more patients may seek care at the HCF, which may lead to increased revenue (via cost recovery). However, in many studies, the highest costs in HCFs are personnel and drugs, which are unlikely to be significantly altered by improvements in WASH. In addition, the potential of quality improvement strategies, such as WASH FIT, to generate revenue, may be limited. In Nigeria, there were major upgrades to equipment, facilities, and staff in sites, yet the number of complicated deliveries in project sites declined (Dettrick *et al.* 2013). Mothers may have continued to deliver at home, rather than incur costs at a HCF (Dettrick *et al.* 2013). Savings due to WASH FIT may also be at the societal level (e.g., reductions in morbidity leading to household savings) rather than at the facility level.

Changes in policy and programming

Changes from the use of WASH FIT and lessons learned from implementation and evaluations may have a broader influence beyond the local facility level. Use of WASH FIT may lead to changes in policies at multiple levels including within ministries of health or other government departments, donors, and agencies. This could include integrating WASH FIT into national policies and guidelines, scaling up of WASH FIT, and improving integration of WASH in HCF-funding activities. Following a 2016 workshop on WASH in HCFs, the Democratic Republic of the Congo included WASH indicators in the Ministry of Public Health's Strategic Plan for 2016–2020. In Mali, a national taskforce was established to strengthen the implementation of WASH standards in HCFs (WHO/UNICEF 2017).

Impacts

Outcomes ultimately lead to impacts which are the desired high-level changes resulting from program activities. The use of the WASH FIT may contribute to broader impacts. This could include changes in health, QoC, community WASH practices, and emergency preparedness and resiliency.

Health

Potential health impacts to which WASH FIT may indirectly contribute include reduced morbidity, mortality, reduced use of antibiotics, and improved patient safety at the facility level. While applying a logic model evaluation framework to the use of WASH FIT in HCF will not be enough to demonstrate health impacts, there is some evidence to suggest that WASH may contribute to these outcomes. In some settings, women may prefer to deliver at home because of poor WASH at the HCF (Bouzid *et al.* 2018). Home deliveries are a risk factor to maternal and neonatal health. While there is plausible reason to believe that poor WASH conditions in HCFs may result in adverse maternal and

perinatal health outcomes, further research is required to investigate the magnitude of effects of particular WASH exposures on outcomes (Benova *et al.* 2014; Campbell *et al.* 2015).

QoC

WASH FIT may contribute to positive changes in QoC through improvements to the physical environment. One of the eight WHO Standards for improving quality of maternal and newborn care in health facilities states that 'the health facility should have an appropriate physical environment, with adequate water, sanitation and energy supplies, medicines, supplies and equipment for routine maternal and newborn care and management of complications' (WHO 2016b). Evidence from a systematic review on the impact of WASH in HCF on care-seeking behavior and patient satisfaction reported that, while not the main factor, poor WASH services was associated with patient dissatisfaction (Bouzid *et al.* 2018).

Community WASH practices

Improved WASH services and practices in a HCF may have a spillover effect at the community level resulting from staff modeling and promoting key hygiene behaviors. In rural Kenya, following the installation of hand washing and drinking water stations and the training of workers on hand hygiene and on how to educate patients, female heads of household in the HCF catchment area exhibited statistically significant increases in handwashing knowledge. They also reported increased treatment of drinking water at home, although the percentage of households with the recommended levels of free residual chlorine in stored drinking water did not change (Bennett *et al.* 2015).

Emergency preparedness and resiliency

WASH FIT may help improve readiness for outbreaks (e.g., Ebola, cholera) and emergency preparedness and resilience to climate change-related adverse events. For example, increasing water storage, adding rainwater-harvesting systems, or improving latrines to be flood-proof at HCFs may contribute to climate resiliency (GWP & UNICEF 2014). These measures result in immediate WASH benefits and can help the HCF adapt to potential future scenarios and uncertainties.

LIMITATIONS

The logic model does not address causal pathways. The use of WASH FIT and the implementation of an improvement plan are likely to be just one of many factors that would influence the changes that are presented here. Not all outcomes and impacts presented in this framework are likely to occur in all HCFs and not all at the same time where they do occur. The outcomes and impacts presented in this framework are hypotheses drawn from the broader fields of WASH, HSS, and QoC, as there is limited research to date on WASH FIT and generally on the health effects of WASH services in HCFs. This includes the effects of improved WASH on antimicrobial resistance, which has been identified as a critical research priority (Wuijts *et al.* 2017).

This framework focuses on hypothesized outcomes and impacts. As HCFs implement WASH FIT more broadly in a range of settings, documenting case studies, analyzing lessons learned, and conducting evaluations can help to refine the framework. In addition to a logic model to evaluate outcomes, economic evaluations should be conducted to allow for comparison with other WASH quality improvement tools. While WASH FIT measures some components of behavior change, such as improved medical waste sorting, comprehensively measuring healthcare worker behavior change is beyond the scope of WASH FIT and of this framework. Some outcomes and impacts may be difficult to measure. For example, there is currently a lack of measures of QoC appropriate to lower-income settings (Akachi & Kruk 2016) and no single validated tool or indicator for patient satisfaction or patient experience especially across cultures (Almeida *et al.* 2015).

WASH FIT and the conceptual framework described herein should be adapted by the end users to the variety of care models and challenges that HCFs face in different LMIC countries and settings. The WASH FIT guide recognizes this and recommends that indicators be adapted to meet national standards, that users remove indicators that

are irrelevant, and that additional environmental health indicators are included where applicable (WHO/UNICEF 2018). Finally, there are many competing priorities at health facilities, and WASH FIT requires adequate resources and long-term planning. This is a challenge for ministries of health with competing priorities. For example, Liberia has launched a national WASH in HCF package including a roster of trainers; however, the lack of a long-term plan has resulted in incomplete delivery nationwide (Abrampah *et al.* 2017).

CONCLUSION

Many HCFs lack basic WASH services that are critical to QoC. WASH is a foundational element of quality universal health coverage, a key component of maternal and newborn health services, a target of SDG 3, and is required for achieving the SDG 6 on clean water and sanitation. WASH FIT may be one tool that can assist ministries and partners in addressing these gaps. WASH FIT is a new tool and may lead to positive changes including short-term outcomes as well as broader health impacts, contributing to maternal and newborn health, and leading to improvements in QoC. This conceptual framework, which employs a logic model, provides a common approach to integrating planning, implementation, and evaluation of future WASH FIT initiatives.

As a continuous improvement framework, the use of WASH FIT requires long-term engagement and resources to realize outcomes and impacts. If funding, material, or policy support is decreased, the facility may revert to previous levels of WASH services and a lower QoC. While there have been increases in annual government allocations and spending for WASH, more than 80% of countries responding to the 2017 UN-Water survey reported inadequate financing to meet national WASH targets (WHO 2017b). Thus, insufficient funding is one risk to achieving the SDGs. Including WASH FIT in broader initiatives for HSS to improve QoC and IPC practices may help with sustainability.

Disclaimer: The findings and conclusions in this manuscript are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

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