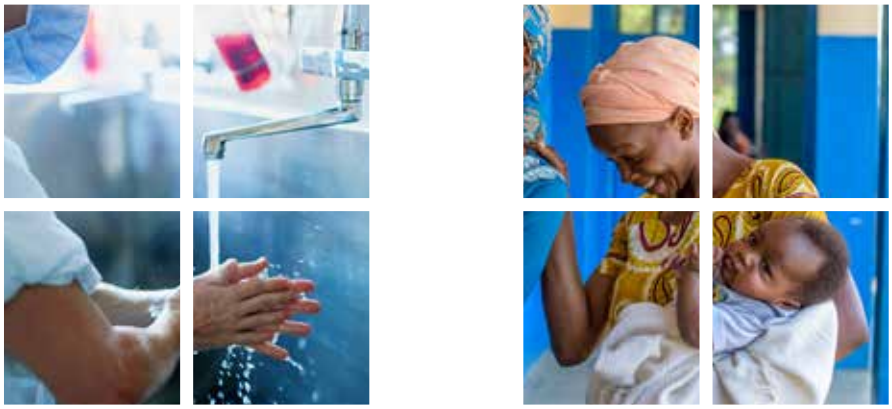

GLOBAL PROGRESS REPORT ON WASH IN HEALTH CARE FACILITIES

Fundamentals first

World Health Organization

unicef
for every child

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Global progress report on water, sanitation and hygiene in health care facilities: fundamentals first

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Contents

Foreword

This global progress report on water, sanitation, hygiene, waste management and cleaning (WASH) in health care facilities comes at an unprecedented moment, when coronavirus disease (COVID-19) is exposing key vulnerabilities in health systems, such as inadequate infection prevention and control. WASH services in health care facilities, so often taken for granted – or as this report highlights, outright neglected – are needed more than ever to protect vulnerable health workers and patients.

The report identifies major global gaps in WASH services: one third of health care facilities do not have what is needed to clean hands where care is provided; one in four facilities lack basic water services, and one in 10 have no sanitation services. This means that 1.8 billion people use facilities that lack basic water services and 800 million use facilities with no toilets. Across the world's 47 least-developed countries, the problem is even greater: half of health care facilities lack basic water services. Furthermore, the extent of the problem remains hidden because major gaps in data persist, especially on environmental cleaning.

This report also describes global responses. In response to the 2019 World Health Assembly resolution on WASH in health care facilities, data from 47 countries indicates that more than 70% have conducted related situation analyses, 86% have updated and are implementing standards and 60% are working to incrementally improve infrastructure and operation and maintenance of WASH services. Case studies from 30 countries demonstrate that progress is being propelled by strong national leadership and coordination, use of data to direct resources and action, and the mutual benefits of empowering health workers and communities to develop solutions together.

Despite reported progress, critical gaps remain. Only one third of countries responding to the World Health Assembly resolution have developed costed roadmaps for action, and just over 10% have integrated WASH indicators into regular national health system monitoring.

This report was launched to coincide with the 2020 International Universal Health Coverage (UHC) Day, with the theme *Protect Everyone*. Investments in WASH must be an essential part of UHC for every country. Furthermore, investing in WASH and energy services in health care facilities is one of the core prescriptions for a healthy, green recovery from the COVID-19 pandemic.

Based on the new data in this report, we offer four recommendations to all countries and partners, particularly health and community leaders:

- Implement costed national roadmaps with appropriate financing;
- Monitor and regularly review progress in improving WASH services, practices and the enabling environment;
- Develop capacities of health workforce to sustain WASH services and promote and practice good hygiene; and
- Integrate WASH into regular health sector planning, budgeting, and programming, including COVID-19 response and recovery efforts to deliver quality services.

Implementing these recommendations requires committed and courageous leaders, communities and partners. The World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) remain steadfast in supporting these efforts and we call on all countries, partners and individuals to intensify their commitment and related investments.

The world can no longer afford to overlook the fundamentals.

Tedros Adhanom Ghebreyesus, Director-General, World Health Organization

Henrietta H. Fore, Executive Director, United Nations Children's Fund

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The report was edited and designed by Inis Communication.

Abbreviations

ABHR	alcohol-based hand rub
AMR	antimicrobial resistance
CASH	Clean and Safe Hospital Initiative
CDC	Centers for Disease Control and Prevention
COVID-19	coronavirus disease
CSA	Centre de Santé Assaini
DHIS-2	District Health Information Software
DoH	Department of Health
FTF	Fast-Track Facility
GFF	Global Financing Facility for Women, Children, and Adolescents
GLAAS	Global Analysis and Assessment of Sanitation and Drinking Water
HEF	health equity fund
HEPA	Health and Energy Platform of Action
HH4A	Hand Hygiene for All
HHSAF	hand hygiene self-assessment framework
HMIS	health management information system
IADB	Inter-American Development Bank
IPC	infection prevention and control
IRENA	International Renewable Energy Agency
JMP	WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene
LDC	least-developed country
LMIC	low- and middle-income countries
LSHTM	London School of Hygiene and Tropical Medicine
MHM	menstrual hygiene management
MoH	ministry of health
NAP	national action plan
NIPH	National Institute of Public Health
NTD	neglected tropical disease
OECD	Organisation for Economic Co-operation and Development
PAHO	Pan American Health Organization
PHC	primary health care
POP	persistent organic pollutant
PPE	personal protective equipment
SARA	Service Availability and Readiness Assessment
SDG	Sustainable Development Goal
SPA	Service Provision Assessment
SSP	sanitation safety planning
UHC	universal health coverage
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Program
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WASH	water, sanitation and hygiene
WASH FIT	Water and sanitation for health facility improvement tool
WHO	World Health Organization

