

# Situational Analysis of WASH in Health Care Facilities of Sudan

October 2022



## Acronyms

AMR	Antimicrobial Resistance
COVID-19	Novel 2019 Corona Virus Disease
DHIS	District Health Information System
EMR	Eastern Mediterranean Region
FMoH	Federal Ministry of Health
HCAI	Health Care Associated Infections
HCENR	Higher Council for Environment and Natural Resources
HCF	Health Care Facility
IMS	Information Management System
IPC	Infection Prevention and Control
JMP	Join Monitoring Program (UNICEF & WHO) for WASH
LMIC	Low- and Middle-Income Countries
MIWR	Ministry of Irrigation and Water Resources
ODF	Open Defecation Free
O&M	Operation and Maintenance
PHC	Primary Health Care
PPP	Public Private Partnership
SDG	Sustainable Development Goals
SMOH	State Ministry of Health
SMC	Sudan Medical Council
UNICEF	United Nations Children's Fund
WHO	World Health Organization

## Background

The availability of water, sanitation and hygiene (WASH) services in health care facilities, particularly in primary health care settings where they are often absent, support core health care aspects of quality, equity and dignity for all people. The 2022 WASH in HCF global baseline survey update undertaken by the JMP reveals that currently 22% of health care facilities lack basic water services and one in ten have no sanitation services, together impacting 1.7 billion people. Furthermore, only half (51%) of facilities globally have basic hand hygiene facilities at points of care and within five meters of toilets, and 34% in Least Developed Countries have basic medical waste management service (JMP, 2022)

Poor quality of health care is responsible for up to 8.4 million deaths a year in LMICs, which accounts for up to 15% of overall deaths in these countries. In 2019, all 194 WHO Member States unanimously approved World Health Assembly Resolution 72.7 on WASH in health care facilities resulting in a global call to action by the UN Secretary General to elevate the importance of WASH in HCFs reinforces the necessity for all governments to take action to improve the quality of services and to develop a national direction on quality as a priority. (UN, 2019)

Basic WASH services in health care facilities are fundamental to providing quality care. The critical importance of infection prevention and control during the Covid-19 pandemic also highlighted the strong relationship and role WASH has in quality care delivery. In order to improve and sustain WASH services in health care facilities, a set of eight practical steps that countries can take at the national and subnational level have been identified. (WHO/UNICEF, 2019) (Refer Annex 1 for full list of steps). The starting point and basis for many of the steps is to conduct a national situational analysis and assessment of WASH in health care facilities and the health care system more broadly. A situational analysis coupled with a recent assessment of WASH coverage provides a basis for planning and resource mobilization. It can also be used to set incremental targets toward the goal of universal access by 2030.

The term “Basic Services is defined under the JMP services ladder provided in the figure below”

SERVICE LEVEL	WATER	SANITATION	HYGIENE	WASTE MANAGEMENT	ENVIRONMENTAL CLEANING
<b>BASIC SERVICE</b>	Water is available from an improved source* on the premises.	Improved sanitation facilities* are usable, with at least one toilet dedicated for staff, at least one sex-separated toilet with menstrual hygiene facilities, and at least one toilet accessible for people with limited mobility.	Functional hand hygiene facilities (with water and soap and/or alcohol-based hand rub) are available at points of care, and within five metres of toilets.	Waste is safely segregated into at least three bins, and sharps and infectious waste are treated and disposed of safely.	Protocols for cleaning are available, and staff with cleaning responsibilities have all received training.
<b>LIMITED SERVICE</b>	An improved water source is available within 500 metres of the premises, but not all requirements for a basic service are met.	At least one improved sanitation facility is available, but not all requirements for a basic service are met.	Functional hand hygiene facilities are available either at points of care or toilets but not both.	There is limited separation and/or treatment and disposal of sharps and infectious waste, but not all requirements for a basic service are met.	There are cleaning protocols and/or at least some staff have received training on cleaning.
<b>NO SERVICE</b>	Water is taken from unprotected dug wells or springs, or surface water sources; or an improved source that is more than 500 metres from the premises; or there is no water source.	Toilet facilities are unimproved (e.g. pit latrines without a slab or platform, hanging latrines, bucket latrines) or there are no toilets.	No functional hand hygiene facilities are available either at points of care or toilets.	There are no separate bins for sharps or infectious waste, and sharps and/or infectious waste are not treated/disposed of.	No cleaning protocols are available and no staff have received training on cleaning.

\* Improved water sources are those that by nature of their design and construction have the potential to deliver safe water. These include piped water, boreholes or tubewells, protected dug wells, protected springs, rainwater, and packaged or delivered water. Improved sanitation facilities are those designed to hygienically separate human excreta from human contact. These include wet sanitation technologies – such as flush and pour-flush toilets connecting to sewers, septic tanks or pit latrines – and dry sanitation technologies – such as dry pit latrines with slabs, and composting toilets.

