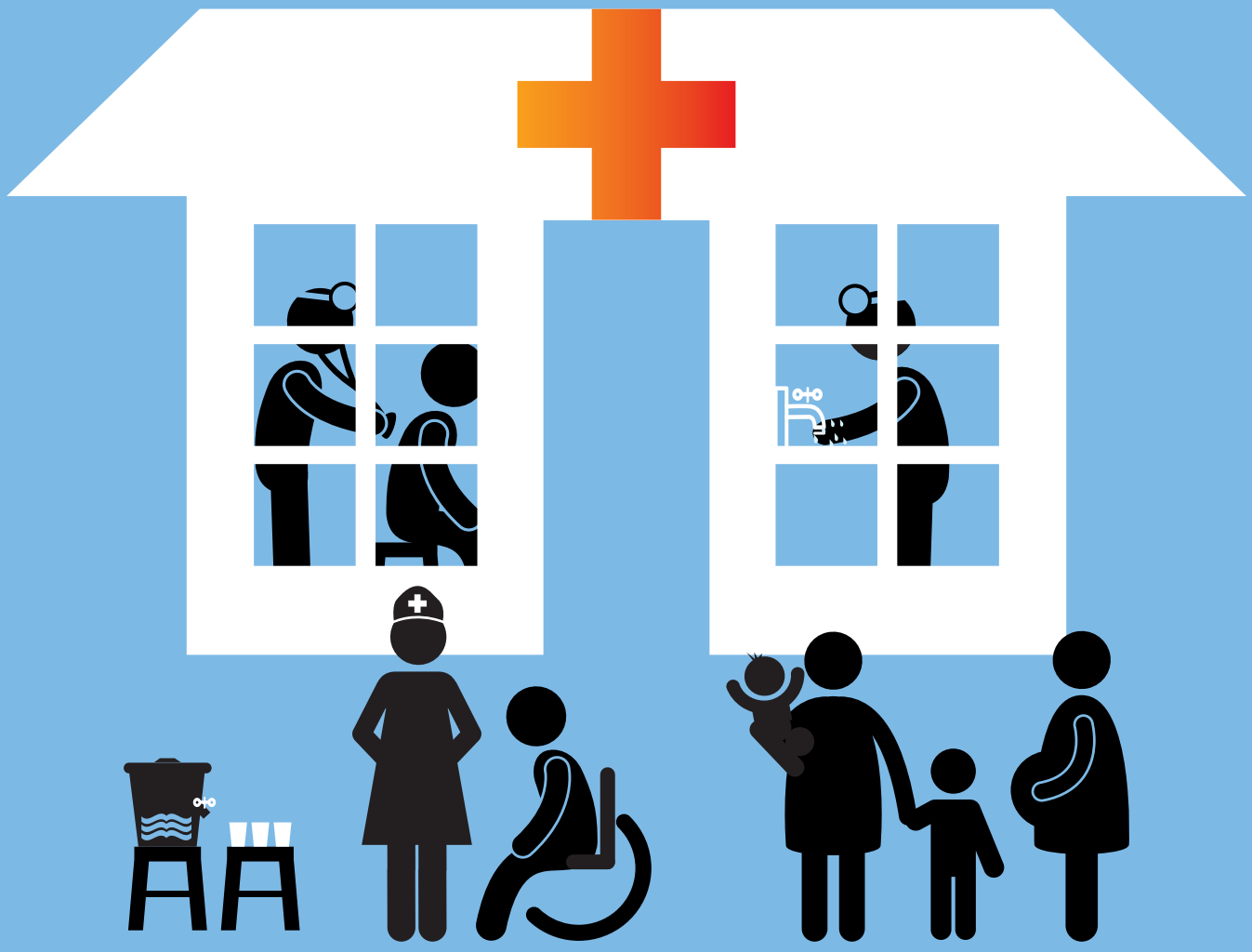
# Water, sanitation and hygiene in health care facilities

## Status in low- and middle-income countries and way forward

WASH IN HEALTH CARE FACILITIES

FOR BETTER HEALTH CARE SERVICES



World Health Organization

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# WASH FOR HEALTH

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## Status in low- and middle-income countries and way forward

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# FOREWORD

> "The health consequences of poor water, sanitation and hygiene services are enormous. I can think of no other environmental determinant that causes such profound, debilitating, and dehumanizing misery.... Speaking as a health professional, I am deeply concerned that many health care facilities still lack access to even basic water, sanitation, and hand-washing facilities, and I have committed WHO to support partners to overcome this problem."
>
> **Margaret Chan, WHO Director General**

This report presents, for the first time, a global assessment of the extent to which health care facilities provide essential water, sanitation and hygiene (WASH) services. Drawing on data representing 66,101 facilities in 54 low- and middle-income countries, the report concludes that 38% of facilities lack access even to rudimentary levels of WASH. When a higher level of service is factored in, the situation deteriorates significantly. Large disparities exist within countries and among types of facilities.

The implications for health are severe: spread of infections in the very place in which patients are seeking care. The implications for dignity are also profound; for example, women who are in labour may need to walk outside the facility to relieve themselves. The cost implications have not yet been quantified, but are likely to be significant.

The report also details how more than 40 countries have not undertaken national assessments to even understand the situation, and hence, they lack information to raise awareness and set targets to in pursuit of universal access for WASH in health care facilities.

Yet, achievable simple measures can make an immediate difference. Often infrastructure is in place, but not maintained. Ensuring there is someone responsible for environmental sanitation in each health facility is critical first step.

WHO and UNICEF have dedicated initiatives which can be harnessed to catalyse action. For example, the WHO Clean Care is Safer Care Programme, is working to protect patient safety and reduce health care associated infections through universal implementation of infection control measures. WASH services are a critical element to this programme and greater collaboration will reinforce both areas of work. WHO and UNICEF are also working to improve quality of care in maternity and paediatric care facilities by providing evidence-based standards, including for WASH and supporting WASH service improvements.

Furthermore, UNICEF through its strong leadership role in WASH, both in emergencies and development contexts, is working with WHO for better WASH services in health care facilities recognizing that such services are essential to the delivery of safe, equitable and universal health care for all.

The way forward involves a number of actions: strengthening national policies and standards, ensuring sufficient financing and trained staff to manage WASH in health care facilities, using risk-based approaches to prioritize and maintain improvements, and harmonizing and expanding monitoring. Realizing improvements in WASH in health care facilities will require commitment from partners in both the health and environment sector at every level-local, national and global. WHO and UNICEF will strive to raise awareness, foster commitment and work, with partners, to develop and implement a global action plan.

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**DR EDWARD KELLEY** | Director, Service Delivery and Safety, WHO

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# MAIN FINDINGS

This review of water, sanitation and hygiene (WASH) services in health care facilities in low resource settings is the first comprehensive, multi-country analysis on the topic. It highlights low access in many countries and specific actions needed to strengthen policy, implementation and monitoring.

**IN LOW AND MIDDLE INCOME COUNTRIES, WASH SERVICES IN MANY HEALTH CARE FACILITIES ARE ABSENT**

Data from 54 countries, representing 66,101 facilities show that, 38% of health care facilities do not have an improved water source, 19% do not have improved sanitation and 35% do not have water and soap for handwashing. This lack of services compromises the ability to provide basic, routine services, such as child delivery and compromises the ability to prevent and control infections.

**ESTIMATES OF WATER COVERAGE IN HEALTH CARE FACILITIES DECREASE WHEN RELIABILITY AND SAFETY OF SUPPLIES IS TAKEN INTO ACCOUNT**

The most common definition of water services addressed only the presence of a water source in or near the facility, but did not consider continuity and safety of supplies. When these two factors were considered in the assessment, coverage dropped by half. Furthermore, major surveys "count" a facility as providing water services even if those services are 500 meters from the facility, far below WHO minimum standards.

**LARGE DISPARITIES IN WASH SERVICES IN HEALTH CARE FACILITIES EXIST BETWEEN AND WITHIN COUNTRIES**

In some countries, for example Kenya, the nationwide estimate of access to WASH services in health care facilities is high (83%). However, some districts within a country can have coverage estimates that are lower than the national average by a factor of two or three.

**PRIMARY HEALTH CARE FACILITIES HAVE SIGNIFICANTLY LOWER WASH COVERAGE THAN HOSPITALS**

Primary health care facilities are frequently the first point of care, especially for those in rural areas. They also are critical in responding to disease outbreaks, such as cholera or Ebola. Yet, without WASH services, the ability of health care workers to carry out proper infection prevention and control measures and demonstrate to communities safe WASH practices, both of which are especially important in controlling and stopping outbreaks, is greatly compromised.

**NATIONAL PLANNING FOR WASH IN HEALTH CARE FACILITIES IS LACKING**

Only 25% of 86 countries, responding to the GLAAS survey, a UN-Water initiative coordinated by WHO reported having a fully implemented plan or policy for drinking-water and sanitation in health care facilities. In countries for which data on provision of water and national plans were available, countries with national plans had a greater proportion of facilities with water services, suggesting national policies are an important element of improving services.

**IMPROVING SERVICES AND IMPROVING WASH BEHAVIOURS IN HEALTH CARE FACILITIES IS ACHIEVABLE AND HAS POSITIVE RIPPLE EFFECTS ON WASH PRACTICES IN HOMES**

Country examples demonstrate that simple measures such as improving cleanliness of toilets or installing low-cost handwashing stations and water treatment at health care facilities improve quality of care, increase uptake of services and also encourage community members to change WASH practices at home(e.g. regular handwashing with soap at critical moments).

**VERY LITTLE DATA IS AVAILABLE, ESPECIALLY FOR SANITATION AND HYGIENE**

Data was available in 54, 36 and 35 low and middle income countries for water, sanitation and hygiene, respectively. Countries in Africa are most represented while those in Asia are the least represented. The lack of data is a barrier towards better understanding and addressing needs.

Urgent action is needed to improve WASH services in health care facilities in low and middle income countries. The reasons to improve WASH in health care facilities are many: higher quality of care, less health care related infections, greater uptake of health services and improvements in staff morale. All major initiatives to improve global health depend on basic WASH services. Improving services will require a number of elements starting with leadership from the health sector, strong technical inputs from the WASH sector and political commitment from governments dedicated to better health for all.


WaterAid/Eliza Deacon

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# ABBREVIATIONS

| | |
|---|---|
| **ACQUIRE** | Access, Quality, and Use in Reproductive Health |
| **DHS** | Demographic and Health Survey |
| **ELMS** | Evaluation of Long-Acting and Permanent Methods Services |
| **GLAAS** | Global Analysis and Assessment of Sanitation and Drinking-water |
| **HCF** | health care facility |
| **HMIS** | health management information system |
| **HSPA** | HIV/AIDS Service Provision Assessment |
| **IHFAN** | International Health Facility Assessment Network |
| **IHSN** | International Household Survey Network |
| **IMCI** | Integrated Management of Childhood Illness |
| **JICA** | Japanese International Cooperation Agency |
| **JMP** | WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation |
| **NGO** | Non-Governmental Organization |
| **QSDS** | Quantitative Service Delivery Survey |
| **R-HFA** | Rapid Health Facility Assessment |
| **SAM** | Service Availability Mapping |
| **SARA** | Service Availability and Readiness Assessment |
| **SDI** | Service Delivery Indicators |
| **UN** | United Nations |
| **UNICEF** | United Nations' Children's Fund |
| **USAID** | United States Agency for International Development |
| **WASH** | Water, Sanitation and Hygiene |
| **WSH** | Water, Sanitation, Hygiene and Health (WHO HQ Unit) |
| **WHO** | World Health Organization |

## WHO Regional Offices

| | |
|---|---|
| **AFRO** | WHO Regional Office for Africa |
| **AMRO** | WHO Regional Office for the Americas |
| **SEARO** | WHO Regional Office for South-east Asia |
| **EURO** | WHO Regional Office for Europe |
| **EMRO** | WHO Regional Office for the Eastern Mediterranean |
| **WPRO** | WHO Regional Office for the Western Pacific |

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# 1 INTRODUCTION

Adequate water, sanitation and hygiene (WASH) are essential components of providing basic health services. The provision of WASH in health care facilities serves to prevent infections and spread of disease, protect staff and patients, and uphold the dignity of vulnerable populations including pregnant women and the disabled. Yet, many health care facilities in low resource settings lack basic WASH services, compromising the ability to provide safe care and presenting serious health risks to those seeking treatment.