Glossary

advanced service levels	A more ambitious, higher level of WASH services defined at the national level. May consider further important aspects, including chemical and microbiological water contaminants, including medical-grade water, water efficiency, safe plumbing, climate resilience of water and sanitation services, sustainability (including non-burn waste destruction methods), and safe collection, transport and treatment and the quality of disposed wastewater.
antimicrobial resistance (AMR)	The ability of a microorganism (such as bacteria, viruses and some parasites) to stop an antimicrobial (such as antibiotics, antivirals and antimalarials) from working against it. As a result, standard treatments become ineffective, infections persist and may spread to others. Poor infection control and inadequate sanitary conditions contribute to the spread of AMR.
basic WASH services	WHO has a set of minimum, global standards for environmental health in health care facilities *(1)*. Deriving from these standards, a 'basic' level of service has been defined and is achieved when key conditions are met in five areas: water, sanitation, hygiene, waste management and environmental cleaning.
climate change	Refers to any change in the climate over time, generally decades or longer, whether due to natural variability or as a result of human activity.
climate-resilient health systems	Have the ability to anticipate, respond to, cope with, recover from and adapt to climate-related shocks and stresses, so as to bring sustained improvements in population health, despite an unstable climate.
health care facilities	Encompasses all formally recognized facilities that provide health care, including primary (health posts and clinics), secondary and tertiary (district or national hospitals), public and private (including faith-run) and temporary structures designed for emergency contexts (e.g. cholera treatment centres). They may be in urban or rural areas.
health care waste management	Waste generated through health care activities that may be infectious, sharp, non-infectious, chemical, pharmaceutical, radioactive or pathological waste. This waste must be safely segregated, treated and disposed of in line with global standards and international conventions (e.g. the Stockholm and Minimata conventions).
health system	Comprises all the organizations, institutions and resources that are devoted to producing actions principally aimed at improving, maintaining or restoring health. Health systems involve numerous stakeholders from individual and community, to government, at local, sub-national and national levels. The health system is recognized by WHO to be made up of six key building blocks: (i) leadership and governance; (ii) health workforce; (iii) health information systems; (iv) essential medical products and technologies; (v) financing; all of which lead to (vi) service delivery. The goal of a health system is to deliver effective preventive and curative health services to the full population, equitably and efficiently, while protecting individuals from catastrophic health care costs.

infection prevention and control (IPC)	broadly defined as the scientific approaches and practical solutions designed to prevent harm caused by infection to patients and health workers associated with delivery of health care. It is a unique specialty encompassing and overlapping with almost every health care programme and system in health care.
Joint Monitoring Programme (JMP)	Responsible for monitoring the 2030 SDG targets 6.1 and 6.2 and supporting global monitoring of other WASH-related SDG targets and indicators. The JMP has produced regular progress reports for WASH in households since 1992 and in the SDGs period expanded to monitor WASH in schools and WASH in health care facilities
least-developed countries	Least-developed countries (LDCs) are low-income countries confronting severe structural impediments to sustainable development. There are currently 47 countries on the list of LDCs which is reviewed every three years *(2)*.
multimodal (strategies)	Multiple elements, all essential and complementary, must be put in place as part of interventions to achieve outcome improvements and optimal behavioural change (e.g. hand hygiene). It comprises system change, training and education, monitoring and feedback, reminders and communications and culture change.
national action plan (NAP)	Following a Resolution on AMR in 2015, the World Health Assembly urged all Member States to develop and have in place by 2017, national action plans on AMR that are aligned with the objectives of the global action plan.
Practical steps	A set of eight actions, designed to be undertaken by countries to improve WASH in health care facilities. Some are undertaken at the national level and some at the sub-national or facility level. Some may apply to all levels. They may occur simultaneously or in a linear fashion.
primary health care (PHC)	Where patients generally first engage with the health system. Primary care facilities have a broad range of available technology and services that vary with human resource models and their related competencies. These facilities range from more basic health posts to comprehensive primary care centres.
quality of care	Quality of care is the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with evidence-based professional knowledge. This definition of quality of care spans promotion, prevention, treatment, rehabilitation and palliation, and implies that quality of care can be measured and continuously improved through the provision of evidence-based care that takes into consideration the needs and preferences of service users – patients, families and communities.
The Network for Improving Quality of Care for Maternal, Newborn and Child Health (Quality of Care Network)	A broad partnership of committed governments, implementation partners and funding agencies working to ensure that every pregnant woman, newborn and child receives good quality care with equity and dignity (hence also known as the QED Network). The goals of the network are to halve maternal and newborn deaths and stillbirths in health facilities by 2022 and to improve patients' experience of care in participating health facilities in network countries. As well as a vehicle for learning and exchange the network presents an opportunity to embed WASH as part of quality improvement.