Figure 1 JMP service ladders for monitoring of WASH in health care facilities

This report provides a summary of a situational analysis of WASH and quality in health care facilities conducted in September 2022 which builds upon earlier baseline assessment findings in April 2022 and a WASH assessment of health care facilities conducted in September 2021. The specific objectives of this analysis were to:

- Identify key opportunities and barriers for WASH improvements in health care facilities in relation to the eight practical steps.
- Understand to what extent WASH is integrated with wider work on health policies, strategies and initiatives and other infection, prevention and control initiatives.
- Identify facility level activities and challenges, particularly relating to improvement through accountability and monitoring mechanisms and gain a better understanding of costs and financing mechanisms for WASH in HCF improvements at the national and subnational level.
- Provide a set of recommendations for strengthening and sustaining an integrated and multisectoral approach to improving WASH in health care facilities

The health delivery system falls under the Federal Ministry of Health (FMOH) The approximately 2500 health care facilities fall under either hospital (20%) or non-hospital (80%) categories, with non-hospitals comprising Primary Health Care Centers (PHC), primary health unities (PHU) and Mobile Units. Institutionally, the health care system falls under a three-tier system: *Federal, State and Locality/ District*.

Whilst recent efforts have already been initiated to improve the services of WASH in health care facilities such as a 2021 national survey undertaken to establish a baseline context of basic WASH services in the health care context, several potentially beneficial national policies, strategies and plans have fallen on the wayside or yet to be prioritized. Such examples include a 25-year strategy (2007) for Health System reform under the National Council for Strategic Planning which included sanitation and hygiene, health and drinking water and WASH policy (2010) that targeted the provision of safe water to all health facilities by 2030

However, the current transitional government present some opportunities as the FMOH prepares to undergo structural reforms. Institutionally, the FMOH has a relatively strong potential to expand upon commitments to WASH in HCF under the existing Directorate of Environmental Health & Food Control which has the potential to create its own WASH in HCF program or department. Table 1 summarizes the main key strengths and challenges for WASH in HCFs that were found:

*Table 1 Strengths and Challenges found during the assessment*

<b>Strengths and Opportunities</b>	<b>Challenges and Bottlenecks</b>
<ul style="list-style-type: none"> <li>– Strong willingness and motivation for reform and progress by stakeholders including government departments and health facilities</li> <li>– National level leadership for IPC with regular training programs</li> <li>– ODF commitment program in place nationally</li> <li>– Strong WASH intervention plan in place in the form of national SDG6 Plan</li> </ul>	<ul style="list-style-type: none"> <li>– Challenging period politically and economically</li> <li>– Absence of an approved national WASH policy</li> <li>– No monitoring or limited accountability mechanisms</li> <li>– Poor definition of roles and responsibilities at all levels supporting WASH in health care facilities</li> </ul>

	<ul style="list-style-type: none"> <li>– Weak cross-sectoral coordination and communication</li> <li>– Inadequate standards and policies regulating delivery of WASH in HCFs</li> <li>– Insufficient/ inadequate infrastructure</li> <li>– Lack of dedicated facility-level budgets and revenue generation</li> <li>– High health facility staff turn-overs rendering trainings</li> </ul>
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## Methodology

The analysis began with a rapid review of national policies and strategies related to WASH, health systems and infection prevention and control. A one-week mission to Khartoum in collaboration with WHO Sudan subsequently took place in September 2022. The mission involved interviews with relevant stakeholders and Government departments including Quality and Curative Medicine under the Federal Ministry of Health. Various departments under these Directorates that were deemed to have some interest or role in WASH were approached for discussions, including Departments of hospital management/Emergency Care, Policy and Planning, Environmental Health Department, Expansion program & development and projection and IPC. Other government sectors that were approached for interviewing included Ministry of Irrigation and Water Resources, Drinking Water and Sanitation Unit for their role in providing water to health facilities and Higher Council for Environment and Natural Resources for their role in medical waste collection, treatment and disposal

The second component of the methodology included visits to some health care facilities. Two days were spent at facilities in Khartoum conducting informal walk-through assessments and interviews with facility managers and relevant members of staff. In total, two state hospitals and a Primary Health Centre were visited. The purpose of the visits was to gain a snapshot of the typical WASH context and challenges and understand how policies are being implemented and applied rather than a thorough assessment of WASH services

## Findings

*Table 2 Overview of Sudan and WASH in HCF access*

Overview of Sudan
<p>Large population: 48.5 million, largely rural (65%); 2.4% growth rate</p> <p>18 states, 189 localities</p> <p>Currently under transitional military government since 2019</p> <p>Complex, decentralized health system (national, state, locality governance levels) with weak regulatory enforcements and financing measures</p> <p>Other than IPC training measures, limited programs and initiatives strengthening WASH in health care</p>