The consequences of poor WASH services in health care facilities are numerous. Health care associated infections affect hundreds of millions of patients every year, with 15% of patients estimated to develop one or more infections during a hospital stay (Allegranzi et al., 2011). The burden of infections is especially high in newborns. Sepsis and other severe infections are major killers estimated to cause 430,000 deaths annually. The risks associated with sepsis are 34 times greater in low resource settings (Oza et al., 2015). Lack of access to water and sanitation in health care facilities may discourage women from giving birth in these facilities or cause delays in care-seeking (Velleman et al., 2014). Conversely, improving WASH conditions can help establish trust in health services and encourage mothers to seek prenatal care and deliver in facilities rather than at home - important elements of the strategy to reduce maternal mortality (Russo et al., 2012).

Improving WASH in health care facilities is now beginning to attract the attention of governments, donors and the international public health community. A proposed target of universal basic coverage of WASH in health care facilities by 2030 has been recommended for inclusion in post-2015 UN Sustainable Development Goals (WHO/UNICEF, 2014a). Global health initiatives such as 'Every Woman Every Child', the integrated 'Global Action Plan against Pneumonia and Diarrhoea', and quality of care during childbirth highlight the importance of basic, universal WASH services in health care facilities (WHO/UNICEF, 2012; WHO, 2014). Furthermore, the Director General of the World Health Organization (WHO) has declared that improving WASH in health care facilities is an urgent priority (WHO, 2013). The large number of actors and funds committed to universal health coverage provides an opportunity to highlight the essential role of WASH in achieving this aim (Action for Global Health and WaterAid, 2014). However, despite these advancements, political will is still low. According to the 2014 UN-Water Global Analysis and Assessment of Sanitation and Drinking-water (GLAAS) findings, only one quarter of countries have policies on WASH in health care facilities that are implemented with funding and regular review (WHO, 2014).

In order to effectively address deficient WASH services in health care facilities, it is important to first understand the extent of the problem and subsequently prioritize action where needs are greatest. Therefore this review, the first comprehensive, multi-country analysis, examines the availability of WASH services in health care facilities in low and middle income countries.

WASH services provide for water availability and quality, presence of sanitation facilities and availability of soap and water for handwashing. The presentation of results focus largely on water availability as there were very limited data on water quality, sanitation and hygiene. In addition, a brief summary of data on the safe disposal of health care waste is provided, although this is not central to this review.

The report is organized in two main sections. The first focuses on the method employed to obtain the estimates on WASH in health care facilities and the derived estimates. It also summarizes the status of national policies and targets on WASH in health care facilities. The second section highlights the way forward and particular elements important in improving WASH in health care facilities (the standards for which are detailed in the WHO document, *Essential Environmental Health Standards in Health Care*, see Box 1). The elements are based on outcomes of global discussions which took place at a WHO/UNICEF global

strategic meeting on WASH in health care facilities hosted by UN-Water and the Spanish Government in Madrid in 2014. At the meeting, required actions were identified and included:

- national policies and standards;
- targets;
- improving and managing WASH services;
- monitoring and operational research (see Annex G for further details).

These elements are not exhaustive and will be further developed as part of a global action plan for WASH in health care facilities.

**Box 1.**

**WHO standards on WASH in health care facilities**

The WHO document *Essential Environmental Health Standards in Health Care* describes essential environmental health standards for health care in low resource settings (WHO, 2008). It also describes methods for supporting the development and implementation of national government policies. The standards cover: water quality, quantity, water facilities and access to water, excreta disposal, wastewater treatment and disposal, health care waste disposal as well as other environmental issues. Further discussion of these standards is summarized in Section 5.

# WATER, SANITATION AND HYGIENE IN HEALTH CARE FACILITIES

WASH FOR HEALTH

WaterAid/Eliza Deacon

# 2 METHOD

A number of assessments exist for collecting data on WASH in health care facilities. This section describes those assessments and the data which were used to derive global estimates. In general, there is a lack of publicly available data, and the data that do exist do not use consistent indicators for WASH, making it difficult to compare data from different sources.

Assessments that include information on WASH in health care facilities were identified after screening peer reviewed and grey literature from 18 information repositories (see Annex A). These information repositories are largely donor driven initiatives or are coordinated by UN agencies, including the World Health Organization. For purposes of this report, health care facilities include hospitals, health centres, clinics and dental surgery centres and are generally places where people receive health care from a trained professional. They include public, private and not-for-profit facilities (WHO, 2008). There is a large range in the size of health care facilities, the services offered and provision of water and sanitation both in facilities and within specific treatment areas (e.g. delivery rooms).

In total, 90 health care facility assessments that were conducted in 54 countries between 1998 and 2014 were identified. To derive coverage estimates, only one assessment was selected for each country in order to prevent double or triple counting. Most of the assessments were conducted in Africa (n=23) and the Americas (n=14), while information for other regions was very limited. In the assessments identified, water access was more frequently measured and reported than access to sanitation or hygiene. Furthermore, only 20 of the assessments were reported to be nationally representative. Further details on the methods employed for selecting and compiling datasets and for calculating coverage estimates are included in Annex A.

## 2.1 SURVEY AND CENSUSES

Surveys, supported by international organizations, were the main source of data. The three most common health care facility surveys are the Service Availability and Readiness Assessment (SARA), the Service Delivery Indicator survey (SDI) and the Service Provision Assessment (SPA). These surveys have closely aligned methods and collect nationally representative data for a given country. They are designed to be conducted periodically and sample from a master list of all public and private health care facilities. Further information on those surveys is summarized in Table 1. For details on the specific indicators and questions see Table 3 and Annex D.

Other assessments included one-time project evaluations or censuses, focusing on specific services and settings, such as HIV/AIDS, child health and emergencies. These censuses included WASH as a component of larger aims. However, these censuses, compared to SDI, SARA and SPA, constitute a small proportion of all facilities assessed and data used in this review.

Health Management Information Systems (HMIS) were explored as another possible source of data. HMIS are routine reporting systems developed and managed by national governments to collect a range of health-related indicators (e.g. diseases diagnosed and treated, or number of beds available per hospital) (WHO, 2010). Unlike surveys, in which data are collected by independent teams of enumerators, HMIS rely on self-reporting from health care staff. However, of the 68 national HMIS surveys included in the WHO Health Metrics network, none of the data sets or reports included WASH in health care facility indicators[1]. Therefore HMIS was not a source for this review.

1 Some countries may include WASH indicators in their HMIS but this information was not publicly available at the time this report was written.

### Table 1. Major global assessments that include WASH in health care facilities

| Assessment | Comments |
|---|---|
| **Service Delivery Indicator survey (SDI)** | Managed by the World Bank to monitor delivery of services in health facilities and in schools.<br>Surveys started in 2012 and, as of 2014, have been implemented in six African countries. SDI surveys are designed to be repeated every two years.<br>Compared with SARA and SPA, it includes a smaller set of indicators overall but is the most comprehensive for WASH (access, quality and reliability).<br>Water, sanitation and electricity are combined into an 'infrastructure score'.<br>Website: http://www.sdindicators.org/ |
| **Service Availability and Readiness Assessment (SARA)** | Managed by WHO to monitor health service delivery and readiness. SARA was developed in collaboration with USAID and other global partners.<br>Surveys started in 2011 and, as of 2014, have been implemented in over 13 countries across three regions (AFRO, EMRO and SEARO).<br>SARA surveys collect nationally representative data on a large range of basic and specific programme services (i.e. child health services, basic and comprehensive emergency obstetric care, HIV, TB, malaria, and non-communicable diseases.)<br>WASH indicators are limited to presence of water, sanitation and hygiene facilities.<br>Website: http://www.who.int/healthinfo/systems/sara_introduction/en/ |
| **Service Provision Assessment (SPA)** | Managed by ICF International with support from USAID as part of Demographic Health Surveys. It started in 1999 and, as of 2014, has been conducted in over 20 countries.<br>SPA surveys collect nationally representative data on the overall availability of health services and include: provider interview, observations, and exit interviews with clients who have received services.<br>WASH indicators are limited to reported presence of water, sanitation and hygiene facilities.<br>Website: http://dhsprogram.com/What-We-Do/Survey-Types/SPA.cfm |

## 2.2 INDICATORS

The general definitions of WASH in health care facilities used by the assessments included in this review are provided in Table 2. These definitions fall short of WHO minimum standards which are discussed in Section 5.

### Table 2. Definition of WASH in health care facilities

| WASH element | Definition |
|---|---|
| **Water** | Presence of a water source or water supply in or near (within 500 m) the facility for use for drinking, personal hygiene, medical activities, cleaning, laundry and cooking. Does not consider safety, continuity or quantity. |
| **Sanitation** | Presence of latrines or toilets within the facility. Does not consider functionality or accessibility (e.g. for small children or the disabled). |
| **Hygiene** | Availability of handwashing stations with soap or alcohol based hand rubs within the facility. |

Ideally a more comprehensive definition would be used that considered quality, quantity and functionality but this was not possible given the available data. Functionality, water safety and hygiene practices are essential in health centres and have a direct impact on the ability to provide safe, quality services. Thus, the absence of such data may mask greater risks than are suggested. In addition, within the assessments used there are no data on health care staff training regarding hygiene practices and delivery of WASH messages to care seekers. Finally, while management of health care waste, like WASH, is an important component of infection prevention and control, it is not the focus of this report; in part, due to lack of data.

The specific definitions associated with water and sanitation indicators varied between assessments. There were also differences in the way indicators were measured, for instance, some surveys relied on interview questions while others relied primarily on observations. Furthermore, while all indicators are listed in the survey guidance manuals, they are not all systematically defined in the assessment reports. Indicators that are commonly used in existing health care facility assessment tools are described in Table 3. All three use the same or similar definitions to those used by the WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP).

### Table 3. WASH indicators reported by SARA, SPA and SDI

| | Global assessment | | |
|---|---|---|---|
| **WASH element** | **SARA** | **SPA** | **SDI** |
| **Water** | **Observed**<br>Improved water source within 500 meters of facility. | **Reported**<br>Year-round water access to improved water source within 500 meters of facility. | **Reported**<br>Improved water source. |
| **Sanitation** | **Reported**<br>Presence of adequate sanitation facilities for clients. | **Observed**<br>Facility has functioning, clean latrine. | **Observed**<br>Facility has one or more functioning toilets.<br>Functioning: Toilet should be accessible; within the facility grounds, is unlocked and not restricted to facility personnel use only. |
| **Hygiene** | **Observed**<br>Soap and water or alcohol based hand rub at all points of care. | **Observed**<br>Percentage with all items for infection control (soap, running water, sharps box, disinfectant and latex gloves) in all assessed service delivery areas. | No data collected –collects data on sterilization of equipment. |

## Water indicators

Most health care facility assessments defined an improved water source using the JMP classification for drinking-water sources (WHO/UNICEF, 2014b)[1]. As shown in Table 3, exact definitions of access varied between surveys. For example, SARA defines access as having an improved water source available within 500 meters of the facility. SDI defined water access as having access to an improved water source while SPA recorded year-round availability of water from an improved source within 500 meters of facility. Thus, in both SARA and SPA datasets a health care facility without any water source on-site would be considered to have water services if the source was within 500 meters. This sets a very low standard for service and would not meet WHO basic WASH standards, which requires water within the facility.[2]

## Sanitation indicators

While most assessments defined the physical sanitation facility applying the uniform criteria of improved sanitation used by the JMP[3], definition of access varied. For example, SDI defines access as availability of one or more functioning flush toilets or latrines as observed by an enumerator. However, SARA relies on reported data, rather than observation. Such reports may not provide accurate information on whether the facilities were functioning or accessible. Furthermore, none of the surveys recorded if the number of toilets present is sufficient for the number of people frequenting the facility and whether they can be easily accessed by patients with limited mobility. These are important WHO standards as detailed in Section 5.

