Core questions and indicators for monitoring WASH in health care facilities in the Sustainable Development Goals

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Preface

Sustainable water, sanitation and hygiene (WASH) services in health care facilities (HCF) are critical for providing safe, quality health care. There is increasing recognition that many health care facilities, especially in low- and middle-income countries, lack even the most basic water, sanitation and hygiene services. This lack of services compromises the ability to provide basic, routine services and the ability to prevent and control infections. Without WASH services in HCF, the global community will not reach the goal of universal access to WASH, or achieve a number of the health-related Sustainable Development Goals (SDGs), including universal health coverage, ending preventable newborn deaths and reducing maternal mortality.

There are many reasons to improve WASH in HCF: higher quality of care, fewer health care-associated infections, greater uptake of health services and improvements in staff morale. Improving services will require leadership from the health sector, technical inputs from the WASH sector and political commitment from governments and non-government partners dedicated to better health for all.

The increased focus on WASH in HCF in support of the 2030 Agenda, and in particular targets 3.1, 3.2 and 3.8, helps to raise the profile of this issue and necessitates the development of national, regional and global estimates of WASH in HCF coverage to track progress over time. Very few data are currently available to estimate global coverage of WASH in HCF. A 2015 WHO and UNICEF landscaping report[1] – the first comprehensive, multi-country analysis conducted – found data were available for 54, 36 and 35 low- and middle-income countries for water, sanitation and hygiene, respectively. Nearly 40% of HCF did not have a water supply within 500 m, 19% did not have access to improved sanitation and 35% had no facilities for hand washing. Only 20 of the assessments included were nationally representative, and many of the general definitions of WASH in HCF used by the assessment fell short of WHO minimum standards[2]. Countries in Africa were the most represented while those in Asia were least represented. The majority of low- and middle-income countries have not undertaken national assessments, and hence lack information to raise awareness and set targets in pursuit of achieving universal access to WASH in HCF.

This document presents recommended core indicators to support harmonized monitoring of WASH in HCF in support of the 2030 Agenda. The indicators include definitions for "basic" water, sanitation, hand hygiene, health care waste management and environmental cleaning. Each indicator is supported with a set of recommended questions for use in data collection, which allow classification of facilities in relation to "service ladders" that can be used to monitor progress. If national data collection instruments adopt these core questions and response categories, the resulting data will be increasingly harmonized and will allow better comparison of survey results over time and between countries, as well as facilitate global analysis of WASH in HCF in the context of the 2030 Agenda.

The core indicators and questions in this guide were developed by the Global Task Team for Monitoring WASH in HCF, convened by the WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (JMP), and working under the auspices of the Global Action Plan on WASH in HCF.[3] They are derived from current global normative documents, national standards and regulations, questions that have been used in facility assessment surveys and censuses, and the normative criteria of the human rights to water and sanitation: *accessibility, availability, quality and acceptability*.[4]

National estimates can be derived from facility-based surveys that collect data via interviews and observations by trained enumerators, as well as routine administrative reporting systems filled out by health care workers and managers (e.g. Health Management Information Systems [HMIS]). The core questions are intended to be:

(1) applicable for use in different types of data collection mechanisms,

(2) relevant in all countries and settings, and

(3) focused on the *minimum* criteria for provision of basic WASH services in HCF.

1 WHO and UNICEF. Water, sanitation and hygiene in health care facilities. Status in low- and middle-income countries and way forward. World Health Organization, Geneva, 2015.

2 WHO. Essential environmental health standards in health care. World Health Organization, Geneva, 2008.

3 The task team was an open membership group, consisting of approximately 20 WASH in HCF experts, who conducted a series of webinars in 2015 and 2016. Agreement on the indicators was reached at an Expert Group Meeting hosted by the JMP on 22-23 June 2016.

4 While affordability is also a normative criterion of the human rights to water and sanitation, the costs of accessing WASH in HCF cannot be disaggregated from the overall costs of accessing health care facilities.

For countries where the minimum criteria for basic WASH services are not aspirational and monitoring systems have the capacity for additional questions, the core questions can be supplemented with additional questions from a list of possible topics provided in Annex A.

This document:

- describes why it is important to adopt a harmonized set of core questions for monitoring WASH in HCF;
- presents core indicator definitions for "basic" WASH services in HCF and associated service ladders;
- introduces core questions to support harmonized data collection to monitor WASH in HCF;
- provides an example of incorporating the core questions in national questionnaires (e.g. HMIS);
- presents examples of data analysis and tabulation to calculate coverage of "basic" WASH services in HCF; and
- suggests topics that could be used in detailed assessments that go beyond the minimum set of basic service indicators.

1 BACKGROUND

1.1 WASH in health care facilities in the 2030 agenda

The importance of water, sanitation and hygiene (WASH) in health care facilities (HCF) is increasingly widely recognized and implicitly captured in the 2030 Agenda for Sustainable Development. The terms "universal" and "for all" in Sustainable Development Goal (SDG) Targets 6.1 and 6.2 highlight the need for expanding WASH monitoring beyond the household to include non-household settings, such as health care facilities and schools *(Table 1)*. Further, Target 6.2 specifically calls for "paying special attention to the needs of women and girls and those in vulnerable situations," who are often a target population of health care, for example expectant mothers and immunocompromised persons.

The SDGs provide an important platform for addressing WASH in HCF. WHO and UNICEF, through the JMP, have the official mandate to monitor global progress on SDG targets 6.1 (drinking water) and 6.2 (sanitation and hygiene). This will involve compiling and reporting data from households, schools, health care facilities and other settings. In addition, WASH in HCF is important for meeting several targets under SDG 3 (health for all) and in particular target 3.8 on universal health coverage. Data reported by the JMP will be used in advocacy and policy related to these targets and will help to catalyze and inform action across a broad range of health initiatives, including maternal, newborn and child health, infection prevention and control (IPC), antimicrobial resistance (AMR), emergency response and climate adaptation.

1.2 Development of core indicators and questions

In support of SDG monitoring and to allow for comparable data to be generated within and between countries, a *core* set of harmonized indicators and questions that address basic WASH services in health care facilities that will be applicable in all contexts is needed. Many aspects of WASH related to the quality of service delivery in health care facilities (for example water quantity and quality) are not captured by the basic indicators, and for advanced monitoring at national and sub-national levels, a set of *expanded* topics can guide monitoring of additional criteria beyond the "basic" service level.