<b>Latest estimates of WASH “Basic Services” access in health care facilities*</b>						
<i>Health Care Context</i>	<i>Urban</i>	<i>Rural</i>	<i>Hospital</i>	<i>Non-Hospital</i>	<i>Public</i>	<i>Private</i>
<i>Basic** Water Supply</i>	54%	11%	43%	23%	22%	53%
<i>Basic** Sanitation</i>	9%	5%	12%	1%	4%	16%
<i>Basic** Hand Hygiene</i>	29%	10%	28%	15%	12%	44%
<i>Basic** Waste Management</i>	8%	<1%	6%	3%	2%	9%
<i>Basic** Environmental Cleaning</i>	3%	<1%	2%	1%	1%	4%

\*Source: “Regional Snapshot of Water, Sanitation, Hygiene, Healthcare Waste Management and Environmental Cleaning in Health Care Facilities in the WHO Eastern Mediterranean Region” (JMP, 2021)”

\*\* Refer figure 1 for Basic services definitions

## Policy Mapping

There is no single policy that comprehensively describes national policies and planning, including standards and coverage targets, on WASH in health care facilities in Sudan. The current transitional government in 2019 following the December Revolution of Sudan, has seen the development of various reform policies and strategies within various sectors. Such relevant strategy policies to WASH in health sector include the National Health Sector Recovery and Reform Strategic Plan 2022, Sudan Hospital Sector Strategy 2021 and WASH Sector National Strategy 2022. Surprisingly, none of these main health sector or WASH sector policy documents include any strategy to specifically improve WASH in health care facilities or address related issues. However, the review has identified a number of policies that stipulate one or more WASH related elements within health care facilities. The table below summarizes these documents and their content related to WASH in health care facilities.

*Table 3 List of Policy documents with reference to WASH in Health Care Facilities in Sudan*

<b>No</b>	<b>Name of policy document, publication year</b>	<b>WASH-in HCF related content of the document</b>	<b>Responsible Stakeholder</b>
1	National IPC Manual 2021	Hospital hygiene, broad guidelines on water safety including parameters of contaminants, water pressure, temperature, color, odor, pH, water treatment methods and dialysis requirements. Waste Management procedures guidelines including separation, collection, storage, treatment and disposal	FMoH
2	Sudan SDG6 Plan 2019	Guiding principles intention to achieve universal basic WASH services in all health institutions by 2030, including budget commitments for construction of new facilities as well as O&M services. Costed plan for the provision of water supply to health facilities and description of main interventions for WASH in HCFs between now and 2030.	MIWR, FMoH, UNICEF

3	Sudan Drinking Water Safety Strategic Framework 2017	Scale-up for access to safe drinking water across Sudan. Awareness raising measures to highlight the importance of hygiene and safe water in health facilities through local community programs.	MIWRI, FMOH
4	Water Supply and Environmental Sanitation Policy 2010	Guiding principles for provision of WASH to School, Health & Religious Premises Strategies for WASH promotion in School, Health Facilities and Religious premises.	MIWRI, FMOH
4	Water Supply Transformation Strategic Plan 2021	Light framework in a plan to strengthen water supply to health facilities. Strategic plan to coordinate with MOH activities to improve sanitation and hygiene in the health sector.	MIWRI
5	Regulation of Hazardous Health Waste 2014	Licensing requirements and obligations for private operators in the collection, treatment and disposal of medical waste from health care facilities	FMOH
6	National Sanitation Hygiene Strategic Framework 2016	Overview of institutional responsibilities for sanitation and hygiene across Sudan including health facilities. Strategic objectives to ensure effective environmental health and behaviors in all health facilities across Sudan and effective management of hazardous waste. Brief situational description of sanitation and hygiene and WASH systems in health facilities	FMOH
7	Technical Guidelines for the Construction and Management of Rural Health Institutional Latrine 2009	Technical guidelines on the construction of rural pit and pour-flush latrines. No specification for the need	MIWRI, UNICEF
8	National Roadmap for Making Sudan ODF	Identification of number of health facilities without suitable latrine facilities	UNICEF, MIWR
9	Revised Waste Management Guide 2021 (not currently endorsed)	Guidelines on the segregation, collection, treatment and disposal of hazardous medical waste	FMOH
10	Environmental Health Act 2009	Definitions of roles and duties of localities towards environmental health and laws. Protection of water sources and laws against polluting of water sources	HCENR
11	Public Health Act 2008	Legal framework for the protection of public health. Provides powers of the administration to regulate a control food	MIWR, HCENR, FMOH

		and water supply and infectious waste management	
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## Institutional Arrangements

The following lays out the existing mandates of key line ministries and government departments in relation to WASH in HCF:

*Table 4 Institutional Arrangements*

No	Line Ministry / Government Department	Roles and responsibilities
1	Federal Ministry of Health (FMOH)	<ul style="list-style-type: none"> <li>• Prepare, monitor and follow strategic national health plans.</li> <li>• Develop standards and specifications for preventive, therapeutic and rehabilitation of health services.</li> <li>• Monitoring and surveillance of diseases and its containment.</li> <li>• Capacity building for health workers.</li> </ul>
2	State Ministry of Health (SMOH)	<ul style="list-style-type: none"> <li>• Allocate funding for planned improvements and new developments</li> <li>• Inform key stakeholders at locality level on updated policies and regulations</li> <li>• Provide appropriate training and information to health care workers</li> </ul>
3	Local Environmental Health Authorities	<ul style="list-style-type: none"> <li>• Oversee implementation of planned improvements and developments</li> <li>• Health Care Facility assessments and reporting to state ministries on needs and funding gaps</li> <li>• Provide advice and training to health care workers and patients</li> </ul>
2	FMOH Directorate of Infection Prevention and Control	<ul style="list-style-type: none"> <li>• Minimize incidence of healthcare associated infections in patients, health workers and the environment.</li> <li>• Development of IPC Manual and enforcement of its regulations.</li> <li>• Capacity building of healthcare staff in IPC.</li> <li>• Training and guidelines for healthcare <b>environmental cleaning</b>.</li> <li>• Guidelines and enforcement of <b>hygiene</b>.</li> </ul>
3	FMOH Directorate of Environmental Health and Food Control	<ul style="list-style-type: none"> <li>• Implementation of <b>safe excreta and urine management (sanitation)</b>.</li> <li>• Health care and hazardous <b>waste management</b> (segregation, treatment and disposal regulation and enforcement).</li> <li>• Vector control</li> <li>• Food and <b>drinking water</b> safety</li> </ul>

4	FMOH Directorate of Expansion and Projects	Design and construction management of new health care facilities across the country
5	Ministry of Irrigation and Water Resources (MIWR)	<ul style="list-style-type: none"> <li>• Mega engineering water projects.</li> <li>• Operation and efficient management of dams.</li> <li>• Drinking water policies and projects to advance drinking water for urban and rural users.</li> <li>• Provision of piped <b>water</b> to the boundary of health facilities if HCF within coverage area of state managed piped system. Otherwise drilling of bore wells for remote HCFs.</li> <li>• Monitoring collection and analysis of water resources data.</li> </ul>
6	MIWR Drinking Water & Sanitation Unit (DWSU)	<ul style="list-style-type: none"> <li>• All matters related to domestic <b>water supply</b>.</li> <li>• Water related legislations and policies.</li> <li>• Collecting the periodic and annual reports from States to facilitate decision making.</li> <li>• Planning, designing, setting and supervising the implementation of water projects at the national level.</li> </ul>

### National Policies, coordination, standards and accountability mechanisms

Despite the few existing references to WASH in health care facilities under some national policies, coordination at all levels continues to be a challenge. Establishing a joint WASH and health taskforce or technical working group with formal defined terms of reference and membership was universally agreed could be an effective mechanism for coordinating implementation efforts and develop a national roadmap, set targets and provide technical and political leadership.

The Sudanese health system refers to multiple policies, strategies and guidelines. For a full list of documents refer to Table 3 under the policy mapping section. Recent documents released under the transitional government include the Sudan SDG6 Plan in 2019 which sets costed objective and intervention plans to have all health institutions provided with basic water supply and gender sensitive sanitation. Both the Ministry of Irrigation and Water Resources and the Ministry of Health has oversight of this plan but its accountability and responsibilities as to the implementation and monitoring of the plans are not clear. The figure below is a caption of an excerpt from the SDG6 Plan laying out the WASH in health care interventions (UNICEF, 2019)



#### 8.2.6. Rural and Urban WASH in Health/Nutrition Institutions

The following main interventions will be conducted to achieve the **“Rural and Urban WASH in Health/Nutrition Institutions”** results (see Section 7.3.2.) with the total 2019-2030 cost of USD 73,890,476 that need to be mobilized by government and partners and USD 27,337,571 by communities and supporters (Total: USD 101,228,047) (See SDG6 budget tables 13 and 14; detailed budget Annex 16 and 17; and Roles and Responsibilities-Section 8.3.3):

- Construct and rehabilitate BASIC or SAFELY MANAGED Health/Nutrition Institutions water, sanitation and handwashing gender sensitive and disabled friendly facilities (table 08).
- Effectively and efficiently operate and maintain the Health/Nutrition Institutions WASH facilities with emphases on the visitors and staff satisfaction strategies, minimum outage times and availability of standby facilities.
- Conduct focused C4D oriented (see Box 10) Hygiene promotion interventions.
- Conduct subject focused applied research and pilot/expand on innovative affordable and cost-effective technology options and Programme modalities.
- Review, regularly update and distribute sound and appropriate Technical Guidelines and manuals for the design, construction and management of BASIC and SAFELY MANAGED WASH in Health and Nutrition institutions facilities.
- Develop and distribute WASH in Health and Nutrition institutions staff and visitors' sensitization manuals and conduct WASH in Health and Nutrition institutions capacity building Programme for WASH sector partners.
- Provide Sudan 18 states with overall SDG6 focused supervision, standardization/quality assurance measures and technical support to achieve and sustain Health and Nutrition institutions universal access to gender sensitive and disabled friendly BASIC and SAFELY MANAGED WASH services.