## Hygiene indicator

The most common indicator for hygiene was availability of soap and water or alcohol based hand rubs at key points of care. None of the surveys specified if hygiene facilities were available for patients. This information is typically included in the assessment section that includes a range of infection prevention and control items. There were fewer data available for hygiene facilities compared to sanitation, and no data on functionality of these facilities or frequency of use.

1 Improved drinking-water sources are defined by the JMP as sources protected from outside contamination, in particular contamination with faecal matter, and include piped water on-site, public taps/standpipes, tubewells/boreholes, protected dug wells, protected springs and rainwater.

2 SARA indicators for WASH are currently being revised to align with WHO standards.

3 Improved sanitation facilities are those that hygienically separate human excreta from human contact. Types of improved facilities include flush or pour-flush flush toilets to piped sewer system, septic tank or pit, ventilated improved pit latrine, pit latrine with slab and composting toilet.

3

# GLOBAL AND REGIONAL ESTIMATES OF WATER, SANITATION AND HYGIENE SERVICES IN HEALTH CARE FACILITIES

Globally, provision of WASH services in health care facilities is low, and the current levels of service are far less than the required 100% coverage. As shown in Table 4, from the 54 countries represented, 38% of health care facilities do not provide users access to an improved water source, 19% do not provide improved sanitation, and 35% do not have soap for handwashing. Provision of water was lowest in the African Region, with 42% of all health care facilities lacking an improved source on-site or nearby. In comparison, provision of sanitation is lowest in the Americas, with 43% of health care facilities lacking such services. See Annex C for specific estimates from each of the 54 countries represented in this review. Table 5 shows the countries represented from each region.

**Table 4. Provision of water, sanitation and hygiene services in health care facilities***

| | Access to an improved water source within 500 m | | | Access to improved sanitation facilities | | | Access to soap for handwashing | | |
|---|---|---|---|---|---|---|---|---|---|
| WHO Regions | Number of facilities* | Number of countries | Coverage (mean) | Number of facilities | Number of countries | Coverage (mean) | Number of facilities | Number of countries | Coverage (mean) |
| **All** | 66,101 | 54 | 62% | 62,524 | 36 | 81% | 40,536 | 35 | 65% |
| **AFRO** | 52,674 | 23 | 58% | 51,715 | 16 | 84% | 31,984 | 14 | 64% |
| **AMRO** | 3,026 | 16 | 70% | 1,425 | 11 | 57% | 1,442 | 11 | 65% |
| **EMRO** | 5,778 | 3 | — | 5,510 | 2 | — | 5,510 | 2 | — |
| **EURO** | 527 | 3 | — | 527 | 3 | — | 420 | 2 | — |
| **SEARO** | 3,596 | 6 | 78% | 3,347 | 4 | — | 1,180 | 4 | — |
| **WPRO** | 500 | 3 | — | 0 | 0 | — | 0 | 0 | — |

* Regional estimates should be interpreted with caution as data for several regions are limited and, in certain cases, insufficient to calculate a regional figure.
**This is the number of facilities represented by the assessments. In non- census assessments the actual number of facilities sampled in less.

**Table 5. Countries represented in the review, by WHO Region**

| WHO Region | Countries |
|---|---|
| **AFRO** | Benin, Burkina Faso, Chad, Cote D'Ivoire, Ethiopia, Gambia, Ghana, Kenya, Liberia, Madagascar, Malawi, Mali, Namibia, Nigeria, Rwanda, Senegal, Sierra Leone, South Sudan, Sudan, Tanzania, Uganda, Zambia, Zimbabwe |
| **AMRO** | Antigua and Barbuda, Barbados, Bolivia, Dominica, Ecuador, Grenada, Guyana, Haiti, Mexico, Nicaragua, Paraguay, St. Kitts and Nevis, St. Lucia, St. Vincent and Grenadines, Suriname, Trinidad and Tobago |
| **EMRO** | Afghanistan, Egypt, Morocco |
| **EURO** | Azerbaijan, Kyrgyzstan, Tajikistan |
| **SEARO** | Bangladesh, Bhutan, India, Nepal, Sri Lanka, Timor-Leste |
| **WPRO** | Cambodia, Mongolia, Solomon Islands |

The data also demonstrates how some regions have very few countries surveyed (e.g. EMRO, WPRO) and therefore summary access figures were not possible. Data on access to water were more numerous than for sanitation and hygiene (Table 4). As discussed later in this report, conducting expanded assessments with a larger scope in a greater number of countries is important for understanding the needs more completely and for targeting resources within regions and countries.

These estimates should be viewed with caution. The situation is likely to be much worse. The data do not differentiate between facilities with on-site supplies and those having access to community sources within 500 meters. In both instances a facility is considered to have water services. Furthermore, most of the data do not account for reliability, quantity or safety of supplies. Using recent SPA surveys which also assess year-round availability of water, average access to an improved water source within 500 meters of a health facility drops from 73%, when availability is not considered, to 41%[1]. Furthermore, when on-site availability is considered, the figure drops even lower. Thus, the data suggest that the majority of health care facilities in low resource settings provide no access to water within the walls of the facility. This presents a major hurdle for conducting even the most basic health care procedures in a safe and convenient manner.

Of the 32 countries, which provided data on all three aspects (water, sanitation and hygiene) only three had 100% or nearly 100% coverage for all surveyed health care facilities. These countries are all from the Caribbean with generally smaller sizes and greater resources than other countries represented in this review.

## 3.1 DISPARITIES IN PROVISION OF WASH IN HEALTH CARE FACILITIES

Further analyses were conducted on a subset of available datasets to explore disparities in provision of WASH in health care facilities within countries. Large variations were observed at sub-national level, by settings and by type of health care facility within the same country, with smaller facilities in rural areas having disproportionally fewer WASH services compared to larger facilities (e.g. hospitals) in urban areas.

For example, in Sierra Leone, access to water was higher in hospitals (87%) than in primary health care facilities (61%). Similar findings were observed in Kenya where 58% of hospitals had access to water compared to 35% in primary health care clinics. More country data sets are needed before global conclusions can be drawn, but these examples indicate a trend that larger facilities are more likely to have WASH services commensurate with their needs compared to smaller facilities. It is often these smaller, lesser serviced health care facilities which offer care to the most impoverished and vulnerable populations (WHO, 2008).

Similar observations were made at sub-national level. In Kenya, for example, national level coverage of water in health care facilities was 46%, but analysis by province revealed important differences ranging from coverage of 75% (Central province) to 22% (Nyanza Province). In Ethiopia, while 99% of health care facilities in the capital city of Addis Ababa provided access to water, only 23% of health care facilities in the Gambela region did (Ethiopian Ministry of Water and Energy, 2012). Unfortunately there are insufficient data to provide similar analyses on sanitation or hygiene.

1 Includes data from five countries: Haiti, Kenya, Namibia, Rwanda and Tanzania.

Even within facilities disparities exist. A study in Tanzania using SPA data found that 44% of facilities conducting deliveries had basic WASH services. However, only 24% of those facilities had WASH services in the delivery room (Benova et al., 2014). Therefore, greater efforts are needed in characterizing and correcting disparities to ensure that individuals, regardless of gender, economic status or geographic origin obtain quality care.

Although health care waste management is not a focus of this review, it is an important element in ensuring the safety of both health care providers and patients. Available data, although limited to only 24 countries, are summarized in Box 2. Similar to WASH, provision of health care waste services is often lacking. These two areas are prerequisites for preventing and controlling infections associated with health care.

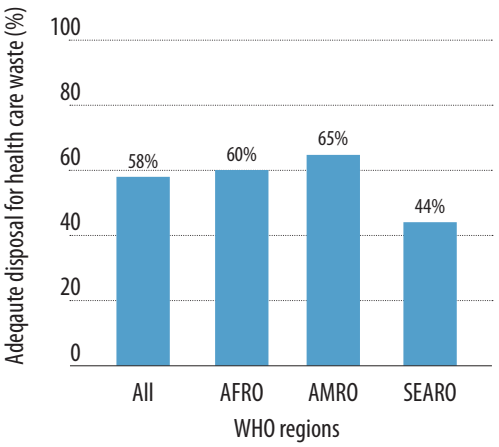
**Box 2.**

**Available data on health care waste management**

In total, just over half (58%) of the sampled facilities from 24 countries had adequate systems in place for the safe disposal of health care waste (Figure 1). Health care waste refers to all waste generated within health care facilities related to medical procedures and includes potentially infectious items such as used syringes, bandages and personal protective equipment. A safe disposal system involves having a plan for safely segregating, disposing and destroying waste and sufficiently trained personnel to carry out health care waste management. These estimates are alarming and indicate the need for immediate action to ensure health care waste is safely managed.

Safe disposal of health care waste is lacking in facilities in all regions and is lowest in SEARO with less than half of facilities having a system for safely collecting, disposing and destroying health care waste. Even a single facility without safe disposal of health care waste places both patients and health care workers at unnecessary risk of infection. This complicates the health challenges in high burden of disease, resource limited settings.

**Figure 1. Coverage of safe disposal of health care waste from 24 countries[1]**



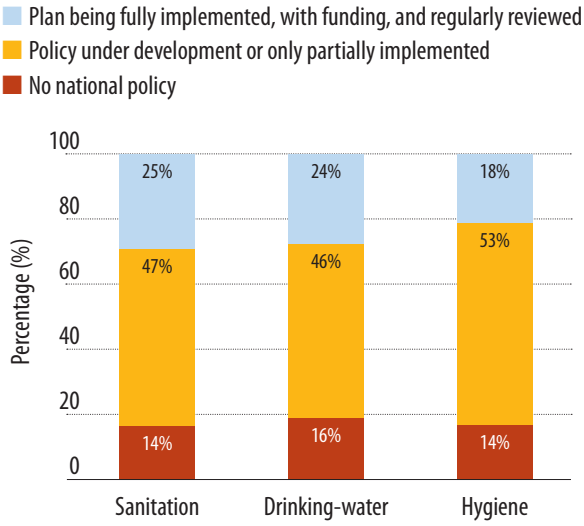

1 EURO is not included because there was only data from one country; EMRO and WPRO are not included because insufficient data were available. Information on health care waste management was available for 24 countries including 12 in AFRO region, 5 in AMRO, 1 in EMRO, 1 in EURO and 5 in SEARO.

4

# NATIONAL POLICIES AND TARGETS ON WASH IN HEALTH CARE FACILITIES

The 2014 UN-Water Global Analysis and Assessment of Sanitation and Drinking-water (GLAAS) report coordinated by WHO, showed that in the 88 countries which responded to the question on national policies on WASH in health care facilities, only a quarter (Figure 2) had a plan for sanitation in health care facilities that is implemented with funding and regular review (WHO, 2014). The proportion of countries with plans for drinking-water and hygiene are even less. To review the GLAAS survey questions relevant to health care facilities, see Annex F.