The core and expanded questions will be promoted for use in surveys and censuses implemented by teams of enumerators, as well as in health management information systems (HMIS) questionnaires which are regularly filled out by health care workers and managers. Questions should be suitable for use in both formats (where possible), but in some cases different formulations may be necessary for questionnaires completed by administrators and those completed by trained enumerators.

Following the WHO/UNICEF launch of the first global review of WASH in HCF in 2015,[1] a global action plan was developed.[5] Four task teams (advocacy, monitoring, evidence and facility-based improvements) were established to achieve particular milestones related to WASH in HCF.[6] The monitoring task team was composed of individuals representing international organizations, academia and NGOs. The team participated in a series of teleconferences, held

Table 1. SDG Targets related to WASH in HCF

Goals	Targets
6: Ensure availability and sustainable management of water and sanitation for all	6.1: By 2030, achieve universal and equitable access to safe and affordable drinking water for all
	6.2: By 2030 achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations
3: Ensure healthy lives and promote well-being for all at all ages	3.8: Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all

5 WHO and UNICEF. Water, sanitation and hygiene in health care facilities – urgent needs and actions. Global meeting report. World Health Organization, Geneva, 2015.

6 More information on the global action plan is available at www.washinhcf.org

between October 2015 and May 2016 to propose indicators and questions that are based on global norms[2] and build on existing questions in multi-national surveys and national monitoring systems (e.g. the WHO Service Availability and Readiness Assessment[7], the World Bank's Service Delivery Indicators[8], and the USAID-supported Service Provision Assessment[9]). The task team proposed a set of 'service ladders' and core questions and indicators which underwent further refinement over the course of a year based on feedback from survey teams which had piloted the questions.[10]

1.3 Why use harmonized questions in health care facility surveys?

Globally comparable data required to monitor WASH in HCF are currently scarce. The JMP uses data from multiple data sources to provide the most accurate national, regional and global estimates. Current major data sources for WASH in HCF include the WHO Service Availability and Readiness Assessment[11], the World Bank's Service Delivery Indicators[12], the USAID-supported Service Provision Assessment, the Johns Hopkins-supported Performance Monitoring and Accountability 2020[13], Columbia University's Averting Maternal Death and Disability Program Emergency Obstetric and Newborn Care (EmONC) Assessment, as well as one-off national surveys and censuses and facility assessments. These surveys already cover some of the WHO/UNICEF JMP core indicators, but require further alignment to establish comparable SDG baseline estimates.

The specific indicator definitions used in facility assessments and HMIS are sometimes unclear, and vary greatly between data sources. In addition, many assessments are not nationally representative. Cross-country comparisons are also limited by the lack of standardized facility type definitions in national monitoring systems. As a result, establishing accurate national trends over time and cross-country comparable estimates is a major challenge, which also limits the potential for accurate regional and global aggregation. The JMP faced similar challenges for household monitoring at the beginning of the MDG era which were mitigated by the development and adoption of harmonized core questions for use in household surveys.[14]

1.4 Scope of core indicators and questions for WASH in HCF

Health care facilities are extremely complex environments, often providing a wide range of services across multiple services areas. In addition, facilities vary greatly, from small rural primary health centres providing only outpatient services to complex, tertiary hospitals providing a range of specialised in-patient services.

The WASH in HCF core indicators and questions recommended by the JMP focus only on measurable "outputs" (i.e. services in place to enable the provision of safe, quality care). "Inputs" (e.g. capital investment and human resources) and "outcomes" (e.g. improved patient health and satisfaction) are important for more detailed operational planning and monitoring of health programmes, but are currently beyond the scope of global monitoring programmes. Other basic infrastructure elements are also essential for quality health service delivery (for example electricity) but are beyond the scope of this document.

WASH services are delivered in a wide variety of locations and contexts in health care facilities, and standards for WASH services vary accordingly. This document outlines "generic" questions on the availability of basic WASH services which are required in all health care facilities, recognising that additional questions may be required to assess WASH services in specialised service areas or wards. For example, a set of indicators and questions specific to the requirements of WASH in delivery rooms is under development, which will complement this set of generic facility-level indicators and questions.

It is noted that underlying quality of care issues including ineffective IPC practices also need to be addressed to support the impact of WASH services on improving health outcomes, particularly around the time of birth. It is for this reason that IPC measures such as hand hygiene and environmental cleaning are addressed within this document. As such, these indicators align with the WHO Guidelines on core components of IPC programmes at the national and acute health care facility level (2016)[15] and the Infection Prevention and Control Assessment Framework at the Facility Level (2018)[16].

7 http://www.who.int/healthinfo/systems/sara_introduction/en/

8 http://www.sdindicators.org/

9 http://dhsprogram.com/What-We-Do/Survey-Types/SPA.cfm

10 A set of expanded questions was proposed, there were later replaced with a list of topics which serve as a menu of options for countries or survey programs to expand upon the core question set where "basic" services are not sufficiently ambitious (see Annex A).

11 http://www.who.int/healthinfo/systems/sara_introduction/en/

12 http://www.sdindicators.org/

13 https://www.pma2020.org/

14 WHO and UNICEF. Core questions on drinking water and sanitation for household surveys. Geneva: World Health Organization, 2006.

15 WHO. Guidelines on core components of IPC programmes at the national and acute health care facility level. World Health Organization, Geneva, 2016.

16 WHO. Infection Prevention and Control Assessment Framework at the Facility Level. World Health Organization, Geneva, 2018.

2
GLOBAL WASH IN HEALTH CARE FACILITY INDICATORS

2.1 Monitoring definitions of basic service levels and indicators for WASH in HCF

The core indicators define "basic" service levels for water, sanitation, hand hygiene, health care waste management and environmental cleaning in health care facilities. These indicators do not fully capture the normative ideal service levels, but represent an approximation of the normative ideal which can be readily measured. These can be applied in all types and sizes of facilities (from primary to tertiary). The indicators are generally applicable at the level of the facility as a whole, rather than a particular location within a facility.