*Figure 2 Caption of intervention plan for WASH in HCF in National SDG6 Plan (2019)*

The total budget estimated needed to support the roles and responsibilities of the intervention plan and how progress is monitored is not detailed or clear in this regard, particularly with respect to WASH in health care facilities and the role of the Ministry of Health in supporting the intervention.

The main quality related documents are the National Health Sector Recovery and Reform Strategic Plan and Sudan Hospital Sector Strategy; however, WASH interventions are not mentioned in the strategies. The Directorate of Planning and Policy has some oversight of these strategies, but limited designated funds reportedly hinder its implementation. Because of this funding problem, qualitative initiatives are not consistently rolled out through the health system, some regions are able implement activities while others are not able to secure funding. It was noted from the Department of Policy and Planning that the implementation of these policy documents is a challenge due to lack of coordination and the highly decentralized nature of government, insufficient budget, monitoring, reporting and human resources. The Policy and Planning Directorate did mention, however, that an interim technical taskforce would be an effective tool to initiate and strengthen cross-coordination across departments and sectors. Allocation of more focused WASH roles within a single department would be effective in strengthening accountability mechanisms.

The lack of SOPs and guidelines specific to WASH is seen as an obstacle to its adequate implementation. For example, the Engineering Unit under the PHC Directorate of Expansion program is responsible for

implementing the needed scaling up for new primary health facilities nationwide. The construction of the facilities is generally dictated through a standard set of architectural drawings for the facilities. However, there are not designs dictating the layout of water-points, size of storage tanks, waste collection storage or designs for accessible latrines for people of limited mobility. The lack of such designs tends to result in inconsistent and under-served WASH facilities.

Medical waste is generally not separated adequately and the framework around regulation of treatment of infectious waste is weak, to the extent that infectious waste tends to be treated along with other general waste and typically burnt in an open pit. Whilst a regulation for collection of medical waste for private operators exists, it is weakly enforced and current guidelines have not been endorsed. A lack of clear roles and responsibility over the collection and treatment of medical waste has resulted in apparent conflict over responsibilities and budget for waste collection between private operators, Higher Council for Environment and the Ministry of Health. As such lack of consistency in handling of medical waste is noted nationwide.

It is unanimously agreed that the Directorate of Environmental Health under the FMOH should be the department with biggest responsibility in overseeing the delivery of WASH in health care. However, they site lack of clear policies and plans, inadequate sources of funding and human resources, weak monitoring mechanisms and poor infrastructure as the biggest barriers to provision of basic services.

## Monitoring

The most recent national baseline assessment findings on WASH in health care facilities undertaken in 2020 as well as data taken from the SDG6 National Plan, provide some significant data on the current health facilities WASH indicators. Whilst these national assessments provide valuable data, routine monitoring of WASH in health care facilities is also needed. Two official monitoring systems exist with the potential to incorporate WASH in health care indicators. These include the DHIS, the health care information system under the FMOH and the WASH IMS for general WASH jointly used by MIWR and FMOH.

According to Department of Planning and Policy, the DHIS only covers at most, 63% of health facilities nationally. Whilst some WASH indicators are captured, they are far from adequate in monitoring basic services entirely. Likewise, the WASH IMS is currently not functional and inadequately captures the required context of infrastructure and practices in health facilities.

An appropriate platform to monitoring carefully selected and relevant indicators relevant to WASH in health care facilities needs to be put in place that takes into consideration the capacity of the government and health facilities limited human resources to manage it. The JMP global indicators on WASH in HCFs needs to be adapted and integrated into the national context within the HIMS.

## Financing

Health facilities receive funding from a combination of sources. Ministry of finance allocates a budget to all facilities, however distribution between the states is not equal and generally inadequate to fulfill the needs of health care facilities. All facilities rely significantly on co-payments from patients' fees/out of pocket under private or informal sector schemes or from the National Health Insurance (NHI) of which about 85% is under.

No financing schemes or budgets are ring-fenced for the sole purpose of supporting WASH delivery or infrastructure maintenance and repair. A study in the SDG6 National Plan has estimated a commitment of 102million USD needed for the rehabilitation of water and sanitation infrastructure in health care facilities until 2030 (UNICEF, 2019) . Currently less than 1% of the national budget is committed to general WASH but some declarations of increasing this commitment have been made and State level authorities are not committing any funding towards WASH.