SDG regions	Reporting of data and/or progress towards the Sustainable Development Goals (SDGs) is presented worldwide according to various regional groups. The country groupings are based on the geographic regions defined under the Standard Country or Area Codes for Statistical Use (known as 'M49') of the United Nations Statistics Division *(3)*.
service ladders	Set by the WHO/UNICEF JMP, 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.
Small Island Developing States	Small Island Developing States (SIDS) are a distinct group of 38 UN Member States and 20 Non-UN Members/Associate Members of United Nations regional commissions that face unique social, economic and environmental vulnerabilities *(4)*.
universal health coverage (UHC)	Means that all individuals and communities receive the health services they need without suffering financial hardship. It includes the full spectrum of essential, quality health services, from health promotion to prevention, treatment, rehabilitation, and palliative care. Without WASH services, the goal of UHC cannot be achieved.
WASH in health care facilities	The provision of water, sanitation, health care waste management, hygiene and environmental cleaning infrastructure and services across all parts of a facility.
WASH practices	Specific IPC behaviour practices including regular handwashing by care providers, care-seekers and their families at key moments. It also includes regular environmental cleaning of surfaces, floors, and walls in care areas, toilets and showers, as well as laundry, cooking and waiting areas.
WASH FIT	A risk-based approach for improving and sustaining water, sanitation, hygiene and health care waste management services in health care facilities, developed by WHO and UNICEF in 2015 and since used in over 30 countries.

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Global progress at a glance

Globally, major gaps in basic water, sanitation and hygiene (WASH) services exist in health care facilities. A quarter of all health care facilities have no basic water services, which means 712 million people have no access to water when they use health care facilities. 10% of health care facilities globally have no sanitation services and one in three do not have adequate facilities to clean hands at the point of care. One in three health care facilities do not segregate waste safely.

WASH services are especially deficient in least-developed countries (LDCs). In LDCs, half of health care facilities lack basic water services and 60% have no sanitation services. Seven out of ten health care facilities in LDCs lack basic health care waste management services. The economic consequences of coronavirus disease (COVID-19) restriction measures threatens to widen this gap.

Countries are taking steps to address the situation, but progress is variable and insufficient. Approximately 85% of countries (of the 47[a] countries included in this report) have conducted situational analyses, 65% have updated and implemented related standards, and over 70% have set up national coordination mechanisms. These actions are broadly on track to meet global targets. Over half of countries have done some health workforce training and mentoring on WASH and hygiene practices, combined with infrastructure improvements. However, less than one third of countries have costed national strategies and just over 10% have included WASH indicators in national health systems monitoring. These indicators demonstrate that many countries are significantly off track to meet global targets for these elements.

A global *Call to action on WASH in health care facilities*, issued by the United Nations (UN) Secretary General in 2018, urged all Member States, UN agencies and partners to commit leadership and resources to addressing this fundamental challenge. In response, the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) developed a corresponding global workplan with targets and metrics to guide action. The two organizations have since released two updates on global data (the latest summarized in the present report) as well as a framework for national and local level action detailing eight 'practical steps' that countries might take. The unanimous approval in 2019 of the World Health Assembly Resolution 72.7 on WASH in health care facilities (herein referred to as 'the Resolution') committed all countries to act and draws upon the global vision, related metrics and practical steps. The following summary presents current progress towards the global targets and indicators, and helps readers navigate the present report.

[a] The country progress described in this report is not exhaustive. It focuses on 'early adopter' countries and those that have been particularly vocal and ambitious in improving WASH in health care facilities services. Country data will continue to be updated to inform reporting back on this issue at the 2021 World Health Assembly.

TARGET

2025
At least 80% of facilities have basic WASH services

2030
Universal access to basic WASH services

(Note: These metrics were established as the response to the 2018 UN Secretary General Global Call to Action and to align with SDG 6).

CURRENT STATUS IN LEAST DEVELOPED COUNTRIES (2019)*

50% of health care facilities have basic water services

74% of health care facilities have hand hygiene services at points of care

37% of health care facilities have basic sanitation services

30% of health care facilities have basic health care waste management services

DATA AVAILABILITY

52 countries have basic water data (increase from 38 in 2019)

71 countries have hand hygiene data at points of care (increase from 55 in 2019)

27 countries have basic sanitation data (increase from 18 in 2019)

58 countries have basic health care waste management data (increase from 48 in 2019)

METRICS FOR

SITUATIONAL ANALYSES

By 2021, all countries have completed situational analyses

Almost 75%
of early adopter countries** are working on or have completed situational analyses (30 countries are conducting situational analyses, of which 11 are completed)

Examples of situational analyses available at: www.washinhcf.org/resources/

ACTION NEEDED

- Fill country data gaps, especially on sanitation, health care waste and cleaning
- Embed and institutionalize WASH indicators in health systems monitoring, quality improvement efforts and facility assessments
- All national COVID-19 response and economic recovery plans should include WASH investments

- Leadership, resources and technical committee to carry out analyses, and act on the results and recommendations

LEARN MORE

Chapter 3 Latest WHO/UNICEF JMP global data on WASH services in health care facilities

Chapter 6 An investment opportunity

Chapter 5 Country and regional progress

Annex 1 Practical steps

**These data are based on the latest estimates from the WHO/UNICEF Joint Monitoring Programme (www.washdata.org) published in 2020, covering the years 2000-2019. The global baseline report published in 2019 presented data from 2000-2016. LDCs are highlighted because they have relatively high data coverage, but also because those living in LDCs are among the most vulnerable.*

SUCCESS

STANDARDS

By 2021, all countries have standards.

INTEGRATION WITH HEALTH

By 2023, all countries have included WASH in health plans, budgets, and implementation efforts

HEALTH BUDGETS

By 2023, all countries have included WASH in health budgets

COMMITMENTS

By 2020, at least 30 international partners have committed additional resources

Nearly 100%

of countries** have drafted or are updating standards and 25 have finalized and disseminated

11%

of countries** have included WASH indicators in health systems monitoring

Programmatic integration with health is greater and largely focused on training and assessments.