2.1.1 Basic water services

*Definition: Proportion of health care facilities where the main source of water is an **improved** source, located **on premises**, from which water is **available**.*

Element	Monitoring definition
improved	Improved water sources are those which, by nature of their design and construction, have the potential to deliver safe water. Improved sources include: piped water, boreholes or tubewells, protected dug wells, protected springs, rainwater, and packaged or delivered water. Unimproved sources include unprotected dug wells or springs and surface water (e.g. lake, river, stream, pond, canals, irrigation ditches).
on premises	Water is accessed within buildings, or within the facility grounds.
available	Water from the main water source is available on the day of the survey or questionnaire.

2.1.2 Basic sanitation services

*Definition: Proportion of health care facilities with **improved** and **usable** sanitation facilities, with at least one toilet **dedicated for staff**, at least one **sex-separated toilet** with **menstrual hygiene facilities**, and at least one toilet **accessible for users with limited mobility**.*

Element	Monitoring definition
improved	Improved sanitation facilities are those designed to hygienically separate excreta from human contact. Improved sanitation facilities are those designed to hygienically separate excreta from human contact. Improved facilities include: flush/pour flush to piped sewer system, septic tanks or pit latrines; ventilated improved pit latrines, composting toilets or pit latrines with slabs. Unimproved facilities include pit latrines without a slab or platform, hanging latrines, and bucket latrines. For the purpose of this document "toilets" is taken to mean any of these improved facilities.
usable	Toilets are available, functional, and private: • **Available** to patients and staff (toilets are on premises, doors are unlocked or a key is available at all times) • **Functional** (the toilet is not broken, the toilet hole is not blocked, there should be no cracks or leaks in the toilet structure and water is available for flush/pour-flush toilets), and • **Private** (there are closable doors that can be locked from the inside and no large gaps or holes in the structure) on the day of the survey or questionnaire.
dedicated for staff	There are separate toilet facilities dedicated for patient and staff use.
sex-separated with menstrual hygiene facilities	At least one toilet is separated for use by women/girls, and has a bin with a lid on it and/or water and soap available in a private space for washing.
accessible for users with limited mobility	Toilets are considered accessible if they meet relevant national or local standards. In the absence of such standards, toilets should be accessible without stairs or steps, have handrails for support attached either to the floor or sidewalls, a door which is at least 80 cm wide, and the door handle and seat within reach of people using wheelchairs or crutches/sticks.[19]

17 Jones, H. Mainstreaming disability and ageing in water, sanitation and hygiene programs. WaterAid and WEDC, 2013.

2.1.3 Basic hand hygiene services

*Definition: Proportion of health care facilities with **functional hand hygiene facilities** available at one or more **points of care** and **within 5 metres of toilets***

Element	Monitoring definition
hand hygiene facilities	A hand hygiene facility is any device that enables staff and patients to clean their hands effectively using running water and soap, such as a sink with tap, water tank with tap, bucket with tap or other similar device. Alcohol based hand rub dispensers are also hand hygiene facilities, whether they are fixed or portable.
functional	To be considered functional, hand hygiene facilities at points of care must have either alcohol based hand rub, or soap and water. If alcohol-based hand rub is used, health care staff may carry a dispenser around between points of care. To be considered functional, hand hygiene facilities at toilets must have soap and water available within 5 m of toilets. Alcohol-based rub is not considered adequate for hand hygiene at toilet as it does not remove faecal matter from hands. Chlorinated water (a prepared solution of chlorine suspended in water) is not considered an adequate substitute for soap and water, or for alcohol based hand rub.
points of care	Points of care are any location in the health care facility where care or treatment is delivered (e.g. consultation/exam rooms).
within 5 m of toilets	Hand hygiene facilities at toilets must be located no more than 5 metres from the toilets.

2.1.4 Basic health care waste management services

*Definition: Proportion of health care facilities where waste is **safely segregated** in consultation areas and sharps and infectious wastes are **treated and disposed of safely**.*

Element	Monitoring definition
safely segregated in consultation area	At least three clearly labelled or colour coded bins should be in place to separate (1) sharps waste[18], (2) infectious waste[19], and (3) non-infectious general waste. Bins should be no more than three quarters (75%) full, and each bin should not contain waste other than that corresponding to its label. Bins should be appropriate to the type of waste they are to contain; sharps containers should be puncture-proof and others should be leak-proof. Bins for sharps waste and infectious waste should have lids. Consultation areas are rooms or areas within the health care facility where care or treatment is delivered.
treated and disposed of safely	Safe treatment and disposal methods include incineration, autoclaving, and burial in a lined, protected pit. Wastes may also be collected and transported off-site for medical waste treatment and disposal.

2.1.5 Basic environmental cleaning practices

*Definition: Proportion of health care facilities which have **protocols for cleaning**, and **staff with cleaning responsibilities** have all received **training** on cleaning procedures.*

Element	Monitoring definition
protocols for cleaning	Protocols should include: • step-by-step techniques for specific tasks, such as cleaning a floor, cleaning a sink, cleaning a spillage of blood or body fluids • a cleaning roster or schedule specifying the frequency at which cleaning tasks should be performed
staff with cleaning responsibilities	Includes non-health care providers, such as cleaners, whose tasks include cleaning, as well as health care providers who, in addition to their clinical and patient care duties, are responsible for cleaning
training	Training refers to structured training plans or programs led by a trainer or appropriately qualified supervisor.

18 Used or unused sharps, e.g. hypodermic, intravenous or other needles; auto-disable syringes; syringes with attached needles; infusion sets; scalpels; pipettes; knives; blades; broken glass.

19 Waste known or suspected to contain pathogens and pose a risk of disease transmission, e.g. waste and waste water contaminated with blood and other body fluids, including highly infectious waste such as laboratory cultures and microbiological stocks; and waste including excreta and other materials that have been in contact with patients infected with highly infectious diseases in isolation wards.

In a scoping study of 10 countries in the Latin America and Caribbean, and East Asia and Pacific regions, 14 national data sources for WASH in HCF were identified. Content analysis of these surveys suggests that water source type and water availability are the most frequently captured criteria, while data on sex-separated toilets and facilities for menstrual hygiene management were not collected in any of the surveys identified.[20]

2.2 Service ladders

As with JMP monitoring of household WASH and WASH in schools, service ladders are proposed for monitoring WASH in HCF. The multi-level service ladders allow for progressive realization of the SDG criteria, enabling countries at different stages of development to track and compare progress. Separate ladders are proposed for each indicator. The core service ladders include three levels: no service, limited service and basic service. Each level is defined in *Figure 1*.

