

# A Business Case for WASH in Healthcare Facilities

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“If you can’t do the basics [like water, sanitation and hygiene], forget the rest.  
Prevention, prevention, prevention.”

-- Dr. Tedros Adhanom Ghebreyesus  
Director-General, WHO

“Systems change is most likely to succeed when strategic adaptive organizations build winning coalitions to advance a transformative initiative, which targets a specific key fulcrum or leverage point in the system... Our approach to systems change seeks to influence one aspect of the system that is critical to its core purpose and has the potential to catalytically influence other parts of the system. “

-- Co-Impact. “Our Systems Change Approach”

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*Water, sanitation, and hygiene (WASH) services are the fulcrum for achieving effective healthcare facilities (HCF). The purpose of this document is to outline the essential components and costs of successful WASH investments. It is not intended to be a technically comprehensive roadmap. This document is designed to highlight the costs and substantial benefits of these WASH investments, and to allow both donors and practitioners to collaborate in defining and executing successful projects and integrating them into broader health and WASH strategies. Further discussion around the co-financing of these WASH in healthcare facilities activities is underway and must include donors, governments, and private sector actors.*

## **Background**

Every year, more people are killed from healthcare-associated infections than HIV, tuberculosis, and malaria combined. We must be taking action to prevent these infections by ensuring safe healthcare environments where mothers, children, and families can receive quality care.

Safe water, functioning toilets, and soap are essential for healthcare workers to provide safe, quality care. Investments in WASH in healthcare facilities can deliver returns of 5x initial outlays. The UN Secretary General has recognized the critical nature of WASH, issuing a Call to Action to ensure all healthcare facilities have access to WASH by 2030. Benefits of investing in sustainable WASH within the healthcare setting include:

- Disease and pandemic prevention;
- Enhanced quality of care, reduced maternal and newborn mortality, and reduced healthcare-acquired infections (HAIs) and antimicrobial resistance (AMR); and
- Effectively managed and sustainable healthcare facilities and systems, enhanced worker safety, productivity, and morale

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## Defining the Challenge and Opportunity

Today, [two billion people](#) worldwide lack access to HCF with basic water services and 1.5 billion people lack access to HCF with any sanitation services at all. Two in five HCF lack soap and water or hand sanitizer where patients receive care. The data above comes from the first global baseline report of WASH in healthcare facilities, published by the World Health Organization (WHO) and UNICEF in 2019. This report drew on data from over half a million HCF in 125 countries, demonstrating the magnitude of the problem and the number of HCF in need of WASH. HCF must have the appropriate infrastructure and staff capacities to provide safe, effective, equitable, and people-centered services.

This is one of the most serious issues facing health systems in low- and middle-income countries (LMICs). But it is also one of the most solvable. Together, the health and WASH sectors can come together to address the problem holistically, including both technical and systems improvements. We must get back to the basics and we must get them done better.

## Why Invest in WASH in Healthcare Facilities?

The centrality of WASH within a healthcare facility means that it touches upon every facet of patient care. Safe water, functioning handwashing facilities, latrines, and hygiene and cleaning practices are especially important for:

- Improving health outcomes linked to **maternal and newborn health**
  - Globally, [1 in 4 maternal and newborn deaths](#), approximately 1 million in total, are likely linked to unhygienic birthing practices.
  - Rates of healthcare-associated infections (HAIs) in newborns are [up to 20 times higher in resource-limited settings](#), as compared to developed country contexts, with poor hygiene cited as a key concern.
  - Every year, [17 million women](#) in the Least Developed Countries give birth in facilities with inadequate WASH.
- Enhancing **quality of care outcomes** and, in turn, **care-seeking behaviors and patient satisfaction** through improved WASH services
  - Poor WASH provision has been associated with [significant patient dissatisfaction](#), especially women.
  - Poor WASH stops pregnant women from [seeking maternity services](#) in healthcare facilities with trained staff.
  - In a recent survey of [1.2 million women](#) on their demands for quality reproductive and maternal health, clean and safe healthcare facilities were in the top 2 priorities, only behind compassionate care.
- Carrying out basic infection prevention and control (IPC) procedures necessary to **reduce HAIs and prevent antimicrobial resistance (AMR)**
  - On average, [1 out of every 6 patients](#) in LMICs contracts a HAI during his or her stay at a healthcare facility.