### Figure 2. Status of national policies and plans on WASH in health care facilities




Source: GLAAS 2013/2014 country survey.

Similarly, targets for basic coverage of WASH in health care facilities are lacking. Over half (52%) of the countries (n=94) responding to this question in GLAAS do not have targets for hygiene in facilities and over a third of countries do not have targets for sanitation (35%) or water (44%). Together, these figures indicate that policy development and planning is inadequate for WASH in health care facilities. Interestingly, the proportion of countries with national policies (Figure 2) varied for drinking-water, sanitation and hygiene, indicating fragmentation of elements that should be planned for and delivered as a package.

An illustration of the links between national policies on drinking-water in health care facilities, targets and coverage in 18 African countries, is shown Table 6. Drinking-water and Sub-Saharan African countries were chosen for the illustration on the basis of data availability.

The green, yellow and red boxes indicate generally good, average and poor levels (respectively) of service, targets and national plans and policies on water. Sanitation and hygiene are not represented as there are insufficient data. Several items are important to note. First, in countries where there is a water target and a national plan fully costed and regularly reviewed (Burkina Faso and Zimbabwe) water coverage in health facilities is high (87% or greater) and far above the African average of 58%. This suggests that the existence of national targets and national plans and policies on WASH in health care facilities may be associated with a higher proportion of facilities served with water. The majority of countries in Table 6 (13) have some type of policy and associated plan on water in health care facilities but the plan has not been costed or is only partially implemented (yellow boxes). Thus, the focus in these countries ought to be on finalizing the policy and ensuring there is sufficient political will along with human and financial resources to enable implementation.

## Table 6. National policies and plans, targets and provision of water in health care facilities in countries with available data in Sub-Saharan Africa

| Country | Water target (%) | Water provision (%)* | National plan** (yes/partial/none) |
|---|---|---|---|
| **Benin** | 100 | 82 | Partial |
| **Burkina Faso** | 100 | 87 | Yes |
| **Chad** | No response | 62 | Partial |
| **Cote d'Ivoire** | 82.5 | 55 | Partial |
| **Ethiopia** | No response | 32 | Partial |
| **Gambia** | 100 | 50 | None |
| **Ghana** | 100 | 68 | Partial |
| **Kenya** | 75 | 83 | Partial |
| **Liberia** | No response | 81 | Partial |
| **Madagascar** | 70 | 69 | Partial |
| **Mali** | No response | 20 | None |
| **Rwanda** | 100 | 71 | Partial |
| **Senegal** | No target defined | 90 | Yes |
| **Sierra Leone*** ** | 72 | 62 | Partial |
| **South Sudan** | No response | 79 | Partial |
| **Tanzania** | 100 | 65 | Partial |
| **Uganda** | No response | 66 | Partial |
| **Zimbabwe** | 100 | 100 | Yes |

* Colour codes are as follows: 0–50% (red); 51–75% (yellow); 76–100% (blue).
** Definitions are based on GLAAS questions and answers are coded as follows:
Yes—have plan costed, implemented with funding and regularly reviewed; Partial—have plan developed and in some cases costed and partially implemented; None—no national policy or policy exists without any implementation plan.
*** Data on provision of water in Sierra Leone are sub-national while for the other countries the data are nationally representative.
Source: Data on water targets and national plans is from the GLAAS 2013/2014 country survey.

Only two countries (Gambia and Mali) in Table 6 indicated an absence of a national policy. Access to water in health care facilities in these countries is among the worst; Mali has the least facilities with water access (20%) and Gambia, the third least (50%). This suggests that a lack of a national policy and plan is associated with very low levels of services and that a plan is important for mobilizing financial and human resources to improve and maintain WASH in health care facilities.

# WAY FORWARD


WaterAid/Eliza Deacon

5

# IMPROVING WASH IN HEALTH CARE FACILITIES: A CALL FOR ACTION

Urgent action at the global, national and facility level is needed to improve WASH conditions in health care facilities. At the global strategic meeting in 2014 (mentioned in Section 1 and detailed in Annex G) WASH and health professionals from international organizations, governments, academia, NGOs and donors voiced commitment to raise awareness, build political will, mobilize resources and support actions to improve the situation in low resource settings. At the meeting, participants identified actions which were organized into four broad themes:

- policies and standards;
- coverage targets;
- improving WASH services; and
- monitoring and operational research.

These items are discussed below and WHO is working with key partners to refine and further develop these items into a Global Action Plan on WASH in health care facilities.

## 5.1 POLICIES AND STANDARDS

The establishment and enforcement of national standards for WASH in health care facilities is one measure to increase access and improve services. WHO standards on WASH in health care facilities (Table 7) serve as a basis for establishing national standards for the various types of health care facilities. Examples of how Laos and Mongolia have adopted and implemented these standards are provided in Box 3.

**Table 7. WHO standards on water, sanitation and hygiene in health care facilities (WHO, 2008)**

| Item | Recommendation | Explanation |
|---|---|---|
| **Water quantity** | 5–400 litres/person/day. | Outpatient services require less water, while operating theatres and delivery rooms require more water. The upper limit is for viral haemorrhagic fever (e.g. Ebola) isolation centres. |
| **Water access** | On-site supplies. | Water should be available within all treatment wards and in waiting areas. |
| **Water quality** | Less than 1 *Escherichia coli*/ thermotolerant total coliforms per 100 ml.<br>Presence of residual disinfectant.<br>Water safety plans in place. | Drinking-water should comply with WHO Guidelines for Drinking-water Quality for microbial, chemical and physical aspects. Facilities should adopt a risk management approach to ensure drinking-water is safe. |
| **Sanitation quantity** | 1 toilet for every 20 users for inpatient setting.<br>At least 4 toilets per outpatient setting.<br>Separate toilets for patients and staff. | Sufficient number of toilets should be available for patients, staff and visitors. |
| **Sanitation access** | On-site facilities. | Sanitation facilities should be within the facility grounds and accessible to all types of users (females, males, those with disabilities). |
| **Sanitation quality** | Appropriate for local technical and financial conditions, safe, clean, accessible to all users including those with reduced mobility. | Toilets should be built according to technical specifications to ensure excreta are safely managed. |
| **Hygiene** | A reliable water point with soap or alcohol based hand rubs available in all treatment areas, waiting rooms and near latrines for patients and staff. | Water and soap (or alcohol based hand rubs) should available in all key areas of the facility for ensuring safe hand hygiene practices. |

**Box 3.**

**Setting and implementing standards for WASH in health care facilities in Laos and Mongolia**

In Laos, the Department of Hygiene and Health Promotion developed Environmental Health Standards for Health Care. This document provides guidance for health facilities on essential environmental health standards, supports the integration of those standards into national programmes and guides training and capacity building on technical aspects in the local language. One direct application of these WASH standards was in the 'Strategy and Planning Framework for the Integrated Package of Maternal Neonatal and Child Health Services 2009-2015'. Implementation took place in 25 health care centres and included the construction of WASH infrastructure that was accessible to patients with disabilities, functional amenities (toilets, washing areas) and allocation of budget for maintenance and repair.

In 2013, Mongolia adopted WASH design requirements for the construction and rehabilitation of health care facilities, using WHO standards as a basis. In addition to infrastructure requirements, the Mongolian standards highlight operation and maintenance processes, health care waste management procedures and infection prevention and control measures.

Implementation of national standards may benefit from a tiered or "laddered" approach that allows health care facilities to make incremental progress towards, and eventually beyond, a basic level of service. Such standards may be facility and location specific, recognizing that facilities providing more complicated and involved services, such as surgeries, will require greater levels of WASH services.

National policies and standards on WASH in health care facilities should be accompanied by strategies that identify adequate funding, human resources and institutional arrangements to ensure that standards are implemented. As indicated in the recent GLAAS report (WHO, 2014), of the 72 countries with national policies, 46 did not have associated plans for water in health care facilities costed and/or fully implemented. This indicates that additional effort is needed to identify funding sources and financing mechanisms. One mechanism may be national health care accounts for which WHO recommends that water and cleaning supplies be considered as important inputs needed to generate health services (OECD, Eurostat, WHO, 2011). WHO also recommends that the cost of water and sanitation services may be met by the central government directly and thus made available to public health care providers at no or a very low nominal charge.

## 5.2 COVERAGE TARGETS

Targets are important for catalysing political will and prioritizing resource allocations. A target of 100% coverage for WASH in health care facilities has been set approximately a third of the countries responding to the GLAAS survey (WHO 2014) (39% for sanitation, 36% for drinking-water and 28% for hygiene). However, considering the current lack of services, human and financial resource constraints, and the lack of country plans and standards, achieving these targets will be challenging. Thus, to inform and ensure realistic target setting, detailed needs assessments are required that prioritize the most vulnerable (e.g. areas with high maternal and newborn mortality rates, cholera outbreaks, etc.) and that take into account human, financial and technological capabilities.

Setting targets and monitoring progress towards achieving them requires national action and may benefit from global efforts. In the global context, there are calls for universal access to health coverage and the UN has recognized the human right to water and sanitation. Both of these efforts, which are outlined later in this section in Box 8, provide important political and legal mechanisms through which to set targets and conduct monitoring.

International recognition of the need for global monitoring of WASH in health care facilities against an agreed global target may spur the establishment or revision of national targets. The WHO/UNICEF JMP facilitated a comprehensive consultation among hundreds of stakeholders to identify WASH targets and indicators for inclusion in the post-2015 agenda (WHO/UNICEF, 2014a). One outcome of this consultation was the proposed target of universal access to basic WASH services in health care facilities by 2030. Proposed indicators (Table 8) were developed based on the aforementioned WHO standards.

One example of a global initiative which has adopted these targets and is working with national governments to adapt them to their own contexts is the WHO/UNICEF Global Action Plan on eliminating childhood Pneumonia and Diarrhoea (WHO/UNICEF, 2013 – see details in Box 8).

**Table 8. Proposed post 2015 WASH targets and indicators in health care facilities**

| Item | 2030 targets | 2030 indicator |
|---|---|---|
| **Drinking-water** | All health care facilities provide all users with basic drinking-water supply. | Percentage of health care facilities with an improved drinking-water source on premises and water points accessible to all users, all the time. |
| **Sanitation** | All health care facilities provide all users with adequate functioning sanitation facilities. | Percentage of health care facilities with improved, gender separated sanitation facility on or near premises (at least one toilet for every 20 users at inpatient centres, at least four toilets – one each for staff, female, male and child patients – at outpatient centres). |
| **Hygiene** | All health care facilities provide all users with handwashing and menstrual hygiene facilities. | Percentage of health care facilities with a handwashing facility with soap and water in or near sanitation facilities, food preparation areas and patient care areas.<br>Percentage of health care facilities with a private place for washing hands, private parts and clothes; drying reusable materials; and safe disposal of used menstrual materials. |

This JMP proposal was an input into the deliberations of the UN Open Working Group on Sustainable Development Goals, whose report became the basis for the SDGs. While this report provides for no explicit target on WASH in health care facilities, its proposal for universal access to water and sanitation has been interpreted by many, including the JMP, to imply all settings, including households, schools, and health facilities. JMP thus plans to monitor WASH in health care facilities post-2015.

## 5.3 IMPROVING WASH SERVICES

Political will, supportive policies, national standards, targets and clearly defined stakeholder roles provides that enabling environment to improve WASH services in health care facilities.Implementing WASH services requires trained and sufficient human resources and adequate financing.