For countries where "basic" service is not an ambitious aim, an additional "advanced" service level should be defined. Countries are encouraged to define their own national criteria for the "advanced" service level which may vary significantly according to the country, context and type of facility. A menu of options for countries or survey programs to expand upon the core question set where "basic" services are not sufficiently ambitious or there are national or sub-national priorities beyond the criteria for "basic" is provided in Annex A.

Water	Sanitation	Hand hygiene	Health care waste	Environmental cleaning
Advanced service To be defined at national level	**Advanced service** To be defined at national level	**Advanced service** To be defined at national level	**Advanced service** To be defined at national level	**Advanced service** To be defined at national level
Basic service Water is available from an improved source[16] located on premises.	**Basic service** Improved sanitation facilities[18] are usable with at least one toilet dedicated for staff, at least one sex-separated toilet with menstrual hygiene facilities, and at least one toilet accessible for people with limited mobility.	**Basic service** Functional hand hygiene facilities (with water and soap and/or alcohol-based hand rub) are available at points of care, and within 5 meters of toilets.	**Basic service** Waste is safely segregated into at least three bins and sharps and infectious waste are treated and disposed of safely.	**Basic service** Basic protocols for cleaning available, and staff with cleaning responsibilities have all received training.
Limited service An improved water source is within 500 meters of the facility, but not all requirements for basic service are met.	**Limited service** At least one improved sanitation facility, but not all requirements for basic service are met.	**Limited service** Functional hand hygiene facilities are available at either points of care or toilets, but not both.	**Limited service** There is limited separation and/or treatment and disposal of sharps and infectious waste, but not all requirements for basic service are met.	**Limited service** There are cleaning protocols, or at least some staff have received training on cleaning.
No service Water is taken from unprotected dug wells or springs, or surface water sources; or an improved source that is more than 500 m from the facility; or the facility has no water source.	**No service** Toilet facilities are unimproved (pit latrines without a slab or platform, hanging latrines and bucket latrines), or there are no toilets or latrines at the facility.	**No service** No functional hand hygiene facilities are available at either points of care or toilets.	**No service** There are no separate bins for sharps or infectious waste, and sharps and/or infectious waste are not treated/disposed of.	**No service** No cleaning protocols are available, and no staff have received training on cleaning.

Figure 1. JMP service ladders for monitoring WASH in HCF in the SDGs

20 Chatterley, C., Slaymaker, T., Badloe, C., Nouvellon, A., Bain, R. and Johnston, R. Institutional WASH in the SDGs: data gaps and opportunities for national monitoring, Journal of Water, Sanitation and Hygiene for Development, 2018.

3
CORE WASH QUESTIONS FOR HEALTH CARE FACILITY SURVEYS

The following core questions are the *minimum* needed to report on the SDG indicators presented in Section 2. If a survey or other data collection tool does not have the capacity to include all of the core questions, it is recommended to include all questions related to a specific indicator, rather than include one question related to each, which would preclude the ability to report on any of the basic service levels for WASH in HCF.

Questions are presented in a format for enumerator-collected surveys, but in some cases, different options may be necessary for enumerator surveys and for administrative questionnaires. In such cases, an alternative question is provided to offer flexibility based on survey type and capacities. The core questions are presented in five sections: questions related to (1) water, (2) sanitation, (3) hand hygiene, (4) health care waste management and (5) environmental cleaning. Detailed notes have been provided for each question to guide those designing surveys or questionnaires. Core questions collected in the general service area are identified with a G, distinguishing them from additional questions in other modules (e.g. forthcoming questions from the delivery room module will be identified with a 'D').

3.1 Core water questions

Effective functioning of a health care facility, and the ability to prevent the spread of infections, relies on a safe, sufficient and reliable supply of water on premises. Assessing the sufficiency of a health care facility's water supply is complex, requiring different measurements of quantity, quality and reliability as well as different types of water for different purposes. Questions G-W1, G-W2 and G-W3 provide an indication of a facility's water supply, acknowledging that in many higher income settings, simply having a water supply on premises is not an aspirational target.

Question G-W1 aims to determine the type of the facility's main source of water for general purposes, including drinking, washing, hand hygiene, environmental cleaning and laundry. It does not cover water for medical purposes, such as dialysis. Where water is available from multiple sources, the main source should be recorded. The recommended categories are based on JMP definitions of "improved" and "unimproved" water sources.

G-W1. What is the main water supply for the facility? (Tick one)	
Piped supply inside the building	
(if yes, skip to G-W3)	
Piped supply outside the building	
Tube well / Borehole	
Protected dug well	
Unprotected dug well	
Protected spring	
Unprotected spring	
Rain water	
Tanker truck	
Surface water (river/dam/lake/pond)	
Other (specify) _____	
Don't know (skip to G-S1)	
No water source (skip to G-S1)	

Note

If there is more than one source, the one used most frequently should be selected. If patients need to bring water from home because water is not available at the facility, "no water source" should be selected.

Response options and terminology should be modified to reflect the local context such that respondents are able to clearly understand each option.

Photos may be useful, where feasible.

Question G-W2 asks about location of the water supply, in recognition of the fact that health care facilities need large volumes of water (for example 100 L of water per delivery and 40-60 L per inpatient per day) and therefore should have a water supply located on premises to be able to meet the demands of the facility. The question refers to the water *supply*, i.e. the location from which water is accessed, rather than the original *source* of the supply.

Question G-W3 asks about the availability of water on the day of the survey or questionnaire, rather than asking respondents to generalise about availability of water over time, to limit response bias.

G-W2. Where is the main water supply for the facility located?	
On premises	
Up to 500 m	
500 m or further	

Note

On premises means within the building or facility grounds.

This question refers to the location from where the water is accessed for use in the health facility (e.g. tap, borehole), rather than the source where it originates.

G-W3. Is water available from the main water supply at the time of the survey?	
Yes	
No	

Note

To be considered available, water should be available at the facility at the time of the survey or questionnaire. Where possible, the enumerator should confirm that water is available from this source, e.g. check that taps or hand pumps deliver water.

3.2 Core sanitation questions

Sanitation in health care facilities should ensure the hygienic separation of excreta from human contact. Sanitation is also important for dignity and human rights and has an important gender element, as toilets should ensure privacy and safety for the needs of women and girls.