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- Infections prolong hospital stays, create long-term disability, increase resistance to antimicrobials, represent a massive additional financial burden for health systems, generate high costs for patients and their family, and cause unnecessary deaths.
- Limited data exists on the cost of AMR and HAIs in LMICs. However in the US, we know that HAIs cost the healthcare system [\\$6.5 billion per year](#) while AMR infections cost [\\$2 billion per year](#).
- **Strengthening resilience of healthcare systems** in order to prevent disease outbreaks, allow effective responses to emergencies, as well as ensuring the safety of the staff
  - During the 2016 Ebola Outbreak, the infection rate was 103-fold [higher in healthcare workers](#) in Sierra Leone than in the general population and [42-fold higher](#) in Guinea. WASH was cited as a key concern in ensuring IPC.
- **Sustainable and effective management of healthcare**, throughout the service delivery chain
  - WASH provides a cornerstone of sustainably managed and well-run healthcare systems that can generate improved staff morale and effectiveness as well as system efficiency.

With the benefits of WASH clearly established, the large gaps in coverage are unacceptable. In these countries the health sector, who operate HCF, and the WASH sector, who bring the technical know-how, must collaborate to address these gaps. Momentum is building, but the key to solvability is sustainability. Below is a practical description of what a sustainable WASH program looks like, the costs of core program elements and what benefits/returns such a program delivers.

### What are the Elements of Sustainable WASH in a Healthcare Facility?

The World Health Organization (WHO) defines WASH in healthcare facilities as “the provision of water, sanitation, healthcare waste management, hygiene and environmental cleaning infrastructure and services across all parts of the facility.” Healthcare facilities “encompass all formally recognized facilities that provide health care, including primary (health posts and clinics), secondary, and tertiary (district or national hospitals) public and private (including faith-run) and temporary structures designed for emergency contacts (e.g., cholera treatment centers) they may be located in urban or rural areas” ([WHO/UNICEF, 2019](#)).

At a high level, investing in an effective and sustainable WASH system in a healthcare facility would include:

- Capital expenditures for hardware encompassing water access points, water treatment, sinks, toilets/latrines, and waste management;
- Technology and process innovation for improved results and reduced costs;
- Integrating regular cleaning and maintenance into facility training and standard operating procedures;
- Consistent supply chain for consumable products like soap and chlorine;
- Sufficient budget for operations and maintenance;
- Monitoring and continuous learning;

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- Fully engaged and committed facility personnel, from administration to medical professionals to cleaning staff;

Simple installation of hardware alone will not create long-term improvements to healthcare operations and outcomes. Sustainable WASH in HCF will require integration of training and best practices into human resources, monitoring systems, and facility operations. Management systems at HCF must be in place to ensure operational and financial accountability, including budgets for maintenance. These approaches generate impacts that ripple throughout an organization, benefiting healthcare outcomes, patient and staff health, morale and safety and improved efficiency/cost.

### **What are the Estimated Costs for a WASH in Healthcare Facilities Program?**

There are various kinds of costs to consider when funding WASH within HCF. HCF needs will depend on the facility size (health post, health center, hospital), patient load, healthcare services provided, and current conditions of WASH infrastructure. Some investments may focus on the “hardware” (i.e., sinks and toilets), but we cannot forget the value of “software” investments, like training and operations and maintenance, particularly in order to ensure sustainability. Success of investments at the facility level can be enhanced by building supportive systems and policies at the national and district levels.

The costs incurred at the facility, subnational and national levels can be categorized as: capital investments; consumable products; operations and maintenance; education and ongoing training; human resources; monitoring and accountability, coordination; and research and learning. An expanded list with examples can be found in the Annex. Over time, costs are expected to become more manageable as WASH hardware and software are integrated into facility design, plans and operations, and as hospitals are better connected to community WASH systems.

The economics are compelling. The cost of sustainable WASH is not trivial, but nor is it excessive given the multiple benefits. Upgrades can be made over time in phases. Examples of cost of WASH in HCF hardware interventions include latrines and bathing shelters (~US\$15,000), mechanized borehole piped to all points of care (~US\$50,000), and handwashing facilities (~US\$500-1,000). Annual O&M budgets typically account for 3-5% of the initial investment. As described below, these investments deliver benefits many times the value of initial outlays.

In addition to the hardware costs, an example of the costs of a software program comes from USAID and Save the Children, implementing the Clean Clinic Approach (CCA), an incremental approach to improving WASH and IPC. In Guatemala, the [cost of implementing the CCA](#) was \$23,697/HCF over 18 months, which included HCF assessment, national program development, regional workshops and HCF orientation, routine coaching and supervision, monitoring and learning, and operations.

### **What are the Outcomes (Returns) of Investing in WASH in Healthcare Facilities?**

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An analysis of the full return on investment for WASH in HCF has not yet been conducted. Analyses done in recent years show 5-10x returns on dollars spent, depending upon location, with higher returns reported in disease hotspot areas. Beyond this, implementers have documented significant outcomes based on these investments, such as increased patient intake and service uptake (e.g., labor and delivery services), improved patient satisfaction, staff morale and productivity, and income generation. Global focus on the benefits of WASH in healthcare is increasing as this issue becomes a priority in healthcare facilities. As new and ongoing WASH projects are implemented, more consistent data will be developed as part of project design to encourage expanded investment and minimize reinventing of the wheel.