At the facility level WASH service improvements would benefit from comprehensive, facility-based risk assessments, using approaches similar to those used for Water Safety Planning and hazard assessment and critical control points (as used in the food industry) (WHO/IWA, 2011). This approach requires the systematic identification, prioritization and management of risks (WHO, 2012). It also requires regular monitoring of the control measures put in place and periodic confirmation of water quality (verification or compliance monitoring). Sanitation, hygiene measures and health care waste management are also important elements to include in such risk management plans. Countries have begun to adopt this approach in, for example, cholera hotspots in Chad, health facilities in conflict areas in Mali and (re)building health systems post Ebola Outbreak in Liberia. However, further efforts are needed to develop facility-appropriate risk assessments linked to existing plans, including on infection prevention and control and supported by adequate resources.

While facilities may require major infrastructure improvements (e.g. drilling of deep borewells or installation of piped water), which may take time to resource and complete, there may be immediate, inexpensive measures that can be undertaken to improve WASH conditions. Such an example is detailed in Box 4.

**Box 4.**

**An inexpensive approach to promote safe water and hygiene in health care facilities in rural Zambia**

In Zambia a project (that originally started in eight health care facilities and was expanded to 150) demonstrated the benefits of quick and inexpensive WASH improvements. Installing water containers with taps and soap for handwashing and water treatment at key points within the facilities, immediately improved the ability to safely wash hands and increased the practice thereof. Patients also indicated greater satisfaction with health care services. In addition, the improved handwashing and water treatment practices in the health care facility translated to improved practices in the home; thereby multiplying the effect of the intervention. This trend has also been documented in Kenya and Malawi (Parker, 2006; Woods et al., 2012). Capitalizing on a "teachable moment" when a patient is seeking care, and utilizing the positive influence of health care workers are two possible factors contributing to this positive result. The project, implemented by the Ministry of Health and Ministry of Water and Natural Resources with support from a number of local and international organizations, is conducting further work to assess outcomes and explore further expansion.

Training and sufficient staffing are fundamental to improving and maintaining WASH services in health care facilities and ensuring risk management plans are implemented. Training on WASH should be closely developed and delivered in tandem with training on infection prevention and control (see Box 5). There should be regularly trained individuals for ensuring that water and sanitation facilities are properly operated and maintained and that essential services such as safe disposal of health care waste are available. These individuals should have tools and funds available to complete tasks such as operating and repairing water pumps, fixing toilets and checking to see that septic tanks are operating as designed. In addition, they should be sufficiently remunerated for their work and responsibilities.

**Box 5.**

**Linkage of WASH training with infection prevention control in Mongolia and Ethiopia**

In Mongolia, a national programme on improving WASH services in rural hospitals included a strong focus on capacity building of health care workers. A training programme was developed and delivered for health care workers in primary health care centres which linked existing infection prevention and control training with specific items on WASH and health care waste management measures. Health volunteers from the surrounding communities were also trained to support efforts in the centres and deliver WASH messages to the household level.

The Clean and Safe Health facility campaign "CASH" in Ethiopia was launched by the Ministry of Health in 2014 and aims to reduce health care infections and make hospitals safer through staff training on infection prevention and control and patient safety, safe and sufficient water supply and sanitation facilities and health care waste management along with implementing audits and supporting hospitals in developing and implementing charters for cleanliness. CASH is being implemented in all hospitals in Ethiopia (approximately 150) and will be expanded to health centres in 2016.

Training should not limited to those operating WASH infrastructure. Staff and patients need education on how to properly use WASH facilities and the benefits of doing so. In addition, training health care providers on how, and when, to effectively deliver WASH messaging on items such as handwashing to care seekers can result in both individual changes and improvements in the practices of family members, to whom the messages are shared at home. This training needs to be supported by appropriate reminders (e.g. posters), refresher courses and incentives to enable the ongoing practices and delivery of messages by health care workers. When such support is provided, long-term, sustained improvements are possible. In Kenya, for example, three years after a programme was implemented to improve handwashing and water treatment in rural health care facilities, 97% of the facilities still had water stations in use and 79% of staff knew how to treat water (Sreenivasan et al., 2014).

Operational research is important for informing effective implementation and further understanding the links between WASH services in health care facilities and health outcomes. A detailed research agenda is outside the scope of this review. However, areas requiring further study and investigation were discussed at the aforementioned global strategic meeting. They include:

- understanding drivers for WASH behaviour change and developing evidence-based behaviour change interventions for health care staff and patients;
- assessing the cost and benefits of investments and overcoming financial barriers;
- optimizing water, sanitation and hygiene hardware designs that are easy to use, environmentally friendly and appropriate for the setting;
- optimizing human resources and staff training; and
- understanding the most effective measures for implementing and sustaining facility-based risk management plans.

## 5.4 MONITORING

Improving and monitoring WASH services require strong and consistent monitoring mechanisms to measure progress and direct efforts where needs are greatest. Monitoring is required at both the global/national level and at the facility level. This review of largely national level assessments identified several gaps. First, there is no harmonized definition of WASH services and many assessments failed to capture important aspects such as water safety and reliability or functionality of sanitation services. Development and implementation of a harmonized set of indicators is needed to allow comparisons between countries and over time. Indicators should align with national standards and the WHO recommendations provide an important basis for determining what aspects of access, functionality, safety and equity to measure. Major national assessments, including those supported by SARA, SDI, and SPA, should then be encouraged to use this harmonized set of questions.

Additional assessments are needed in underrepresented, low income countries (e.g. Central Africa Republic, Eritrea, Guinea Bissau and Niger) and the SARA scheme has plans to conduct assessments in many of these in the 2015 and 2016. In addition, data from underrepresented regions including the Middle East, Central and Southeast Asia is needed. Additionally, future assessments may benefit from including modules specifically tailored to the type of facility (e.g. health post or hospital), geographic location (e.g. rural or urban) and economic status of the country. Such specifications would allow for more nuanced analyses of disparities and better targeting of resources.

Strengthening national HMIS is needed to support inclusion of WASH in routine monitoring of health care services. This will promote country ownership and sustainability of ongoing assessments and the ability to regularly identify deficiencies. Systems of accountability and financing are also needed to ensure that, once identified, actions can be prioritized and WASH services improved. These systems will require human resources, financial support, capacity building and third party validation to ensure good quality data.

At the facility level more detailed monitoring is needed that can be used within a framework for assessing risks, prioritizing improvements and ensuring those improvements are maintained with sufficient human and financial resources. As described in Boxes 6 and 7, Sierra Leone and Viet Nam have taken initial steps to improve facility monitoring systems.

Finally, developing mechanisms to verify compliance with national standards, including the operation and maintenance of water and sanitation facilities and the correct practice of handwashing procedures, will help to ensure that improvements are maintained. Such efforts may involve the accreditation of facilities, with WASH serving as an important indicator in being able to provide quality care. The aforementioned effort to improve quality of care at childbirth is working on developing a set of indicators and processes to certify facilities as 'newborn friendly'. Facilities that do maintain acceptable levels of service and work to continually improve WASH could be recognized and staff efforts acknowledged to further empower efforts in this area.

**Box 6.**

**Innovative monitoring systems for WASH in health care facilities in Sierra Leone**

In Sierra Leone, the Ministry of Health and Sanitation recently developed a WASH in health care facility policy and standards along with manuals and training tools to facilitate implementation of those standards. The initiative was led by the Reproductive and Child Health Division at the Ministry with external support and collaboration with NGOs for implementation. An innovative monitoring system was put in place. Facility improvement assessment teams were deployed to 65 health centres and 13 hospitals for quarterly or six-monthly assessments. The teams reported their findings first at the district level where immediate decisions could be made on prioritizing improvements and allocating resources. The assessment tool was combined with a system of coloured score cards (green=good, yellow=inadequate, red=very inadequate) to monitor the facility status against set criteria. The score cards were used as a tool to review the situation and decide on the actions to be taken. The next steps for this initiative will be to demonstrate the effectiveness of the approach, scale it up and collaborate with the Ministry of Energy to equip health facilities with solar panels for electricity.

**Box 7.**

**Using monitoring data to make gains in WASH in health care facilities in Viet Nam**

Viet Nam regularly assesses WASH in health care facilities and the most recent survey of commune health facilities (those offering the most basic care) indicates that 10,000 facilities meet national standards while 1,000 are sub-optimal. In order to drive change, Viet Nam implemented a clean toilet contest and provided incentives to facilities to improve services. Simultaneously, the Government worked with local organizations in 14 provinces to improve access and use of household latrines in rural areas through training, promotion activities and a one-time incentive (25 USD) for construction of latrines. Benefits realized include improved ability to offer quality health care services, reduced risks of infections and an increase in dignity, safety and privacy for women, both in relation to delivering children and using sanitation facilities.

## 5.5 MAXIMIZING EFFORTS

While ensuring minimum WASH services in health care facilities is fundamental for any health effort, there may be benefits in greater coordination with existing health initiatives, especially in drawing greater attention to inadequate conditions, developing joint training packages for health care staff, expanding upon WASH elements within existing facility infection prevention and control plans and monitoring progress. A snapshot of some of these initiatives is given in Box 8.

**Box 8.**

**Global health initiatives requiring WASH services in health care facilities**

**Improving quality of care at birth:** This is a global effort to ensure quality of care at birth, at a time when both women and infants are particularly at risk for infection and other complications. As part of this effort WHO and others are working to certify the quality of facilities, including ensuring that all delivery rooms have sufficient and safe water, and sanitation facilities are available for mothers and staff.

**Global Action Plan to Eliminate Childhood Pneumonia and Diarrhoea (GAPPD):** WASH is an important component of the three-pronged GAPPD approach (protection, prevention and treatment) to eliminate childhood pneumonia and diarrhoea. Universal access indicators to WASH in health care facilities are included in this plan.

**Global Task Force on Cholera Control (GTFCC):** The purpose of the GTFCC is to support increased implementation of evidence-based strategies to prevent and control cholera through strengthened collaboration and coordination among WHO, Member States and stakeholders active in cholera-related activities. To this effect, one of the objectives of the GTFCC is to integrate all cholera activities (e.g. detection, surveillance, patient care, vaccination, WASH, advocacy and social mobilization) to ensure long-term disease reductions. This includes improving WASH in health care facilities in cholera hot spot areas which serve the populations most at risk of the disease.

**Greening the Health Sector:** seeks to advance environmental sustainability in health care to improve health and enhance health systems performance. Focus areas include the promotion of safe and environmentally sound health care waste management and leveraging of clean energy technologies (e.g. solar power) to enhance quality, accessibility and safety of health care services.

**Energy for Women's and Children's Health:** Co-led by WHO, UN Women and the UN Foundation, this initiative (implemented under the umbrella of the UN Secretary General's 'Sustainable Energy for All') seeks to improve the health of women and children by increasing access to reliable electricity in health care facilities. Particular focus is given to health care facilities in resource constrained settings. A 2013 review of energy access in health care facilities in 11 African countries found that only 28% have access to reliable power and 26% have no power at all (Adair-Rohani et al., 2014). Addressing WASH in tandem with energy, provides "whole" facility solutions, especially to facilities that may be "off the grid" and have to supply power to pump their own water supplies.

**Clean Care is Safer Care:** The goal of Clean Care is Safer Care is to ensure that infection control is acknowledged universally as a solid and essential basis towards patient safety and supports the reduction of health care associated infections and their consequences. Basic WASH services are fundamental to this goal and greater collaboration between WASH and infection control efforts in health care facilities will result in a myriad of benefits.

**Universal health coverage:** Ensuring that all individuals can obtain health services without suffering financial hardship when paying for them is a major priority for WHO, the World Bank, and national governments and is supported by various international commitments, including the 2012 UN Resolution 67/L.36. An estimated 1 billion people suffer each year because they cannot obtain the health services they need (WHO, 2014). The ability to provide quality and sustainable health services necessitates provision of WASH in all health care facilities and staff that are sufficiently trained in WASH practices and delivering hygiene behaviour change messaging.