Questions G-S1 to G-S6 ask about the availability of usable, improved toilets for patients and staff in a given service area to provide a general assessment of how well sanitation facilities support hygienic separation of human waste from user contact and uphold patient and staff rights, dignity and comfort. Certain sanitation technologies are more likely than others to hygienically separate human excreta from human contact. These are categorized by the JMP as "improved" sanitation facilities, while others are labelled as "unimproved," following the same definitions and categories used for household-level monitoring.

Questions G-S1 and G-S2 ask about the type (to assess whether improved or unimproved) and usability of toilets on premises.

G-S1. What type of toilets/latrines are at the facility for patients?	
Flush / Pour-flush toilet to sewer connection	
Flush / Pour-flush toilet to tank or pit	
Pit latrine with slab	
Composting toilet	
Flush / Pour-flush toilet to open drain	
Pit latrine without slab/open pit	
Bucket	
Hanging toilet/latrine	
No toilet/latrine (skip to G-H1)	
Other (specify) _____	

Note

If more than one type of toilet is used, the most common type of toilet/latrine in the service area should be selected.

Photos may be useful, where feasible.[22]

G-S2. Is at least one toilet usable (available, functional, private)?	
Yes	
No	

Note

To be considered usable, a toilet should be available, functional *and* private at the time of the survey or questionnaire.

Toilets are *available* when on premises, doors are unlocked or with a key available at all times. To be *functional*, the hole or pit is not blocked, water is available for flush/pour flush toilets, and there are no cracks or leaks in the toilet structure. To be considered *private*, the toilet stall has doors that can be locked from the inside and there are no large gaps or holes in the structure. If *any* of these criteria are not met, the toilet/latrine is not counted as usable.

Questions G-S3-6 aim to understand more details about those toilets. Firstly, G-S3 solicits information about staff-dedicated toilets (regardless of whether they are sex-separated) which is important in health care facilities to reduce risk of infections, particularly in outbreak situations.

Question G-S4 seeks to understand if toilets are sex-separated such that there is at least one usable toilet available for women and girls (G-S4). The toilet for women and girls should also provide facilities for managing menstrual hygiene needs (G-S5).

Finally, question G-S6 captures whether any of the toilets are suitable for users with limited mobility. This toilet(s) must be accessible to patients and does not need to be sex-specific as facilities may have one gender-neutral toilet for users with limited mobility.

The minimum number of toilets required to meet the criteria for a basic sanitation service is one toilet dedicated for staff and one gender-neutral toilet for patients that has menstrual hygiene facilities and is accessible for people with limited mobility.

G-S 3-6. Are there toilets that …	Yes	No
3. Are dedicated for staff?		
4. Are in sex-separated or gender-neutral rooms?		
5. Have menstrual hygiene facilities?		
6. Are accessible for people with limited mobility?		

Notes

3. Staff toilets should be for the exclusive use of staff.
4. Toilets can be in a room with multiple stalls or in a private room with a single toilet. Toilets in rooms with multiple stalls should all be dedicated for use by either women or men. A gender-neutral room with a single toilet is also considered as sex-separated, as it allows women and men to use toilets separately.
5. A toilet can be considered to have menstrual hygiene facilities if it
   - has a bin with a lid on it for disposal of used menstrual hygiene products, and
   - water and soap available in a private space for washing.
6. A toilet can be considered accessible for people with limited mobility if it meets relevant national or local standards. In the absence of such standards, it should meet the following conditions:
   - can be accessed without stairs or steps,
   - handrails for support are attached either to the floor or sidewalls,
   - the door is at least 80 cm wide, and
   - the door handle and seat are within reach of people using wheelchairs or crutches/sticks.

3.3 Core hand hygiene questions

Hand hygiene is an important aspect of infection prevention and control in HCF, both at points of care and at toilets.

Question G-H1 asks about the availability of functional hand hygiene facilities at points of care, which are important to deliver safe care and reduce infections. Hand hygiene stations may consist of either soap and water or alcohol-based hand rub (ABHR) (which health care workers may carry around with them).

Question G-H2 asks about hand hygiene facilities at toilets, another critical moment for hand hygiene. The term hand washing is used as ABHR is not an effective solution for hand hygiene at toilets because it does not remove faecal matter.

More information can be found on the requirements for hand hygiene in the WHO Guidelines on Hand Hygiene in Health Care.[21]

G-H1. Is there a functional hand hygiene facility at points of care on the day of the survey?	
Yes	
No, there are hand hygiene facilities at points of care but not functional, or lacking soap and water or alcohol-based hand rub.	
No, no hand hygiene facilities at points of care	
No, no hand hygiene facilities at the health care facility (if yes, skip to G-C1)	

Note

For facilities with multiple consultation rooms or areas, select one at random and observe if a functional hand hygiene facility is present. A functional hand hygiene facility is any device that enables staff, patients and visitors to clean their hands effectively. It may consist of soap and water with a basin/pan for washing hands, or alcohol-based hand rub (ABHR). If ABHR is used, health care staff may carry a dispenser around between points of care. Chlorinated water (a prepared solution of chlorine suspended in water) is not considered an adequate substitute for soap and water or for ABHR.

Points of care are any location in the health care facility where care or treatment is delivered (e.g. consultation/exam rooms).

The term "hand hygiene" is used in place of "handwashing", because this is an umbrella term that also includes cleaning hands with ABHR.

G-H2. Is there a functional handwashing facility at one or more toilets on the day of the survey?	
Yes	
No, there are handwashing facilities near the toilets but lacking soap and/or water	
No, no handwashing facilities near toilets (within 5 meters)	

Note

Handwashing facilities at toilets must include water and soap, rather than ABHR alone, since ABHR does not remove faecal matter.

Check "yes" if at least one toilet has a handwashing facility with soap and water within 5 meters.

3.4 Core health care waste management questions

Waste produced from health care activities, from contaminated needles to radioactive isotopes, can cause infection and injury, and inadequate management is likely to have serious public health consequences and deleterious effects on the environment. Safe health care waste management involves multiple steps from segregation to transport, treatment and final disposal. Questions G-WM1, G-WM2 and G-WM3 seek to distil this process into a small number of measurable elements.