11%

of countries** have more than 75% of funds needed to reach WASH in health care facility targets.

Over 130

partners have committed resources; 34 made financial commitments in 2019 (totaling US$ 125 million); others allocated human resources, technical and advocacy support.

Examples of country standards available at: www.washinhcf.org/resources/

Integration detailed through national quality policies, child and maternal health programmes, antimicrobial resistance (AMR) national action plans, cholera control plans and other health programmes

Data from *Global Analysis and Assessment of Sanitation and Drinking Water* (GLAAS) (2019) *(1)*

Commitments are detailed on www.washinhcf.org/commitments-made/ WASH in health care facilities: The 2020 Trailblazers:https://www.washinhcf.org/resource/2020-trailblazers-for-wash-in-health-care-facilities/

- Build technical capacity for updating, disseminating and implementing standards
- Demonstrate incremental approaches to achieve standards
- Integration WASH standards into health regulations

- Adjusting timelines, tools and processes to allow for joint and/or complementary efforts
- Monitoring across quality indicators including WASH inputs, services, patient and staff satisfaction and health outcomes

- Conduct national and facility costing of all WASH elements, including mentoring and training
- Identify national and local budgets and financial bottlenecks, and propose solutions

- Articulate and disseminate value proposition
- Provide costing and financial tools to support regular budgeting and domestic investments
- Follow up with committed organizations to sustain action

Chapter 5 Country and regional progress

Chapter 4 Integration of WASH with energy and health programmes

Chapter 6 An investment crisis

Chapter 7 Where do we go from here?

Annex 1 Practical steps

*** This report includes data from 47 early adopter countries who have over the past several years committed resources and taken action to improve WASH in health care facilities. Other countries, globally, may not have made as much progress.*

CHAPTER 1

About this report

PURPOSE

This report provides a comprehensive summary of global progress on improving water, sanitation, hygiene, waste management and environmental cleaning (WASH) in health care facilities and is intended to stimulate solution-driven country and partner actions to further address major gaps. It illustrates how stakeholders in the WASH and health sectors are increasingly working together in specific countries, with the ultimate aim of delivering safe, quality essential health services.

Specifically, the purpose of the report is to:

- present the latest data and analysis from the World Health Organization (WHO)/United Nations Children's Fund (UNICEF) Joint Monitoring Programme on access to coverage of WASH services in health care facilities (Chapter 3);
- demonstrate how WASH services in health care facilities are linked to health (Chapter 2) and how these linkages can be operationalized (Chapter 4);
- provide an update on country progress in implementing the WHO/UNICEF eight 'practical steps' (see Box 1) *(2)* and other key elements of the 2019 World Health Assembly Resolution on WASH in health care facilities (Chapter 5);
- present selected country case studies illustrating bottlenecks, gaps, successful strategies and opportunities for further integrating WASH within health efforts (Chapter 5 and Annex 5);
- provide recommendations for addressing gaps, sustaining services and for growing a movement to meet national and global targets (Chapter 7).

BOX 1. A FRAMEWORK FOR NATIONAL AND LOCAL ACTION AND ACCOUNTABILITY: WHO/UNICEF PRACTICAL STEPS

The eight practical steps to improve WASH in health care facilities and advance quality care form the basis and framework for national action and commitments made in the Resolution. They are a distillation of 'what works' from over 50 countries and were developed through a multi-year, iterative process facilitated by WHO and UNICEF *(2)*. The steps also are the basis for tracking country progress and reporting on global commitments.

Further explanation of the steps and how they are tracked is provided in Annexes 1 and 4.

TARGET AUDIENCES

The report is primarily aimed at three key groups:

- National and local governments, national partners and local implementers and advocates for WASH in health facilities.
- The global health community, including international partners and investors.
- Global WASH and infection prevention and control (IPC) communities, including international partners and investors.

The ultimate success of improving and sustaining WASH in health care facilities requires strong national and local leadership, technical capacity and ongoing investment. The global health community has an important role to play, both in programmatic integration and monitoring, and in allocating resources. In addition, the global WASH community serves a catalytic role, provides technical backstopping and regular global monitoring.

The report is also likely to be of interest to:

- climate stakeholders, disaster risk prevention and preparedness and the global environment community;
- civil society organizations;
- the energy and infrastructure sectors.

In 2019, all 194 WHO Member States unanimously approved World Health Assembly Resolution 72.7 on WASH in health care facilities *(3)*. The Resolution calls on countries to establish related baselines and set specific targets, embed WASH in key health programmes and budgets, as well as regularly report on progress. The Resolution frames improvement of WASH in health care facilities as a matter of patient safety and an essential prerequisite for infection prevention and for providing equitable and quality health services. Its unanimous endorsement by Member States provided a further mandate to drive national commitments and long-term institutional and systems strengthening. Highlights of the Resolution are shown in Box 2.

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BOX 2. GLOBAL VISION ON WASH IN HEALTH CARE FACILITIES

Every health care facility has the necessary, functional and sustainable WASH services and practices in order to provide quality essential health services for everyone, everywhere.