### Facility observations and findings

The three health facilities visited included two state run hospitals and one PHC. Omdurman Hospital and Khartoum ENT (ear, nose & throat) hospitals managed by the Khartoum State Ministry of Health (SMOH). As a specialist hospital, Khartoum ENT hospital is able to draw more revenue from its co-paying patients. At each facility, the head manager and IPC were interviewed (refer Annex 3 for interview questions).

Omdurman Hospital is a relatively old hospital with outdated infrastructure, overstretched by high patient loads. The incinerator was not being used as it was not meet the minimum standard and affect air quality in surrounding environment. Waste was not separated correctly between domestic and infectious waste. Waste lay exposed in the grounds and accumulates significantly as collection is not consistent by the local contractor. The sewerage treatment system is dysfunctional and not used. It has been replaced by four septic tanks that were visibly overflowing into the hospital grounds. The tanks need to be emptied by sanitation trucks 22 times a day according to the manager, contributing to the majority of the cost spent on WASH services in the facility. Many water points were not running, and handwashing locations were inadequate. New storage tanks have been installed but inadequate in capacity. Bathrooms were not cleaned adequately with no visible protocols for scheduled. WASH services management appeared to be disorganized with no clear roles and responsibilities even within the IPC committee.

In contrast, Khartoum State ENT hospital had observably higher standards of WASH services than Omdurman State Hospital. Apparent was the smaller capacity but higher revenue stream. Of particular interest was that this hospital had created a “Cleaning and Waste Management” committee that had regular reporting and the role of maintaining WASH services. Cleaning services were contracted out to another company and was more regular and water points were more reliable although water point distribution was less than standard. Waste was being separated a basic level and safely stored ready for collection. The existence of a committee had clear benefits. Furthermore, the committee members were all found to be qualified with a master’s degree in public health. The general manager himself is a community medicine specialist. The high awareness of WASH related hygiene importance in the health care by the committee members was reflected the relatively higher standards that were observed. This is a good example of how advocacy or regular awareness raising training activities could contribute to increased WASH standards. However, disability access to toilets was still typically lacking suggesting the need for standards to guide minimum service levels.

Omdurman PHC is managed under the local authority in Omdurman. A small health facility with no observable running water at the time of the visit. Water points were generally dysfunctional. Even recently donated taps and sinks were not connected and used as intended. Bathrooms were fundamentally unusable. Observably not cleaned and blocked with none designed for limited mobility access. The lack of WASH services was seen to severely limit healthcare delivery. Patients refused to use the bathrooms and in some cases stool samples were unable to be collected. The locality Environmental Health Officer is responsible for monitoring and reporting on WASH issues, but the officer is overburdened with

responsibility of too many HCFs, and most facilities are ultimately neglected. Furthermore, the facility receives an operational budget of \$100 per month from the locality which does not meet the needs their daily needs.

## Recommendations

Sudan has a growing agenda in reforming sectors and strengthening both WASH and healthcare delivery in the form of several strategies and policies. However, neither references the other adequately enough to effect the changes and improvements needed for WASH services in health facilities. One of the most recurring requirements from the interviews carried out was the need to strengthen cross coordination between the sectors, partners and levels of authority. The establishment of a national taskforce or technical working group is agreed to be an effective way in the short term to initiate this much needed coordination.

In the long-term adhering to the WHO/UNICEF 8-step practical guidelines is highly recommended as a pragmatic strategy in evolving WASH in health care as an institution with its own mechanisms of regulation and accountability to ensure the sustainable delivery of basic WASH services. This particular analysis forms the first step in formulating the targets and goals that follow.

The Practical Steps represent a ‘back-to-basics’ approach to addressing the WASH services in health care facilities as follows:

1. Situational analysis and assessment
2. Set targets and define roadmap
3. Establish national standards and accountability mechanisms
4. Improve infrastructure and maintenance
5. Monitor and review data
6. Develop health workforce
7. Engage communities
8. Conduct operational research and share learning (Annex 1)

The following table identifies the main challenges and bottlenecks identified as part of the contextualized analysis and corresponding suggestions or recommendations by interviewees and what may be considered as ‘low-hanging fruit’ for addressing the bottlenecks.

*Table 5 Recommendations on addressing observed bottlenecks*

Identified challenges or bottlenecks	Recommendations
Weak coordination between Directorates and partners	Institutional mechanisms needed to bring stakeholders and partners in a unified way. Establishment of a technical taskforce can initiate discussions on a structured approach to setting feasible targets and goals and creating long term mechanisms to institutionalize WASH in health care.
Roles in WASH are scattered and not clearly defined	Taskforce discussions should identify which directorate should be tasked with the main responsibilities and accountability for WASH. It was unanimously agreed that the Environmental