G-WM1. Is waste correctly segregated into at least three labelled bins in the consultation area?	
Yes, waste is segregated into three labelled bins	
No, bins are present but do not meet all requirements or waste is not correctly segregated	
No, bins are not present	

Note

For facilities with multiple consultation rooms, select one at random and observe whether sharps waste, infectious waste and non-infectious general waste are segregated into three different bins.

The bins should be colour-coded and/or clearly labelled, no more than three quarters (75%) full, and each bin should not contain waste other than that corresponding to its label. Bins should be appropriate to the type of waste they are to contain; sharps containers should be puncture-proof and others should be leak-proof. Bins for sharps waste and infectious waste should have lids.

G-WM2. How does this facility usually treat/ dispose of infectious waste?	
Autoclaved	
Incinerated (two chamber, 850-1000 °C incinerator)	
Incinerated (other)	
Burning in a protected pit	
Not treated, but buried in lined, protected pit	
Not treated, but collected for medical waste disposal off-site	
Open dumping without treatment	
Open burning	
Not treated and added to general waste	
Other (specify)	

Note

If more than one applies, select the method used most often.

Methods considered to meet the basic service level include autoclaving; incineration; burning in a protected pit; burial in a lined, protected pit; and collection for medical waste disposal off-site.

G-WM3. How does this facility usually treat/ dispose of sharps waste?	
Autoclaved	
Incinerated (two chamber, 850-1000 °C incinerator)	
Incinerated (other)	
Burning in a protected pit	
Not treated, but buried in lined, protected pit	
Not treated, but collected for medical waste disposal off-site	
Open dumping without treatment	
Open burning	
Not treated and added to general waste	
Other (specify)	

Note

If more than one applies, select the method used most often.

Methods considered to meet the basic service level include autoclaving; incineration; burning in a protected pit; burial in a lined, protected pit; and collection for medical waste disposal off-site.

3.5 Core environmental cleaning questions

Environmental cleaning (herein referred to as cleaning) is an essential part of infection prevention and control. Trying to assess whether a service area is considered "clean" is very subjective, and visibly clean may be very different from microbiologically clean. Similarly, frequency of cleaning is difficult to measure because it cannot be observed by enumerators in one day and responses are likely to be subject to respondent bias. How frequently a facility needs to be cleaned is linked to patient load, therefore cleaning schedules varies greatly from facility to facility.

Question G-C1 asks about the existence of protocols for cleaning which serves as an indication of the importance a HCF places on environmental hygiene. Protocols may or may not be written given cleaners may not be literate.

Questions G-C2 asks whether staff with responsibility for cleaning (either dedicated cleaners or other staff with cleaning responsibilities) have received training. They should be trained according to the protocols reported in G-C1, but it is possible that training may take place in the absence of any formal, written protocols.

The 2016 WHO Guidelines on core components of infection prevention and control programmes[22] recommend delivery of IPC education and training to all staff, irrespective of level or position. Cleaning may be the responsibility of dedicated cleaning, auxiliary or domestic staff or part of the responsibilities of health care staff (particularly in smaller facilities).

G-C1. Are cleaning protocols available?	
Yes	
No	

Note

Protocols should include:

- step-by-step techniques for specific tasks, such as cleaning a floor, cleaning a sink, cleaning a spillage of blood or body fluids, and
- a cleaning roster or schedule specifying responsibility for cleaning tasks and frequency at which they should be performed.

The term for protocols may differ according to local practice; they may be referred to as Standard Operating Procedures (SOPs), guidelines, instructions, etc.

Where possible, protocols should be observed by the enumerator.

G-C2. Have all staff responsible for cleaning received training?	
Yes, all have been trained	
No, some but not all have been trained	
No, none have been trained	
No, there are no staff responsible for cleaning	

Note

"Staff responsible for cleaning" refers to non-health care providers such as cleaners, orderlies or auxiliary staff, as well as health care providers who, in addition to their clinical and patient care duties, perform cleaning tasks as part of their role.

Training refers to structured training plans or programs led by a trainer or appropriately qualified supervisor.

22 WHO. Guidelines on core components of infection prevention and control programmes at the national and acute health care facility level. Geneva: World Health Organization, 2016.

4
DATA ANALYSIS AND REPORTING

Table 2 provides guidance on data tabulation for national monitoring of WASH in HCF as part of the SDGs. Additional disaggregation, for example by geographic region (e.g. district/province), is also recommended to help identify sub-national disparities.

Table 2. Tabulation guide for SDG reporting of WASH in HCF

Proportion of facilities with basic water, sanitation, hand hygiene, health care waste management, and environmental cleaning services								
Proportion of health care facilities...		**SURVEY NAME, YEAR (note if data were observed or reported)**						
		National	Urban	Rural	Hospital	Non-Hospital	Government	Non-Government
Water	with an improved water supply located within 500 meters							
	with an improved water supply on premises							
	with an improved water supply with water available							
	with water available from an improved water supply located on premises*							
Sanitation	with improved toilets							
	with improved toilets which are usable							
	with improved toilets which are dedicated for staff							
	with improved toilets which are sex-separated							
	with improved toilets with facilities for menstrual hygiene management							
	with improved toilets which are accessible for people with limited mobility							
	with improved toilets which are usable, sex-separated, provide for menstrual hygiene management, separate for patients and staff, and accessible for people with limited mobility*							
Hand Hygiene	with hand hygiene facilities at point of care with water and soap and/or alcohol hand rub available							
	with handwashing facilities within 5 meters of toilets with water and soap available							
	with hand hygiene facilities at point of care with water and soap and/or alcohol hand rub available and handwashing facilities within 5 meters of the toilets with water and soap available*							
Health Care Waste Management	with waste correctly segregated in the consultation area							
	with infectious waste safely treated/disposed							
	with sharps waste safely treated/disposed							
	with waste correctly segregated in the consultation area and infectious and sharps waste safely treated/disposed*							
Environmental Cleaning	with cleaning protocols available							
	where all staff responsible for cleaning have received training							
	with cleaning protocols available and where all staff responsible for cleaning have received training*							

*SDG indicator for "basic" service

Table 3. Calculating WASH in HCF service levels based on responses to the core questions