GLOBAL COMMITMENT TO WASH IN HEALTH CARE FACILITIES THROUGH WORLD HEALTH ASSEMBLY RESOLUTION 72.7

194 MEMBER STATES WILL:

- Conduct assessments on status of WASH and infection prevention and control (IPC).
- Develop and implement national roadmaps.
- Establish and implement minimum standards and integrate into accreditation and regulation systems.
- Include WASH in all health care facility budgets, especially for operation and maintenance.
- Establish strong multisectoral coordination mechanisms.
- Invest in a sufficient and trained health workforce, including health care workers, cleaners and engineers.
- Focus on facilities with the poorest WASH conditions, where maternal and child health services are provided.
- Integrate WASH into health programming, including into nutrition and maternal, child and newborn health within the context of safe, quality and integrated people-centred health services.

INTERNATIONAL, REGIONAL AND LOCAL PARTNERS WILL:

- Raise the profile of safe WASH and IPC in health care facilities, in health strategies and in flexible funding mechanisms.
- Commit to help fill the gap in resource-limited countries by implementing efforts to provide WASH in health facilities.
- Empower communities to participate in the decision-making and reporting concerning more equitable and safe WASH services in health facilities.
- Provide the technical resources and information to help ensure that safe water, sanitation and hygiene resources are properly installed and maintained in health care facilities.

THE WORLD HEALTH ORGANIZATION WILL:

- Provide global leadership and produce technical guidance.
- With UNICEF, report on the global status of WASH in health care facilities as part of efforts to achieve SDG 6 (ensure availability and sustainable management of water and sanitation for all) and integrate WASH and IPC within effective universal health coverage, primary health care and efforts to monitor quality of care.
- Catalyse the mobilization of resources and support the development of national business cases for WASH and IPC in health care facilities.
- Support safe WASH and basic IPC measures in health care facilities in times of crisis and humanitarian emergencies through the Health and WASH clusters.
- Report on progress in implementing the resolution to the World Health Assembly in 2021 and 2023.

CHAPTER 2

Putting fundamentals first

Why WASH in health care facilities is still 'non-negotiable'

"I remember vividly we had to take women who had just given birth to a nearby river to wash. It would take 45 minutes. Some would collapse along the way. I felt sad for them. But there was no running water at the health facility."

Mary – a midwife from Malawi

KEY MESSAGES

WASH in health care is still 'non-negotiable' because it...

- is essential for providing quality care, it protects front-line health care workers, care seekers and patients and prevents avoidable deaths;
- is a prerequisite for infection prevention and control and preventing the spread of antimicrobial-resistant pathogens;
- is fundamental for health security, preparedness and response efforts;
- is a necessary element of primary health care;
- is a human rights, dignity, social justice and gender issue;
- is a top priority of women receiving maternal care;
- is critical to ending neglected tropical diseases;
- is a 'best-buy', which makes economic sense for investment;
- is increasingly affected by climate change and needs climate-smart innovations and approaches;
- is necessary for all health- and environment-related Sustainable Development Goals.

WASH is essential for providing quality care and preventing avoidable deaths

Data on the extent of the problem of unsafe care reveals a shocking picture. Between 5.7 and 8.4 million people die each year in low- and middle-income countries (LMICs) as a result of poor quality care *(4)*. An estimated 15% of patients in LMICs acquire one or more infections during a typical hospital stay *(5)*. Infections associated with unclean births account for 26% of neonatal deaths and 11% of maternal mortality; together these account for more than 1 million deaths each year *(6,7)*. In some African countries, up to 20% of women get a wound infection after a caesarean section *(8,9)*. Sharps and needlestick injuries spread diseases including hepatitis B, C and human immunodeficiency syndrome (HIV) in health care workers, cleaners, waste handlers and others, and poor sharps waste handling is an important factor in addressing this problem *(10)*.

"During these unprecedented times, it's even more clear how fundamental WASH is for prevention of infections and improving health outcomes. We must work even closer together to ensure that WASH is included in all interventions and at scale. COVID-19 provides a new entry point to build on."

Dr Muhammad Pate, Global Director of Health, Nutrition and Population, World Bank; Director, Global Financing Facility

WASH is a prerequisite for infection prevention and control, without which resistant microbes will continue to spread

WASH enables critical IPC practices, such as hand hygiene and environmental cleaning, which are essential to prevent the development and spread of infection, including sepsis (see Box 3), antimicrobial resistance (AMR) and outbreaks. Inadequate WASH services continue to threaten the quality and safety of care and impacts the attainment of universal health coverage (UHC), which itself aims to ensure that all people, everywhere can access the quality health services they need without incurring financial hardship. As this report highlights in Chapter 3, too many health care facilities still lack basic WASH services and therefore can neither fully protect health workers and patients, nor ensure safety and quality of care.

BOX 3. THE IMPACT OF POOR WASH AND IPC ON THE GLOBAL BURDEN OF SEPSIS

Approximately 20% of all-cause global deaths are due to sepsis: around 11 million potentially avoidable deaths. Sepsis disproportionately affects neonates, pregnant or recently pregnant women, and people living in LMICs. Sepsis mortality is often related to suboptimal quality of care, inadequate WASH and health infrastructure, poor IPC, late diagnosis and inappropriate clinical management. More than half of all cases of health care-associated sepsis are thought to be preventable through safe WASH services and appropriate IPC measures.

Sources: (11,12).

WASH is fundamental to health security, preparedness and response efforts, including for stopping the COVID-19 pandemic

Coronavirus disease (COVID-19) has further highlighted that health systems around the world remain largely underprepared and unable to respond to disease outbreaks through delivery of quality care for all, echoing past experiences with Ebola virus outbreaks. The COVID-19 pandemic has amplified the importance of WASH in health care facilities and the inequity that exists in large numbers of countries that still lack basic WASH services. It has exposed the lack of investment and highlighted the lack of WASH infrastructure, training and commitment across the world.