**UN human right to water and sanitation:** In 2002, the UN Committee on Economic Social and Cultural Rights adopted General Comment No. 15: the right to water, defined as the right of everyone to sufficient, safe, acceptable and physically accessible and affordable water (UN, 2002). Later, in 2010, through Resolution 64/292, the United Nations General Assembly recognized the human right to water and sanitation and acknowledged that clean drinking-water and sanitation are essential to the realization of all human rights (UN, 2010). The Resolution defines five normative criteria (availability, quality/safety, acceptability, accessibility and affordability) which provide an important basis for comprehensively addressing WASH needs in health care facilities. It also provides legal tools and outlines obligations for State and non-State actors to progressively respect, protect and fulfil this right.

# 6 CONCLUSION

The report provides an alarming picture of the state of WASH in health care facilities. First, there are limited data on WASH in health care facilities, both in regards to geographic scope and in describing the types of services that do exist. Second, the data that are available indicate that many health care facilities do not have access to water sources or sanitation facilities, irrespective of how well these facilities function. In the few assessments that do examine this issue, many of the WASH services are not safe or reliable, and are inadequate for the needs of patients, health care staff and visitors. In addition, training and capacity building to ensure there are sufficient resources and personnel to operate and maintain WASH facilities and enable health care staff to deliver hygiene behaviour change messages is urgently needed. While the situation appears bleak, there are a number of global initiatives for which WASH in health care facilities is a foundational element and examples of national governments taking the initiative to improve standards, implementation and monitoring. Through coordinated, global action, with leadership from the health sector, ensuring that all health care facilities have WASH services is an aim that can be realized.

7

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# ANNEX A. METHODS

## SEARCH STRATEGY FOR DATA SETS

Literature reviews of health care facility assessment tools were examined, including an annotated bibliography of health care facility assessments completed by the IHFAN in 2008. Databases that catalogue health care facility assessments in public health and development were searched and include those listed in Table A1. The GLAAS 2013/2014 survey responses and the Health Metrics Network were reviewed to identify countries with health management information systems. Data for each of the indicators of interest were extracted from reports and assembled in a table. With the exception of ten publicly available SPA data sets, analysis was limited by the information provided in the published report. Additional meta-data such as survey type, year of study, sample size, and representative population were also extracted.

### Table A1. Health care facility assessment databases and affiliated organizations

| Organization | Website |
|---|---|
| **ABT Associates** | http://www.abtassociates.com/ |
| **Engender Health** | http://www.engenderhealth.org/eoy-2013/#top |
| **Family Health International (FHI360)** | http://www.fhi360.org/ |
| **Global Health Data Exchange** | http://ghdx.healthmetricsandevaluation.org/ |
| **International Health Facility Assessment Network (IHFAN)** | http://ihfan.org/home/ |
| **International Household Survey Network (IHSN)** | http://www.ihsn.org/home/ |
| **Japan International Cooperation Agency (JICA)** | http://www.jica.go.jp/english/ |
| **John Snow International** | http://www.jsi.com/JSIInternet/IntlHealth/project/display.cfm?ctid=na&cid=na&tid=40&id=375 |
| **MEASURE DHS** | http://www.measuredhs.com/publications/index.cfm |
| **MEASURE Evaluation** | http://www.cpc.unc.edu/measure/publications |
| **Population Council** | http://www.popcouncil.org/publications/index.asp |
| **Rhino** | http://rhinonet.org/ |
| **UNICEF** | http://www.unicef.org/ |
| **USAID** | http://www.usaid.gov/resuts-and-data/data-resources |
| **World Bank** | http://databank.worldbank.org/data/home.aspx |
| **WHO Health Statistics and Information Systems** | http://www.who.int/healthinfo/systems/sara_reports/en/ |
| **WHO Health Metrics Network** | http://www.who.int/healthmetrics/en/ |
| **WHO Regional Offices** | Africa: http://www.who.int/about/regions/afro/en/index.html<br>Americas: http://www.who.int/about/regions/amro/en/index.html<br>South-East Asia: http://www.who.int/about/regions/searo/en/index.html<br>Europe: http://www.who.int/about/regions/euro/en/index.html<br>Eastern Mediterranean: http://www.who.int/about/regions/emro/en/index.html<br>Western Pacific: http://www.who.int/about/regions/wpro/en/index.html |

# COMPILING AND RECONCILING DATASETS

## Extracting information

Ninety health care facility assessments from 54 countries were identified. St. Kitts and Nevis and Trinidad and Tobago, were assessed in separate reports. Data from these countries were combined (St. Kitts and Nevis; Trinidad and Tobago) and counted as one country.

Coverage estimates are facility weighted averages of available survey data, meaning that a country's coverage was weighted based on number of facilities in each country. To derive facility weighted averages, only one assessment was selected for each country to prevent double or triple counting WASH in health care facility coverage. Therefore 54 of the 90 data sets were included in the aggregated statistics presented in this report.

Of the 54 countries, 35 had only one assessment available. For the remaining 19 countries, one assessment from each country was selected in the following priority order: (a) the most representative data set at the country level (e.g. selecting a nationally representative data set when available; in the absence of nationally representative data, a sub-nationally representative data set with the broadest national coverage was selected), and (b) the most comprehensive in terms of indicators included in the assessment (e.g. reporting on all or most water, sanitation, hygiene and environmental conditions indicators), and (c) the most recent assessment (by year). Other important characteristics of the data sets used in this report are:

- 20 datasets were nationally representative, the remainder were representative at a sub-national level.
- Original datasets were available for ten countries; the remaining information was extracted from summary reports provided by the assessments.
- 22 were SPA or HSPA census surveys, 4 were SARA surveys, 2 were World Bank surveys.

## Challenges for data reconciliation

In addition to assessments using different definitions of WASH there were a number of other challenges in compiling data from different sources. Some surveys examine comprehensive service delivery (e.g. SARA, SPA, SDI) while others examine health care facilities providing specific services, such as surgical care in hospitals (e.g. WHO Integrated Management for Emergency and Essential Surgical Care). Another reason is geographical scope of coverage. Some assessments examine facilities nationwide (e.g. SPA), others examine only certain project areas (e.g. Integrated Management of Childhood Illness, Evaluation of Long-Acting and Permanent Methods Services) and some examine only a sub-nationally representative sample (e.g. some SARAs). Additional reasons for differences include different sampling approaches and level of statistical rigor. Assessments can be stratified random samples, convenience samples, or censuses.

# ANNEX B. SUMMARY OF HEALTH CARE FACILITY ASSESSMENTS THAT COLLECT DATA ON WASH

## Table B1. Health care facility assessments

| Name of health care facility assessment | Acronym | Institutional coordinator | Primary survey focus | Level of monitoring coverage | Status |
|---|---|---|---|---|---|
| **Service Availability and Readiness Assessment**[1] | SARA | WHO and USAID | Service delivery in HCF | National and sub-national | HCF tool used by WHO since 2011 |
| **Service Delivery Indicators**[2] | SDI | World Bank, African Economic Research Consortium, African Development Bank | Service delivery in HCF | National | HCF tool used by the World Bank since 2010 |
| **Service Availability Mapping** | SAM | WHO | Service delivery in HCF | National | None conducted since 2008 |
| **Service Provision Assessment**[3] | SPA | The DHS Program (supported by USAID) | Service delivery in HCF | National | HCF tool used by USAID since 1999 |
| **AQUIRE Evaluation of LAPM Services** | ELMS | MEASURE Evaluation | Measure programme impact on the availability and quality of services at facilities supported by ACQUIRE | Sub-national (facilities in project areas) | None publicly available since 2006 |
| **Health Facility Census** | HFC | Japan International Cooperation Agency | Basic data on health sector capital assets | National | Two publicly available surveys (Malawi and Zambia) |
| **Health Management Information System** | HMIS | Managed nationally | Management and planning of health programmes | Sub-national or national | Used in many developing countries |
| **HIV/AIDS Service Provision Assessment** | HSPA | MEASURE Evaluation | Service delivery for HIV/AIDS care | National (typically only facilities providing HIV/AIDS care) | Most conducted in Caribbean region in 2005–2007 |
| **Integrated Management of Childhood Illness** | IMCI | WHO | Evaluate quality of care delivered to sick children attending outpatient facilities | Sub-national (only facilities providing care to children) | None publicly available since 2007 |
| **Quantitative Service Delivery Survey**[4] | QSDS | World Bank | Efficiency of service provision | Sub-national | None conducted since 2004 |
| **Rapid Health Facility Assessment (also known as the Rapid-SPA)** | R-HFA (also Rapid-SPA) | MEASURE Evaluation | Rapid measurement of core indicators for service delivery | Sub-national | None publicly available since 2008 |
| **WHO Integrated Management for Emergency and Essential Surgical Care**[5] | IMEESC | WHO | Situational assessment for essential surgical care for hospitals | National (hospitals only) | 15 conducted in 2009–2013 |
| **Quick Investigation of Quality** | QIQ | MEASURE Evaluation | Routine, low-cost assessment of quality of care of family planning services | Sub-national | Four publicly available surveys (Ecuador, Turkey, Uganda, Zimbabwe) |

[1] http://www.who.int/healthinfo/systems/sara_introduction/en/
[2] http://www.sdindicators.org/why-sdi/
[3] http://dhsprogram.com/What-We-Do/Survey-Types/SPA.cfm
[4] http://go.worldbank.org/1KIMS4I3K0
[5] http://www.who.int/surgery/publications/imeesc/en/

# ANNEX C. WASH IN HEALTH CARE FACILITIES, COVERAGE DATA BY COUNTRY

## Table C1. WASH in health care facilities

| Country | Year of publication | Survey type* | Survey coverage | Representative population of HCF | Data extraction | WHO Region | Water coverage | Sanitation coverage | Hygiene coverage |
|---|---|---|---|---|---|---|---|---|---|
| **Afghanistan** | 2009 | UNICEF survey | Sub-national | 400 | Report | EMRO | 0.56 | 0.91 | 0.72 |
| **Antigua and Barbuda** | 2007 | HSPA | Sub-national | 17 | Report | AMRO | 1.00 | 1.00 | 1.00 |
| **Azerbaijan** | 2006 | ACQUIRE/ELMS | Sub-national | 241 | Report | EURO | 0.21 | 0.70 | 0.24 |
| **Bangladesh**[1] | 2013 | Icddr,b survey | National | 875 | Report | SEARO | 0.97 | 0.53 | 0.79 |
| **Barbados** | 2007 | HSPA | Sub-national | 22 | Report | AMRO | 0.76 | 0.33 | 0.76 |
| **Benin**[2] | 2013 | SARA | National | 189 | Report | AFRO | 0.82 | 0.92 | 0.89 |
| **Bhutan** | 2009 | National government survey | National | 202 | Report | SEARO | 0.90 | - | 0.91 |
| **Bolivia** | 2006 | ACQUIRE/ELMS | Sub-national | 320 | Report | AMRO | 0.89 | - | - |
| **Burkina Faso** | 2012 | SARA | National | 2073 | Report | AFRO | 0.87 | 0.95 | 0.89 |
| **Cambodia** | 2008 | Health Impact Evaluation Consortium Survey | Sub-national | 447 | Report | WPRO | 0.67 | - | - |
| **Chad** | 2004 | World Bank survey | Sub-national | 281 | Report | AFRO | 0.62 | 0.62 | - |
| **Cote D'Ivoire** | 2008 | HSPA | National | 2601 | Report | AFRO | 0.55 | 0.70 | 0.73 |
| **Dominica** | 2007 | HSPA | Sub-national | 18 | Report | AMRO | 0.94 | 0.38 | 0.94 |
| **Ecuador** | 1998 | QIQ | Sub-national | 43 | Report | AMRO | 1.00 | - | - |
| **Egypt** | 2004 | SPA | National | 5110 | Data | EMRO | 0.88 | 0.78 | 0.71 |
| **Ethiopia** | 2012 | Government census | National | 20000 | Report | AFRO | 0.32 | 0.85 | - |
| **Gambia** | 2011 | IMEESC | Sub-national | 65 | Report | AFRO | 0.50 | - | - |
| **Ghana** | 2002 | SPA | National | 1444 | Data | AFRO | 0.68 | 0.94 | 0.97 |
| **Grenada** | 2007 | HSPA | Sub-national | 24 | Report | AMRO | 1.00 | 1.00 | 0.98 |
| **Guyana** | 2004 | SPA | National | 326 | Data | AMRO | 0.86 | 0.75 | 0.92 |
| **Haiti** | 2014 | SPA (census) | National | 907 | Data | AMRO | 0.65 | 0.46 | 0.5 |
| **India** | 2009 | National government survey | Sub-national | 2369 | Report | SEARO | 0.72 | 0.59 | - |
| **Kenya** | 2010 | SPA | National | 6192 | Data | AFRO | 0.83 | 0.98 | 0.58 |