Indicator	Calculation*
Proportion of HCF with an improved water supply within 500 meters	the number of HCF where G-W1 = an improved source AND G-W2 = On premises or Up to 500 m, divided by the total number of HCF surveyed
Proportion of HCF with an improved water supply on premises	the number of HCF where G-W1 = an improved source AND G-W2 = On premises, divided by the total number of HCF surveyed
Proportion of HCF with an improved water supply with water available	the number of HCF where G-W1 = an improved source AND G-W3 = Yes, divided by the total number of HCF surveyed
Proportion of HCF with water available from an improved water supply located on premises (basic)	the number of HCF where G-W1 = an improved source AND G-W2 = On premises AND G-W3 = Yes, divided by the total number of HCF surveyed
Proportion of HCF with improved toilets	the number of HCF where G-S1 = an improved facility, divided by the total number of HCF surveyed
Proportion of HCF with improved toilets which are usable	the number of HCF where G-S1 = an improved facility AND G-S2 = Yes, divided by the total number of HCF surveyed
Proportion of HCF with improved toilets which are dedicated for staff	the number of HCF where G-S1 = an improved facility AND G-S3 = Yes, divided by total number of HCF surveyed
Proportion of HCF with improved toilets which are sex-separated	The number of HCF where G-S1 = an improved facility AND G-S4 = Yes, divided by the total number of HCF surveyed
Proportion of HCF with improved toilets which include facilities for menstrual hygiene management	the number of HCF where G-S1 = an improved facility AND G-S5 = Yes, divided by total number of HCF surveyed
Proportion of HCF with improved toilets which are accessible for people with limited mobility	the number of HCF where G-S1 = an improved facility AND G-S6 = Yes, divided by total number of HCF surveyed
Proportion of HCF with improved toilets which are usable, sex-separated, provide for menstrual hygiene management, separate for patients and staff, and accessible for people with limited mobility (basic)	the number of HCF where G-S1 = an improved facility AND G-S2 = Yes AND G-S3 = Yes AND G-S4 = Yes AND G-S5 = Yes AND G-S6 = Yes, divided by total number of HCF surveyed
Proportion of HCF with hand hygiene facilities at points of care with water and soap and/or alcohol hand rub available	the number of HCF where G-H1 = Yes, divided by the total number of HCF surveyed
Proportion of HCF with hand washing facilities within 5 meters of toilets with water and soap available	the number of HCF where G-H2 = Yes, divided by the total number of HCF surveyed
Proportion of HCF with hand hygiene facilities at point of care with water and soap and/or alcohol hand rub available and hand washing facilities within 5 meters of the toilets with water and soap available (basic)	the number of HCF where G-H1 = Yes AND G-H2 = Yes, divided by the total number of HCF surveyed
Proportion of HCF with waste correctly segregated in the consultation area	the number of HCF where G-WM1 = Yes, divided by the total number of HCF surveyed
Proportion of HCF with infectious waste safely treated/disposed	the number of HCF where G-WM2 = Autoclaved, Incinerated, Burned in a protected pit, Buried in a lined, protected pit, or Collection for medical waste disposal off-site, divided by the total number of HCF surveyed
Proportion of HCF with sharps waste safely treated/ disposed	the number of HCF where G-WM3 = Autoclaved, Incinerated, Burned in a protected pit, Buried in a lined, protected pit, or Collection for medical waste disposal off-site, divided by the total number of HCF surveyed
Proportion of HCF with waste correctly segregated in the consultation area and infectious and sharps waste safely treated/disposed (basic)	the number of HCF where G-WM1 = Yes AND G-WM2 = Autoclaved, Incinerated, Burned in a protected pit, Buried in a lined, protected pit, or Collection for medical waste disposal off-site AND G-WM3 = Autoclaved, Incinerated, Burned in a protected pit, Buried in a lined, protected pit, or Collection for medical waste disposal off-site, divided by the total number of HCF surveyed
Proportion of HCF with cleaning protocols available	the number of HCF where G-C1 = Yes, divided by the total number of HCF surveyed
Proportion of HCF where all staff responsible for cleaning have received training	the number of HCF where G-C2 = Yes, divided by the total number of HCF surveyed
Proportion of HCF with cleaning protocols available and where all staff responsible for cleaning have received training (basic)	the number of HCF where G-C1 = Yes AND G-C2 = Yes, divided by the total number of HCF surveyed

* Where possible, national coverage data should be disaggregated by residence (urban / rural), facility type (hospital / non-hospital), and management type (government / non-government).

5
DATA COLLECTION TOOLS AND SOURCES

Facility assessment surveys, supported by international organizations, are likely to be the main source of data for WASH in HCF in the near future, followed by national Health Management Information Systems (HMIS). The most common health care facility surveys are the Service Availability and Readiness Assessment (SARA)[23], the Service Delivery Indicators survey (SDI)[24], the Service Provision Assessment (SPA)[25], Preventing Monitoring and Accountability 2020 (PMA 2020)[26] and the Emergency Obstetric and Newborn Care assessment (EmONC)[27]. These surveys and assessments have closely aligned methods and collect nationally representative data for a given country. They are designed to be conducted periodically and may consist of either a census of all health care facilities, or a random sample from a master list of all health care facilities.

By changing the question format, the core questions can be adapted for use in any of these different tools. Examples are given below for an SARA survey *(Figure 2)* and a HMIS checklist *(Figure 3)*.

For existing HMIS questionnaires, these questions could be added (changing the wording to suit localized terminology for facility types) or existing questions could be modified to reflect the recommended core questions. Facility inventories follow a similar format to the HMIS, but are meant to be collected annually rather than monthly.

G-C1	**Are all cleaning protocols and schedules available?**					
Responses		**Available**				
	Protocol for cleaning a floor	Yes, observed		Yes, reported (not observed)	No	
	Protocol for cleaning a sink	Yes, observed		Yes, reported (not observed)	No	
	Protocol for cleaning a spillage of blood or bodily fluids	Yes, observed		Yes, reported (not observed)	No	
	Cleaning roster or schedule	Yes, observed		Yes, reported (not observed)	No	
Note: Protocols may be applicable to the whole health facility and will not necessarily be specific to a given service area.						

Figure 2. Example of core questions presented in an alternative matrix style question, for use in a SARA survey.