	Health Directorate under the FMOH should manage WASH related monitoring and implementation. Take opportunity of ministry structure reformation to designate WASH roles and responsibilities
Lack of guidelines and SOPs with regards to WASH	Development of guidelines or appropriate standards to guide rehabilitation and expansion of facilities as well as clarify WASH practices such as segregation and treatment of waste as per WHO and/or international guidelines
Highly decentralized governance	National monitoring and reporting mechanisms to be strengthened and institutionalized within existing HMIS. All state level representatives should be involved in WASH taskforce discussions
Lack of training and capacity building	Integrate WASH training into current IPC trainings including waste segregation methods, cleaning protocols, hand hygiene, WASH fit etc. Add session on the importance of WASH services in HCFs in the general medical curriculum
Poor infrastructure	Rehabilitation of all infrastructure to be costed and funding mobilized in accordance with SDG6 action plans. Costing mechanisms of SDG6 Plan to be verified
Inadequate funding streams to support WASH needs	Work toward ring-fencing budget for WASH with Ministry of Finance. NHI to be engaged on how funding for WASH can be supported
Inadequate resources in the public sector to support needed expansion of WASH	Engage private sector in PPP arrangements to strengthen supply chains, especially in sanitation services, licensing arrangements for waste collection services and cleaning services.
Conflict over waste collection responsibilities	Initiate dialogue with Higher Council for Environment to set management of medical waste collection services to fall under the FMOH
Weak monitoring and surveillance of WASH in HCF indicators	Adapt global WASH in HCF indicators into local context and integrate within a regular monitoring and reporting mechanism

## Limitations

A few limitations were experienced during the conduct of this survey and analysis. Firstly, only five days were spent in country, which limited the number of people that could be interviewed. The limited time also meant that only a small selection of facilities was visited and all in Khartoum. Whilst the findings in the facilities cannot be extrapolated for the whole country, they are broadly representative of the other facilities nationwide with respect to state of infrastructure and challenges being faced. Likewise, government interviews were largely undertaken at the Federal level without opportunity to obtain feedback from the lower tier state and locality authorities. Whilst the Khartoum State Ministry of Health was approached, the Khartoum is considered an exception to other states as they have their own policies and regulations and tend not to rely on the governance of Federal departments as much as the other states do. Lastly, in some interviews it seemed to be difficult to get any negative feedback from some of the interviewees and it felt necessary to clarify that we were not undertaking an evaluation of

performance. Regardless, some interviewees did not seem forthcoming on challenges faced in management of facilities or support received from the authorities.

## Conclusion

Sudan has a relatively strong policy landscape regarding WASH and healthcare reform including IPC, maternal and child health and quality care. The problem lies in how to manage / implement the intersection of these fields and addressing the coordination between relevant stakeholders. The effective implementation and financing of existing strategies in a country with a large predominantly rural population, 2500 facilities, a complicated, decentralized health system. This report is not exhaustive but provides key areas that have been identified for improvement which may help support national and partner activities. The root of many of the problems lies in poor coordination between sectors, partners and between tier levels of governance.

Beginning with a national level taskforce or technical working group that brings together the relevant ministries and partners is an important step for this. The development of national standards for providing guidance on minimum requirements for basic provision and monitoring tools will be effective at facilitating facility level self-improvements. Finally, building the community's voice into quality improvement cycles also provides a powerful opportunity for change.

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## Annex 1: WHO/ UNICEF practical steps to achieve universal access to quality care



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



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



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



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



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



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

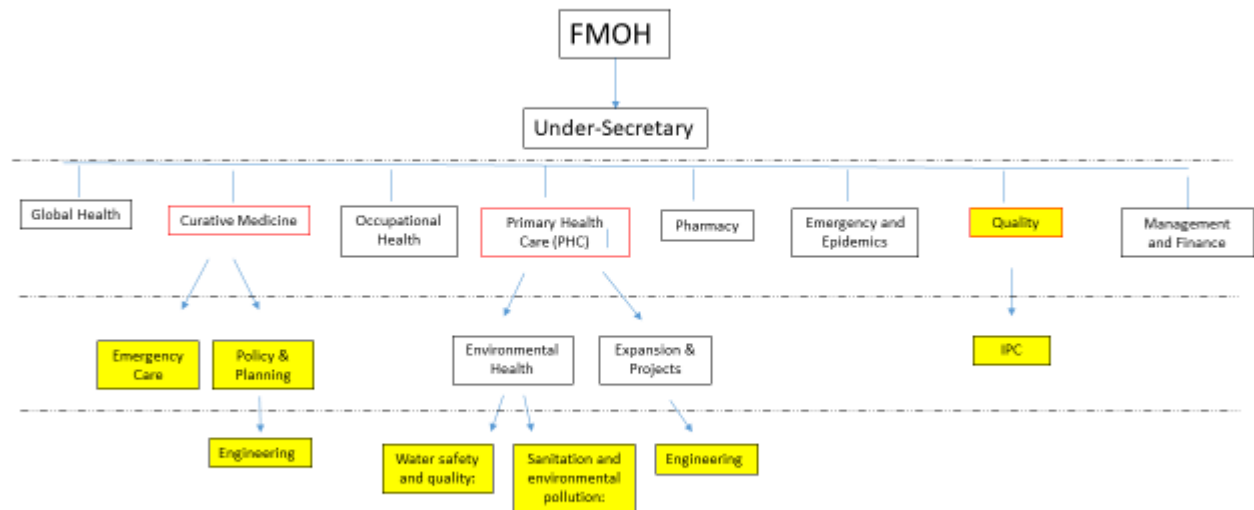


- 7. Engage communities.**  
Community members serve an important role in defining, demanding, using and providing feedback on health services. They ought to be included in the development of WASH policies and in the regular review of WASH coverage and implementation data.