Data published by WHO in October 2020 *(13)* indicated that COVID-19 infections among health care workers are far greater than those in the general population. Globally, health care workers represent less than 3% of the population, but account for 14% of COVID-19 cases reported to WHO. Ensuring health care workers have the basic WASH necessities to keep themselves, their co-workers, their patients and their families safe is imperative.

As with previous health emergencies, it has also highlighted that rapid change at scale is possible, at least in the short term, when the world's attention is focused on a common issue. The present report contains multiple stories from countries where the COVID-19 outbreak has provided a catalyst for action on WASH. In **Rwanda**, the Government collaborated with World Vision to provide handwashing facilities in 49 hospitals, 250 health care facilities, 250 schools and 209 places of worship. In **Ethiopia**, a large assessment of facilities carried out as part of the COVID-19 response resulted in the mobilization of US$ 5 million to support IPC and WASH activities in 74 high-load hospitals. WHO and UNICEF launched the 'Hand Hygiene for All' (HH4A) global initiative in June 2020. It is a call to action for all of society to achieve universal hand hygiene and to stop the spread of COVID-19 (see Box 4).

BOX 4: PREVENTING COVID-19 AND SUPPORTING LASTING INFRASTRUCTURE AND BEHAVIOUR THROUGH THE 'HAND HYGIENE FOR ALL GLOBAL INITIATIVE '

In June 2020, WHO and UNICEF launched the Hand Hygiene for All (HH4A) Global Initiative: a call to action for all of society to achieve universal hand hygiene and to stop the spread of COVID-19 *(14)*. It aims to ensure all people have access to and can practice hand hygiene, including in health care facilities. The primary aim of HH4A is supporting and growing country-led efforts and investments. Additionally, it calls for countries to lay out comprehensive roadmaps that bridge national COVID-19 preparedness and response plans with mid- and long-term national development plans to ensure hand hygiene is a mainstay beyond the pandemic, again supporting overall IPC and WASH efforts.

The HH4A platform and the wide set of actors involved, from workplace/occupational health, humanitarian settings and the private sector, is a way to further support scale up of action and sustain behaviour and investments for hand hygiene. The Initiative is working to further progress access to and good hand hygiene behaviour in specific settings, such as health care facilities, schools, workplaces, transport hubs, households, and places of worship. In health care, it builds upon and supports existing programmes such as the WHO's global SAVE LIVES: Clean Your Hands campaign and existing work on WASH in health care facilities.

WASH is a necessary element of primary health care

The 2018 *Declaration of Astana (15)* reinforced the commitment of countries to strengthen primary health care (PHC) for accelerated progress on UHC and the SDGs. The resulting draft Operational framework for PHC *(16)* outlines a series of actions to align health systems according to PHC principles. The fourteen proposed actions include physical infrastructure, PHC workforce, systems for improving the quality of care and monitoring and evaluation. The framework for PHC presents opportunities to invest in and strengthen WASH as a foundational aspect of quality of care. Furthermore, WASH infrastructure in primary health care settings is less costly and easier to operate and maintain than in hospitals, allowing for more rapid and sustained improvements.

WASH is a human rights, dignity, social justice and gender issue

WASH (and waste) services serve to uphold the dignity and human rights of all care-seekers, their families and health care providers and non-clinical staff. This is especially true for vulnerable and marginalized populations, in particular mothers, newborns, children, and minorities and those living with disabilities. Frequently overlooked, but essential, aspects of care – such as receiving a glass of safe drinking-water to take medications, giving birth in a clean, welcoming room, having access to a safe and functioning and accessible toilet – all contribute to patient satisfaction, increased care-seeking and better health for all. These are all fundamental **human rights** (see Box 5).

Improper health care waste management can also have a negative impact on human rights *(17)*. Sanitation and waste services are often delivered by low status workers from marginalized sectors of society. They should be recognized as essential workers helping deliver infection prevention and control, elevating their status and offering them the same protections (such as vaccinations and personal protective equipment (PPE)) that are routinely available to health care workers *(18)*.

BOX 5. HUMAN RIGHTS TO HEALTH AND TO WASH

The human right to health states that all individuals, without discrimination, have "*the right to the highest attainable standard of physical and mental health, and to the right to life and human dignity*" (UN-Human Rights Council). For a health care facility to deliver quality care it must provide safe and potable water and adequate sanitation. Efforts are underway to progressively realize the human rights to water and sanitation, which were first ratified in 2010 by focusing on reaching the underserved, addressing particular needs of women, including menstrual hygiene management, and ensuring continued access to existing WASH services *(19)*.

BOX 6. NURSE AND MIDWIFE TESTIMONIES ON WASH SERVICE CONSTRAINTS DURING COVID-19 RESPONSE

In 2020, nurses and midwives working at the front line of the COVID-19 effort in **India and Uganda** described the reality of providing care with limited access to WASH services:

"There is no toilet in the health centre, it was an emergency, so I went behind the bushes. A student from a nearby school, where I give health education, saw me squatting and called me a hypocrite."

Community health officer, India

"Sharing toilets with men is a challenge in the rural areas, and sometimes are locked due to shortage of water. Where toilets are available, they are far and often not in the same building. Our lives are very hard!"

Midwife, Uganda

"Menstruating in PPE is tricky, especially if you are used to heavy flow and there's a chance you might stain your suit, as the material of our PPE is of poor quality too. It is shameful to share these things but it is obvious, so the administrators should be sensitive! The food we were given on duty gave us diarrhoea. How do we manage that, wearing PPE?"