| Country | Year of publication | Survey type* | Survey coverage | Representative population of HCF | Data extraction | WHO Region | Water coverage | Sanitation coverage | Hygiene coverage |
|---|---|---|---|---|---|---|---|---|---|
| **Kyrgyzstan** | 2009 | UNICEF survey | Sub-national | 179 | Report | EURO | 0.47 | 0.93 | 0.98 |
| **Liberia** | 2013 | IMEESC | Sub-national | 16 | Report | AFRO | 0.81 | — | — |
| **Madagascar** | 2005 | World Bank survey | Sub-national | 153 | Report | AFRO | 0.69 | — | — |
| **Malawi** | 2014 | SPA (census) | National | 1060 | Report | AFRO | 0.94 | 0.37 | 0.55 |
| **Mali** | 2013 | WHO survey | Sub-national | 139 | Report | AFRO | 0.20 | — | 0.32 |
| **Mexico** | 2010 | MEASURE Evaluation survey | Sub-national | 158 | Report | AMRO | 0.91 | — | — |
| **Mongolia** | 2011 | IMEESC | Sub-national | 44 | Report | WPRO | 0.45 | — | — |
| **Morocco** | 2007 | IMCI | Sub-national | 268 | Report | EMRO | 0.96 | — | — |
| **Namibia** | 2009 | SPA (census) | National | 411 | Data | AFRO | 0.78 | — | 0.70 |
| **Nepal** | 2011 | Government survey | Sub-national | 31 | Report | SEARO | 0.84 | 0.71 | 0.19 |
| **Nicaragua** | 2001 | MEASURE Evaluation survey | National | 1011 | Report | AMRO | 0.55 | — | — |
| **Nigeria**[3] | 2008 | HSPA | National | 280 | Report | AFRO | 0.71 | 0.71 | 0.84 |
| **Paraguay** | 1999 | QIQ | Sub-national | 52 | Report | AMRO | 0.65 | — | — |
| **Rwanda** | 2007 | SPA | National | 3737 | Data | AFRO | 0.71 | 0.73 | 0.22 |
| **Senegal** | 2013 | SPA | National | 3084 | Data | AFRO | 0.90 | 0.87 | 0.90 |
| **Sierra Leone** | 2011 | SARA | Sub-national | 1264 | Report | AFRO | 0.62 | 0.78 | 0.95 |
| **Solomon Islands** | 2011 | IMEESC | Sub-national | 9 | Report | WPRO | 1.00 | — | — |
| **South Sudan** | 2011 | Government survey | National | 1080 | Report | AFRO | 0.79 | 0.71 | 0.63 |
| **Sri Lanka** | 2009 | IMEESC | Sub-National | 47 | Report | SEARO | 0.86 | — | — |
| **St. Kitts and Nevis**[4] | 2006 | HSPA | Sub-national | 27 | Report | AMRO | 0.96 | 1.00 | 0.92 |
| **St. Lucia** | 2005 | HSPA | Sub-national | 17 | Report | AMRO | 0.92 | 0.33 | 0.83 |
| **St. Vincent and Grenadines** | 2005 | HSPA | Sub-national | 18 | Report | AMRO | 1.00 | 1.00 | 1.00 |
| **Sudan** | 2003 | IMCI | Sub-national | 136 | Report | AFRO | 0.91 | — | — |
| **Suriname** | 2006 | HSPA | Sub-national | 23 | Report | AMRO | 0.80 | 1.00 | 0.79 |
| **Tajikistan** | 2008 | R-HFA | Sub-national | 107 | Report | EURO | 0.38 | 0.43 | — |
| **Tanzania** | 2006 | SPA | National | 5663 | Data | AFRO | 0.65 | 0.93 | 0.59 |
| **Timor-Leste** | 2011 | Government survey | Sub-national | 72 | Report | SEARO | 0.17 | 0.98 | 0.88 |
| **Trinidad and Tobago**[5] | 2006 | HSPA | Sub-national | 43 | Report | AMRO | 0.96 | 1.00 | 0.84 |

| Country | Year of publication | Survey type* | Survey coverage | Representative population of HCF | Data extraction | WHO Region | Water coverage | Sanitation coverage | Hygiene coverage |
|---|---|---|---|---|---|---|---|---|---|
| **Uganda** | 2008 | SPA | National | 2202 | Data | AFRO | 0.66 | 0.59 | 0.44 |
| **Zambia** | 2010 | SARA | Sub-national | 565 | Report | AFRO | 0.88 | 0.95 | 097 |
| **Zimbabwe** | 1999 | QIQ | Sub-national | 39 | Report | AFRO | 1.00 | — | — |

[1] The Bangladesh 2013 survey was a nationally representative sample but the overall population was not provided so the sample size was used instead.
[2] The Benin 2013 SARA was a nationally representative sample but the overall population was not provided so the sample size was used instead.
[3] The Nigeria HSPA 2008 was a nationally representative sample but the overall population was not provided so the sample size was used instead.
[4] A separate survey was conducted on St. Kitts and on Nevis and these were combined for the report.
[5] A separate survey was conducted on Trinidad and on Tobago and these were combined for the report.
* For more information on survey type see Annex B. HCF health care facility.

# ANNEX D. INDICATORS USED IN SARA, SDI AND THE SPA

The following Tables outline WASH related indicators used within the three main global assessments (Service Availability and Readiness Assessment [SARA], Service Delivery Indicator survey [SDI], Service Provision Assessment [SPA]) used in this review. It is important to note that while all of these indicators are listed in guidance manuals, not all of the indicators are reported in the assessment reports.

### Table D1. Water in health care facility assessment indicators

| Topic | Assessment | Indicator | Answer choices | Data collection notes |
|---|---|---|---|---|
| **Water access** | SARA | Improved water source within 500 meters of facility | Improved water source uses uniform definitions for safe water sources promoted by UNICEF. These include the following: piped, public tap, standpipe, tubewell/borehole, protected dug well, protected spring, rain water. NOTE: The type of base for the standpipe or tubewell is not considered for this question. | Observed availability |
| | SDI | What is the main source of water for the facility? | No water source, piped into facility, piped onto facility grounds, public tap/ standpipe, tube well/borehole, protected dug well, unprotected dug well, protected spring, unprotected spring, rainwater, bottled water, cart w/small tank/ drum, tanker truck, surface water, other (specify), don't know. | |
| | SPA | What is the most commonly used source of water for the facility at this time? | No water source, piped into facility, piped onto facility grounds, public tap/ standpipe, tube well/borehole, protected dug well, unprotected dug well, protected spring, unprotected spring, rainwater, bottled water, cart w/small tank/ drum, tanker truck, surface water, other (specify), don't know. | Observe that water is available from source or in the facility on the day of the visit (e.g. check that the pipe is functioning). |
| **Water access (distance to source)** | SDI | What is the average walking time to and from the main source of water? (including waiting time) | Minutes | |
| | SPA | Is water outlet from this source available on-site, within 500 meters of the facility, or beyond 500 meters of facility? | On-site, within 500 meters of facility, beyond 500 meters of facility | Reported response is acceptable. |
| **Water reliability** | SDI | During the past 3 months, how many times was the water supply from this source interrupted for more than two hours at a time? | Number | |
| | SPA | Is there routinely a time of year when the facility has a severe shortage or lack of water? | Yes or No | |

## Table D.2. Sanitation in health care facility assessment indicators

| Topic | Assessment | Indicator | Answer choices | Data collection notes |
|---|---|---|---|---|
| **Sanitation access** | SPA | Is there a toilet (latrine) in functioning condition that is available for general outpatient client use? | The toilet/latrine is classified using uniform criteria for improved sanitation promoted by UNICEF. These include the following: Flush/pour flush to piped sewer system or septic tank or pit latrine, pit latrine (ventilated improved pit (VIP) or other) with slab, composting toilet. | Reported availability accepted. |
| | SDI | What type of toilet (latrine) is available for use by outpatients? | No functioning toilet = 1, Bush = 2, Flush toilet = 3, Flush toilet (but no water) = 4, VIP latrine = 5, Covered pit latrine (no slab) = 6, Covered pit latrine (w/ slab) = 7, Uncovered pit latrine no slab = 8, Uncovered pit latrine w/ slab = 9, Composting toilet = 10, Other (specify) = 11. | |
| **Sanitation access (and functionality)**[1] | SPA | Is there a toilet (latrine) in functioning condition that is available for general outpatient client use? | Flush or pour flush toilet: flush to piped sewer system, flush to septic tank, flush to pit latrine, flush to somewhere else, flush don't know where.<br>Pit latrine: VIP, pit latrine with slab, pit latrine without slab/open pit, composting toilet, bucket toilet, hanging toilet/ hanging latrine.<br>No functioning facility, bush, field. | If yes, ask to see the client toilet and indicate the type. This must be toilet facilities for the main outpatient service area. |
| **Sanitation access (number of toilets)** | SDI | How many of the mentioned (outpatient) toilets (latrines) are there? | Number | |
| **Sanitation access (functionality)** | SDI | How many of the mentioned (outpatient) toilets (latrines) are currently functioning? | Number | |
| **Sanitation access** | SDI | What type of toilet (latrine) is available for use by inpatients? | No functioning toilet = 1, Bush = 2, Flush toilet = 3, Flush toilet (but no water) = 4, VIP latrine = 5, Covered pit latrine (no slab) = 6, Covered pit latrine (w/ slab) = 7, Uncovered pit latrine no slab = 8, Uncovered pit latrine w/ slab = 9, Composting toilet = 10, Other (specify) = 11. | |
| | | How many of the mentioned (inpatient) toilets (latrines) are there? | Number | |
| | | How many of the mentioned (inpatient) toilets (latrines) are currently functioning? | Number | |

[1] Data from the SDI on sanitation functionality were not publicly available.