Despite the large gaps in coverage of sustainable WASH in HCF worldwide, there are case examples which can offer a roadmap for scaling up sustainable WASH as part of strategies to enhance health outcomes and strengthen health systems. Global organizations have begun to establish tools and proven approaches to assist ramping up WASH programs. These tools include CCA and WHO/UNICEF's Facility Improvement Tool (WASH FIT). There are number of examples – one such illustrates the value of these approaches:

“In the [Democratic Republic of the Congo](#), the CCA program found that “the increase in delivery services increased the CCA facilities’ revenue, allowing for reinvestment into health care services. In Tshopo, five of the facilities that reached Clean Clinic Status cumulatively saw their patient intake double (from 166 to 333) as did the number of deliveries (12 to 26). Accordingly, the income from provided services almost tripled from 262,000 to 738,000 Congolese Francs (US\$157 to US\$443).”

Each element of WASH delivers value. Even simple measures such as improving cleaning and maintenance and installing low-cost handwashing stations and water treatment at healthcare facilities improve quality of care, increase uptake of services, and encourage community members to change WASH practices at home.

Investing in sustainable WASH in HCF yields multiple benefits. These include direct health benefits, such as maternal and child survival and reductions of healthcare acquired infections and AMR. But an integrated approach to WASH also results in better facility operations, efficiencies, and enhanced worker safety, productivity and morale. WASH in HCF also serves as an entry point to working with governments and building capacity by co-investment in funding and expertise, supporting countries in their initiatives to improve the health of the people while strengthening self-reliance.

### **Conclusion and Next Steps**

It is hoped that this case begins to provide a common platform for collaboration to accelerate implementation of WASH in healthcare facilities. In the coming year, supporting organizations will be building partnerships not only to achieve improved health outcomes, but also to develop a knowledge

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base that will help ensure that WASH becomes second nature and always an integral feature of healthcare for all. For further information on the WASH in healthcare challenge and to identify investment opportunities, please click the following link: [www.washinhcf.org/commitments](http://www.washinhcf.org/commitments)

### **ANNEX**

There are a number of resources with detailed technical information and case studies. Experts like WHO, UNICEF, and CDC have examples of successful programs in any level of detail needed. Specific examples in cases are available, for example, through the following links:

[WaterAid: WHO/UNICEF WASH FIT -- Cambodia Case Study](#)

[CDC/WHO: Strengthening Healthcare Facilities Through Water, Sanitation, and Hygiene \(WASH\) Improvements: A Pilot Evaluation of “WASH FIT” in Togo](#)

[USAID/Save the Children: Clean Clinic Approach](#)

[Soapbox Collaborative: TEACH CLEAN Package](#)

[PATH: Supporting safe water, sanitation and hygiene in healthcare facilities](#)

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### Breakdown of WASH in HCF Investments

Facility Level	Capital Investments (one-time)	<ul style="list-style-type: none"> <li>• Boreholes</li> <li>• Safe water connections and access points</li> <li>• Sanitation facilities</li> <li>• Pipes and sinks for handwashing</li> <li>• Equipment for safely managing and disposing of waste</li> </ul>
	Consumables (recurring)	<ul style="list-style-type: none"> <li>• Soap</li> <li>• Disinfectant or other cleaning material</li> <li>• Mops and related maintenance tools</li> </ul>
	Operation and Maintenance	<ul style="list-style-type: none"> <li>• Prevention</li> <li>• Repairs</li> </ul>
	Training	<ul style="list-style-type: none"> <li>• Infection Prevention and Control</li> <li>• Cleaning</li> <li>• Maintenance</li> </ul>
	Research & Learning	<ul style="list-style-type: none"> <li>• Best practices</li> <li>• Behavior change drivers</li> <li>• Cost-effective implementation</li> <li>• Data and continuous improvement processes</li> </ul>
	Human Resources	<ul style="list-style-type: none"> <li>• Maintenance staff</li> <li>• Cleaners</li> <li>• Advocates</li> </ul>
National/Subnational Level	Guidelines & Policies	<ul style="list-style-type: none"> <li>• Integration and harmonization</li> <li>• Rollout and training</li> </ul>
	Monitoring	<ul style="list-style-type: none"> <li>• Routine assessment</li> <li>• Links to digital health</li> </ul>

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	Accountability	<ul style="list-style-type: none"><li>● Licensing</li><li>● Accreditation</li></ul>
	Coordination	<ul style="list-style-type: none"><li>● Multisectoral (WASH &amp; Health)</li></ul>
	Education	<ul style="list-style-type: none"><li>● Clinical pre-service training</li></ul>