Nurse-in-charge, India

"Many have fainted after wearing PPE for a long time. We are dehydrated and not drinking enough water. Nurses are being diagnosed with urinary tract infections – it starts leaking and you want to talk about dignity!"

Nursing officer, India (tested positive for coronavirus)

Source: (20).

Women make up 70% of the health workforce and are disproportionately impacted by unsafe working environments as front-line health workers *(21)*. Nurses and midwives often work at lower tier facilities that are not prioritized for improvements despite the vast majority of services taking place there. They have poorer access to water and toilets, facilities to manage menstrual hygiene needs and suffer from problems related to personal privacy, safety and security. Examples of these problems are echoed by nurses and midwives in Box 6. The 2019 GLAAS survey *(1)* found that two thirds of countries had clearly defined procedures for public participation in laws or policies on WASH in health care facilities. Of these countries only 27% reported that women had high or very high levels of participation.[b]

A new narrative is emerging that recognizes WASH in health care facilities as a **social justice** issue, particularly since the Resolution was passed. Social justice has been described as a matter of life and death, affecting the way people live, their chances of illness, and risk of premature death *(22)*.

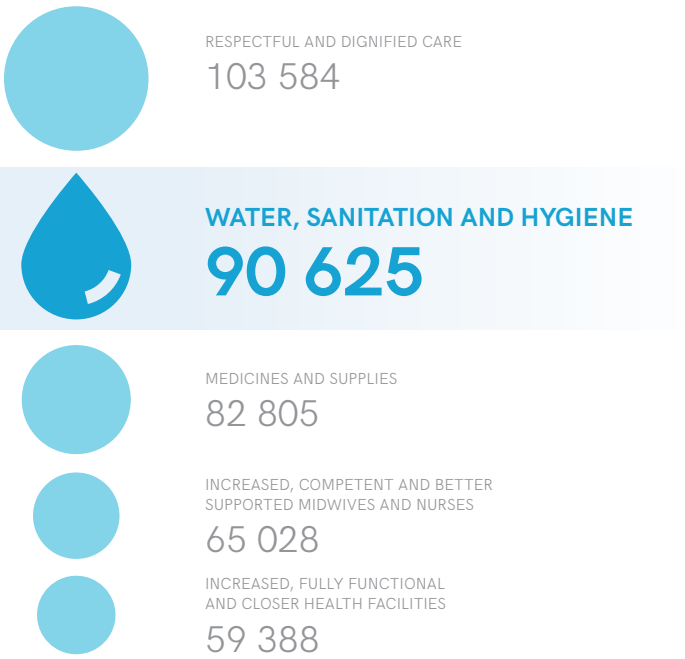
WASH is a top priority for women receiving maternal care

A 2019 survey of over 1 million women and girls in 114 countries found that of the top demands for quality reproductive and maternal health care, respectful and dignified maternity care was the most cited need, followed by WASH services and facilities (Fig. 1).

There is increasing global attention given to improving **quality of care**, as access to services alone has failed to reduce mortality and morbidity. The findings of the Lancet Commission on High Quality Health Systems in the SDG Era provide ample evidence to support the assertion that "providing health services without guaranteeing a minimum level of quality is ineffective, wasteful, and unethical" *(23)*. Improving the quality of care for women and children, particularly mothers and newborns, is a critical step towards ending preventable maternal and newborn mortality and still-births, and achieving the health-related SDG targets.

[b] High participation is defined as regular opportunities for stakeholders to take part in relevant policy, planning and management processes. Very high levels are defined as formal representation of stakeholders in government process contributing to joint decision-making on important issues and activities *(1)*.

FIGURE 1. THE TOP FIVE MATERNAL AND REPRODUCTIVE HEALTH SERVICE DEMANDS OF 1.2 MILLION WOMEN



"Time and again, women said they were fed up with giving birth in dirty and disgusting conditions. They want clean health facilities, clean toilets in maternity wards, and health providers with sterile supplies and clean hands. They want soap and water to wash themselves and their babies after birth."

Source: (24)

"I travelled a long way from my home to seek care in a regional hospital. At the hospital I was told to soak my legs and hands in clean water for about an hour daily, and then to oil them. Otherwise the wounds will crack and become easily infected. I also need clean water and soap for dressing the affected area. This was not possible in the past when the only water source for the hospital and community was a polluted river. Thanks to WASH improvements at the hospital, I can now easily access clean water, a toilet and a shower. My artificial leg needs to be cleaned regularly so that it does not smell. This bad smell forced us not to mix with people in the past. Now we are healthy and clean and feel equal to other people."

Leprosy patient, health care facility, **Ethiopia**

WASH is critical to ending neglected tropical diseases

All 20 neglected tropical diseases (NTDs) are related to WASH. For example, an estimated 43% of the schistosomiasis burden and 100% of the soil-transmitted helminth and trachoma burdens are attributed to inadequate WASH *(25)*. Some NTDs, such as leprosy, lymphatic filariasis and mycetoma, require safe and adequate WASH for treatment and care *(26)*.

WASH is a 'best-buy' which makes economic sense for investment

The Organisation for Economic Co-operation and Development (OECD) has identified interventions that – for their impact on population health, cost-effectiveness and affordability– could be defined as 'best buys' in tackling AMR. Improving hygiene in health care facilities, including the promotion of hand hygiene and better hospital hygiene, was one of five best buys identified. Investment in these measures could pay for themselves within just one year and produce savings of about US$ 1.5 for every dollar invested thereafter *(27)*.