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

## Annex 2: Organogram of the FMOH (current structure)



*\*Highlighted boxes indicate departments approached for the situational analysis survey*

## Annex 3: Interview Details

List of people interviewed

Organization/ Company	Department/ Interviewee Position	Number Interviewed
Federal Ministry of Health (FMOH)	Directorate of Environmental Health & Food Control, Water and Sanitation Department	3
	Directorate of Expansion and Projects (Engineering Unit) & Planning Engineering	3
	Directorate of Curative Medicine – Emergency Care	4
	Directorate of Quality and IPC	2
	Directorate of Policy and Planning	2
Khartoum State Ministry of Health	Directorate of Public Health	1
Ministry of Irrigation and Water Resources	Drinking Water & Sanitation Unit/ Public Water Corporation	1
Higher Council for Environment and Natural Resources	Waste Management Department	1
Omdurman Hospital	General Manager, operational manager, IPC officer, environmental health officer	4
Khartoum ENT Hospital	Medical Director, quality of care officer, Environmental health officer	3
Omdurman Primary Health Centre	general doctor and Local Public Health Officer	2
UNICEF	WASH national Emergency Sector, WASH specialist	3
UNDP	Health Project Specialist	1
WHO	Healthcare Quality Officer, hospital management officer	2
SEPCO (Waste Collection and treatment Company)	Company Director	1

### GUIDING QUESTIONS FOR INTERVIEWS:

#### *General*

1. How does your directorate influence quality care delivery and how are you involved in the delivery of WASH in HCF?
2. Which stakeholders/ departments share the greatest responsibility in delivery of basic WASH services in Health care facilities?

3. Can you think of any policies, regulations or strategies that influence or reference the delivery of water and sanitation hygiene and waste management services in healthcare facilities? How are these policies translated down to the policy level?
4. What are the biggest issues related to WASH in Health Centers?
5. What are the main forms of water and supply and treatment in hospitals to ensure minimum standards?
6. How are health centers funded? Do critical gaps exist? Do patients pay out of pocket? What resources has the country committed to improve the quality of care?
7. How is the budget for HFCs being used?
8. How is WASH data collected and monitored at the national level?
9. Is there training for staff on quality of care? What does it consist of?
10. Who is responsible for WASH at facility level?
11. Do you think national direction on quality of care impacts the facilities strongly enough?

#### *National Coordination, Standards & Accountability Mechanisms*

1. Do you think establishing a WASH & Health taskforce is a good idea or effective way to coordinate implementation efforts?
2. What policies, strategies and guidelines do the health system refer to? What is the main source of funding for WASH?
3. What are the main quality related documents in the health system?
4. Which Directorate in the Health System plays the biggest role in the connection between Health and WASH.

#### *Monitoring*

1. Which WASH indicators related to healthcare delivery are regularly monitored under the national healthcare monitoring system?
2. What national monitoring system exist that regularly capture indicators related to WASH in Healthcare?
3. What audit/ assessment tools are currently used in monitoring WASH in HCFs?
4. What are the challenges of putting in place a monitoring system for WASH in HCFs?
5. Is collected effectively used in addressing shortcomings in WASH?

#### *Guiding Questions:*

1. Do you know about/are you aware of any frameworks or tools that have been used to assess health facilities in Cambodia? Do you have them? If yes, could you share them with us?
2. Are you aware of/have you participated in any health facility assessments? If yes, tell us more about the process and results of the assessments and whether or to what extent such assessments capture information on water, sanitation and hygiene services and practices in health facilities? Could you share the assessment tools, datasets and/or report with us?
3. Do you have any specific recommendations to improve your indicated facility assessment framework and tools to better collect information on water, sanitation and hygiene in health facilities?

4. Do you have any general recommendations to improve health facility assessment process, frameworks and tools to better collect information on water, sanitation and hygiene in health facilities?
5. Do you know any other key persons in health facility assessments as well as water, sanitation and hygiene in Cambodia whom I can invite for interview?
6. Do you know which institution/department is responsible for various components of WASH service provision and practice in health centers? These include, for example:
  - a. installation of hardware for water supply, sanitation, waste management,
  - b. operations and maintenance of these facilities,
  - c. training of staff on hygiene practices.