23 WHO Service Availability and Readiness Assessment http://www.who.int/healthinfo/systems/sara_introduction/en/

24 World Bank Service Delivery Indicators http://www.sdindicators.org/

25 USAID Service Provision Assessment https://dhsprogram.com/What-We-Do/Survey-Types/SPA.cfm

26 Johns Hopkins Performance Monitoring and Accountability 2020 https://www.pma2020.org/

27 Averting Maternal Death and Disability, Columbia University https://www.mailman.columbia.edu/research/averting-maternal-death-and-disability-amdd/toolkit

1. Main water source (select one): ☐ Piped ☐ Tube well/Borehole ☐ Protected dug well ☐ Unprotected dug well ☐ Protected spring ☐ Unprotected spring ☐ Rain water ☐ Tanker truck ☐ Surface water (River/Lake/Canal) ☐ No water source ☐ Other:_____
2. Main water source is on premises: ☐ Yes ☐ Off premises but up to 500 m ☐ More than 500 m
3. Water from main source is currently available: ☐ Yes ☐ No
4. Number of usable (available, functional, private) toilets for health care facility: _____ (insert number)
5. Type of toilets/latrines (select one – most common): ☐ Flush/Pour-flush to sewer ☐ Flush/Pour-flush to tank or pit ☐ Flush/Pour-flush to open drain ☐ Pit latrine with slab/covered ☐ Pit latrine without slab/open ☐ Bucket ☐ Hanging toilet/latrine ☐ None
6. Toilets separated for staff and patients: ☐ Yes ☐ No
7. Toilets separated for male and female patients: ☐ Yes ☐ No
8. Female toilets have facilities to manage menstrual hygiene needs (covered bin, and/or water and soap): ☐ Yes ☐ No
9. At least one toilet accessible to people with limited mobility: ☐ Yes ☐ No
10. Soap and water (or alcohol-based hand rub) currently available in consultation rooms: ☐ Yes ☐ Partially (e.g. lacking materials) ☐ No
11. Soap and water currently available at toilets: ☐ Yes, within 5 m of toilets ☐ Yes, more than 5 m from toilets ☐ No, no soap and/or no water
12. Sharps, infectious and general waste are safely separated into three bins in consultation room: ☐ Yes ☐ Somewhat (bins are full, include other waste, or only 1 or 2 available) ☐ No
13. Treatment/disposal of sharps waste: ☐ Autoclave ☐ Incinerator (2 chamber, 850-1000 °C) ☐ Incinerator (other) ☐ Burning in protected pit ☐ Not treated, but buried in lined, protected pit ☐ Not treated, but collected for medical waste disposal ☐ Open dumping without treatment ☐ Open burning ☐ Not treated and added to general waste ☐ Other:_____(specify)
14. Treatment/disposal of infectious waste: ☐ Autoclave ☐ Incinerator (2 chamber, 850-1000 °C) ☐ Incinerator (other) ☐ Burning in protected pit ☐ Not treated, but buried in lined, protected pit ☐ Not treated, but collected for medical waste disposal ☐ Open dumping without treatment ☐ Open burning ☐ Not treated and added to general waste ☐ Other:_____(specify)
15. Protocols for cleaning (floor, sink, spillage of blood or bodily fluid) and cleaning schedule are available: ☐ Yes ☐ No
16. All staff responsible for cleaning have received training: ☐ Yes ☐ Not all trained ☐ None trained

Figure 3. Example of core questions adapted for national HMIS

ANNEX A
TOPICS FOR ADDITIONAL MONITORING

The following questions provide a menu of options for countries or survey programs to expand upon the core question set where "basic" services are not sufficiently ambitious, there are national or sub-national priorities beyond the criteria for "basic", and/or there is greater capacity for monitoring. The topics included are based on available current global norms[28] and/or emerging priorities (e.g. energy) that are not captured in the core questions.

While it may be easy to add questions to a questionnaire or survey, capacities to analyze and report data should be considered. Increasing the amount of data collected increases survey costs, and is only worthwhile if the additional information is analyzed, reported and linked to service improvements.

Water

Water quantity: sufficiency for all purposes (drinking, food preparation, personal hygiene medical activities, cleaning and laundry), sufficiency throughout the day and seasonally.

Water access: water collection points and water-use facilities for convenient access and use of water; ratio of hand washing stations to patients; availability of sex-separated showers; inpatient laundry facilities.

Drinking water: quality (*E. coli,* total coliforms, residual chlorine, arsenic); availability (for staff/patients/visitors, in specific service areas); accessibility of drinking water points for people with limited mobility and children.

Water for cooking, personal hygiene, medical activities, cleaning and laundry: quality *(E. coli,* total coliforms, residual chlorine, arsenic); onsite water treatment; water for medical purposes; water sources for different purposes (including clear labelling).

Sanitation

Toilets: ratio of toilets to patients; cleanliness; lighting (day/night); distance of toilets from consultation area; cultural appropriateness; availability of cleansing materials; children-appropriate toilets; vector control measures in toilets; same-floor access to toilets.

Open defecation: evidence in facility grounds.

Excreta treatment and disposal: management of faeces.

Wastewater: removal; rainwater and surface run-off; drainage; treatment.

Flooding: within facility grounds, blocked/flooded toilets

Hand hygiene and hygiene promotion

Hygiene promotion: availability of hygiene promotion materials at hand hygiene facilities; hygiene promotion activities, infection control training.

Cleaning

Environmental cleaning: daily cleaning of floors, surfaces, toilets; availability of cleaning materials and products; budget allocation and expenditure on cleaning materials; visible cleanliness of specific service areas; disinfection; staff knowledge of protocols; implementation of protocols.

Cleaning materials: availability and sufficiency; mechanisms to track out of stock materials.

Linen: cleaning and disinfection of soiled linen; transportation and storage of soiled linen; disinfection of beds; frequency of changing soiled linen.

Health care waste management

General waste: treatment and disposal.

Sharps: availability of needle or hub cutters.

Bins: location (out of reach from children etc.); ratio of waste containers to beds.

Waste collection/transportation: frequency of waste collection from service areas; availability of dedicated containers for transportation.

Storage: storage time, fenced storage areas.

Waste disposal: fenced disposal area; disposal of chemical and radioactive waste.

Off-site waste treatment

Other

Energy (for water pumps, heaters, medical equipment): availability, sufficiency, reliability; backup energy source.

Food handling and preparation

Building design, construction and management: ventilation and airflow, heating and air-conditioning, minimization of infectious disease transmission, minimization of patient flow, space, building design.

28 WHO. Essential environmental health standards for health care. Geneva: World Health Organization, 2008.

World Health Organization

WHO UNICEF JMP

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