## Table D3. Environmental conditions in health care facility indicators in SARA, SDI, and SPA

| Topic | Assessment | Indicator | Answer choices | Data collection notes |
|---|---|---|---|---|
| **Sharps** | SARA | Safe final disposal of sharps | Safe final disposal of sharps includes: incineration, open burning in protected area, dump without burning in protected area, or remove offsite with protected storage.<br>If method is incineration, incinerator functioning and fuel available. | Observed final disposal/ holding site for sharps and verify no unprotected sharps are observed. |
| | SPA | Sharps container ("safety box") | 1 – observed; 2- reported, not seen; 3 – not available | |
| **Waste disposal** | SARA | Safe final disposal of infectious wastes | Safe final disposal of infectious wastes includes incineration, open burning in protected area, dump without burning in protected area, or remove offsite with protected storage. If method is incineration, incinerator functioning and fuel available. | Observed final disposal/ holding site for infectious wastes and verify no unprotected waste is observed. |
| **Sharps waste disposal** | SARA | Appropriate storage of sharps waste | A puncture-resistant, rigid, leak-resistant container designed to hold used sharps safely during collection, disposal and destruction. Sharps containers should be made of plastic, metal, or cardboard and have a lid that can be closed. Sharps containers should be fitted with a sharps aperture, capable of receiving syringes and needle assemblies of all standard sizes, together with other sharps. Boxes must be clearly marked with the international bio-hazard warning not less than 50mm diameter, printed in black or red on each of the front and back faces of the box. | Observed availability in all three main service areas: general OPD, HIV testing area, and surgery area. |
| **Storage of waste** | SARA | Appropriate storage of infectious waste | Waste receptacle (pedal bin) with lid and plastic bin liner. | Observed availability in all three main service areas: general OPD, HIV testing area, and surgery area. |
| **Disinfectant** | SARA | Disinfectant | Chlorine-based or other country specific disinfectant used for environmental disinfection. | Observed availability anywhere in the facility. |
| | SPA | Disinfectant (e.g. chlorine, hibitane, alcohol). | 1 – observed; 2- reported, not seen; 3 – not available. | |
| **Disposable syringes** | SARA | Single use —standard disposable or auto-disable syringes | - | Observed availability anywhere in the facility. |
| | SPA | Single use standard disposable syringes with needles or auto-disable syringes with needles. | 1 – observed; 2- reported, not seen; 3 – not available | |
| **Hygiene** | SARA | Soap and running water or alcohol based hand rub | - | Observed available in all three main service areas: general OPD, HIV testing area, and surgery area. |
| | SPA | Handwashing soap (may be liquid soap). | 1 – observed; 2- reported, not seen; 3 – not available | |
| | | Alcohol based hand rub. | 1 – observed; 2- reported, not seen; 3 – not available | |

| Topic | Assessment | Indicator | Answer choices | Data collection notes |
|---|---|---|---|---|
| **Gloves** | SARA | Latex gloves. | If equivalent non-latex gloves are available this is acceptable. | Observed available in all three main service areas: general OPD, HIV testing area, and surgery area. |
| | SPA | Disposable latex gloves. | 1 – observed; 2- reported, not seen; 3 – not available. | |
| **Guidelines** | SARA | Guidelines for standard precautions. | - | Observed availability anywhere in their facility |
| **Guidelines** | SPA | Guidelines for standard precautions. | 1 – observed; 2- reported, not seen; 3 – not available | |
| **Standard precautions and conditions for client examination** | SPA | Running water (piped, bucket with tap or pour pitcher). | 1 – observed; 2- reported, not seen; 3 – not available | |
| **Waste disposal** | SPA | Waste receptacle (pedal bin) with lid and plastic bin liner. | 1 – observed; 2- reported, not seen; 3 – not available | |
| **Waste Disposal** | SPA | Other waste receptacle. | 1 – observed; 2- reported, not seen; 3 – not available | |

OPD – outpatient department

Indicators compiled from:
SARA: http://www.who.int/healthinfo/systems/sara_introduction/en/
SDI: http://www.sdindicators.org/survey-instruments
SPA: http://dhsprogram.com/What-We-Do/Survey-Types/SPA-Questionnaires.cfm

# ANNEX E. ADDITIONAL RESOURCES ON WASH AND HEALTH CARE WASTE MANAGEMENT IN HEALTH CARE FACILITIES

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# ANNEX F. GLAAS 2013/2014 SURVEY

## Table F1. Health care facility questions in the GLAAS 2013/2014 survey (WHO 2014)

| Question | Answer choices |
|---|---|
| Policy/plan development and implementation: Do national policies and plans exist, and to what extent are these implemented to ensure the provision of water and sanitation?<br><br>Asked individually for:<br>sanitation in health facilities;<br>drinking-water in health facilities;<br>hygiene promotion in health facilities. | No national policy or policy still under development.<br>National policy formally approved and gazetted through formal public announcement.<br>Implementation plan developed based on approved policy.<br>Policy and plan costed and being partially implemented.<br>Plan being fully implemented, with funding, and regularly reviewed.<br><br>Comment box available for text response on policies. |
| Policy and plan coverage targets: Please indicate the coverage target (including the year targets are expected to be attained) as documented in the policy or plan.<br><br>Asked individually for:<br>sanitation in health facilities;<br>drinking-water in health facilities;<br>hygiene promotion in health facilities. | Free response text box for:<br>Coverage target (% of population or facilities) e.g. 100% for universal coverage.<br>Title of policy or plan where coverage target is expressed (and web link if available).<br>Date of policy/plan.<br>Year that coverage target will be attained. |

# ANNEX G. SUMMARY OF 2014 GLOBAL MEETING ON IMPROVING WASH IN HEALTH CARE FACILITIES

Over 40 individuals from 30 countries representing government, practitioners, international organizations, NGOs and academia drafted the action plan below at a global strategic meeting hosted by WHO and UNICEF in Madrid, Spain in April 2014. The four main elements of the draft action plan along with key activities for each are summarized below.

## G1. NATIONAL POLICIES, TARGETS AND STANDARDS

National policies and targets are important for prioritizing and allocating resources, catalysing political will and coordinating implementation. Global efforts, including proposed post-2015 WASH in health care facility Sustainable Development Goal targets and indicators ought to support national efforts. In addition, establishing comprehensive national standards for WASH in health care facilities is important and WHO standards on WASH in health care facilities[1] serve as a basis for this work.

### Key activities

- International agencies to support overall coordination of efforts between countries and support development of their strategies.
- Support countries in the implementation of WHO *Environmental Health Standards in Health Facilities* (WHO, 2008); first understand the extent to which countries use those standards and identify potential barriers to using it.
- Develop practical tools for implementation of those standards: best practices on WASH, adapt the WHO (2008) *Environmental Health Standards* to allow countries to adopt a 'laddered' approach to improving health care facilities.
- Provide examples on how to integrate WASH in health policies, roadmaps to country implementation and inclusion of WASH in health care facilities as a basic infrastructural package.
- Develop mechanisms to verify compliance (e.g. accreditation of facilities, enforcement and support) recognizing the need for adopting an incremental approach to improving quality of services and to empower health facility staff.
- Governments to develop policies on WASH in health care facilities when they do not exist or embed elements of WASH in other policies. Policies should be accompanied by a delivery structure (e.g. technical and financial resources, clarity on institutional and stakeholders roles and responsibilities at different levels, from national to facility level, capacity building and training and incentives)
- Setting up codes of practice on facility construction (review of construction design and maintenance standards, codes of practice, infrastructure for infection control).

1 WHO, 2008. *Essential environmental health standards in health care*. Geneva, Switzerland.

## G2. MONITORING

Global and national targets require strong and consistent monitoring mechanisms. Existing monitoring is inconsistent (there is no standard definition of WASH services) incomplete (many assessments do not capture important aspects such as water safety or functionality of services) and limited in geographic scope (data was only available from 54 countries). Developing and implementing a harmonized set of indicators is needed and national data repositories, such as health management and information systems (HMIS) ought to monitor and report on WASH.

**Key activities**

- Establish a monitoring framework with a core set of indicators through local, national, and global levels.
- Harmonize, strengthen, and cooperate with existing monitoring initiatives (e.g. SARA, SDI, JMP, HMIS).
- Establish country and global baseline on WASH in health care facilities.
- Embed WASH in health care facilities in WASH targets and indicators post-2015.
- Embed WASH in health care facilities in Universal Health Coverage monitoring framework.
- Allocate resources towards monitoring and build capacity to ensure good quality data.
- Develop indicators of WASH services quality and satisfaction among users in health care facilities.
- Develop indicators for measuring sustainability of WASH services.
- Develop checklist for health facility level monitoring based on national standards.
- Monitor project implementation and document lessons learnt.

## G3. IMPLEMENTATION

Implementation of national standards requires technical support, including tools to assess and manage WASH related conditions, risks, financial and human resources. Capacity building on WASH should be closely developed with infection prevention and control measures to ensure training on hygiene practices are consistent. While major infrastructure improvements may take time, several immediate improvements can be made concerning hand hygiene facilities, behaviour change and delivering WASH messages to care seekers.

**Key activities**

- Overall coordination of research and related activities by lead agencies.
- Review raw HMIS data and examine hospital performance and WASH.
- Understand decision makers' motivation and priorities setting.
- Document cost effectiveness of WASH investments in health care facilities.
- Build evidence base on health impact of poor WASH conditions in health care facilities.
- Identify drivers for behaviour change among health care facilities staff, patients and visitors.
- Understand users' perception and acceptability of WASH services in health care facilities.
- Rationale for selection of monitoring indicators (evidence base, feasibility, cost etc.).
- Optimize hardware and infrastructure designs.

## G4. ADVOCACY

The enormous needs concerning WASH in health care facilities have not corresponded with adequate financial and human resources to improve conditions. A compelling and effective global advocacy campaign will necessitate collaborating with a number of important partners whose skills and activities compliment the normative and monitoring work of WHO. This includes WHO Country and Regional Offices, Ministries of Health and Water, UNICEF, international and national NGOs and academic institutions. In addition, efforts will be made to target donors and foundations and, where appropriate, the private sector.

### Key activities

#### Advocacy and Partnerships

#### Leadership

##### At global and regional level

- Prioritize deliverables, actions and target audience.
- Bring additional global and regional partners.
- WHO/UNICEF joint statement on WASH in health care facilities to countries through national offices.
- Support countries for effective delivery of programs at scale.

##### At national level

- Government can ensure that WASH in health care facilities is reflected in their national plans and policies.
- Government can become champions to raise the profile of the issue on the political agenda.

#### Partnerships

- Influence and/or develop partnerships with existing health initiatives (e.g. Universal Health Coverage, A Promise Renewed, GAVI Alliance, Global Action Plan for the Prevention and Control of Pneumonia, Health care waste management initiatives, Green Guide for Health Care, Sustainable Energy for All, International Health Partnership, Protocol on Water and Health).
- Influence and/or develop partnerships with existing WASH initiatives (e.g. Water safety plans, Household Water Treatment and Safe Storage).
- Develop strategies for alliances with unions, associations, global health workforce alliance, internally within own agencies, civil society, academics and food safety platforms.

#### Advocacy Strategy

#### Audience

- Adopt a segmented approach to advocacy with messages tailored to specific audiences at international, national and local levels.
- Target audiences include the health sector, stakeholders from other sectors (clean energy community, human rights community), international donors, civil society, health professional standard bodies, communities.
- Build demand for basic WASH services in health care facilities through users/patients, health workers, community leaders.
- Engage private sector (e.g. health insurers, product manufacturers and suppliers) in supporting supply of consumables (e.g. soap, disinfectants and cleaning supplies) and sanitary hardware.

#### Messages

- Create simple and effective messages that are based on evidence for impact and economic benefits.
- Understand the decision making process for WASH in health care facilities and develop messages that are tailored to specific audiences (e.g. Has the health sector forgotten WASH? Improving WASH in health care facilities to reduce maternal mortality, WASH in health care facilities as a strategic investment, WASH as an incentive to care retention).

**Delivery channels**

- Develop a calendar of opportunities to raise the profile of WASH in health care facilities: Global days (e.g. World Water day, Global Handwashing day, World Toilet day etc.), WASH related events and conferences, health-related events and conferences, conferences and buisness forums.
- Develop advocacy guides and create a supporting a network of advocates.
- Create an information-sharing platform for exchanging knowledge, information and expertise for decision making (e.g. case studies, success stories, research findings, and examples of national standards.
- Adapt approaches used to improve WASH in schools for national advocacy.
- Use health care facilities as a place to promote WASH.

WASH FOR HEALTH

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