WASH is increasingly affected by climate change and needs climate-smart innovations and approaches

In an increasingly unstable and changing climate, risks to health systems are expected to increase, particularly in LMICs and populations. Climate change can overwhelm health systems, disrupt services and stress facility infrastructure, particularly the reliability and safety of WASH, health care waste and energy services, and thereby compromise a population's access to health care facilities. These risks continue to grow with increasing frequency and intensity of extreme weather events across the world, including heatwaves, droughts, extreme rainfall and flooding, which in turn may cause mass displacement and/or disruption of livelihoods. Health care facilities must be designed and built and operated in a way that reduces their harmful impact on the environment and surrounding communities (see Box 7).

BOX 7. CLIMATE-RESILIENT WASH SERVICES IN HEALTH CARE FACILITIES: AN OPPORTUNITY TO ADDRESS A GROWING THREAT TO HEALTH SYSTEMS

The health sector must work collaboratively with other sectors to implement and operate climate-resilient health care facilities.

To be more resilient to regular external shocks and extreme weather events, specific climate risks of each given context should be identified. It is essential to ensure enough water storage, especially in drought prone areas and water scarce contexts, and to protect infrastructure from flood damage that could lead to contamination of water resources and the environment. Water efficiency, conservation and reuse should also be considered in designs. The use of renewable energy for pumping water or wastewater, and the recovery of energy from waste, should also be considered. Reduction, treatment and recycling of waste should be ensured.

Source: (28).

BOX 8. SUSTAINABLE WASTE SOLUTIONS

Poor management of health care waste exposes health care workers, waste handlers and the community to infections, toxic effects and injuries. There is also a potential for spreading drug-resistant microorganisms from health care facilities into the environment through poor health care waste management. When not properly identified, segregated, or managed properly, hazardous health care waste can be subject to uncontrolled disposal, open burning or uncontrolled incineration. Unmanaged items add to the pollution of the natural environment and may reach water sources, adding to riverine and marine pollution.

Both WHO and the United Nations Environment Programme (UNEP) have endorsed steam-based or other non-incineration methods of disinfection over incineration to decontaminate infectious waste in accordance with Stockholm Convention because of the persistent organic pollutants (POPs) produced by incineration. WHO calls on all stakeholders to uphold the Stockholm Convention and work towards incrementally improving safe health care waste management practices to protect health and reduce harm to the environment *(29,30)*.

Sound management of health care waste, a neglected pre-COVID-19 challenge, has become exacerbated due to a greater production and consumption of health-related products. These products can include PPE and products (e.g. gloves, masks), sanitization and cleaning products (e.g. cleaning cloths and wipes, detergents, sanitizers etc.), diagnostic and laboratory testing materials and in future also waste generated by large scale COVID-19 vaccination campaigns. A large fraction of these products is single-use and contain valuable and recyclable resources such as plastics, glass, textiles, metals and electronics.

To address these growing waste challenges, countries, health facilities and manufacturers are being urged to invest in additional waste treatment capacity and systems to ensure their sustained operation. Ideally safe waste disposal is linked to purchasing and investments in PPE, diagnostics and vaccines. In addition, countries should work to establish sustainable waste management chains, including addressing logistics, recycling, treatment technologies and policies.

"Water, sanitation and hygiene services in health facilities are the most basic requirements of infection prevention and control, and of quality care. They are fundamental to respecting the dignity and human rights of every person who seeks health care and of health workers themselves."

Antonio Guterres, UN Secretary General (2019)

WASH is necessary for all health-related Sustainable Development Goals

The SDGs on health (3), water and sanitation (6) and climate (13) form a strong framework for global monitoring and accountability, national target-setting and planning and pooling of resources and investments. The new *SDG 6 Global Acceleration Framework*, coordinated by UN Water, has further generated commitments for ambitious solutions on water and sanitation in support of the Decade of Action to deliver SDGs by 2030 *(31)*. The Framework involves all sectors of society and was developed to speed up progress towards SDG 6 by improving support to countries through five accelerators: financing; data and information; capacity development; innovation; and governance. It is driven by country demand and calls on the international community to strengthen country planning, implementation and knowledge sharing for SDG 6.

WASH already has the support of a growing global community

WHO and UNICEF, along with over 130 other partners, have committed to support countries in implementing the Resolution, and to work with health partners to achieve universal WASH services in all health care facilities in providing quality of care. The new global progress estimates (Chapter 3) and practical steps provide an important basis for taking action at national and sub-national levels to meet these targets.

At the global level, WHO and UNICEF are facilitating implementation of the Resolution through a number of activities. These include: advocacy materials and engagement in key global health events; technical support to countries implementing the practical steps; ongoing progress updates and delivery of global, regional and support to national trainings on the WHO/UNICEF *Water and sanitation for health facility improvement tool* (WASH FIT) *(32)*; support for national situational analyses and monitoring; and a course led by UNICEF on implementing the practical steps. In addition, initial work has begun on a global price tag, value proposition and costing tools to support greater WASH investments. Much of this work was ratified at a 2019 global meeting hosted by the Government of Zambia in which 100 participants, including 20 country delegations, highlighted the urgency of growing a movement rooted in grassroots change with high level leadership *(33)*.

CHAPTER 3

Latest status of WASH services in health care facilities

KEY MESSAGES

- A quarter of health care facilities lack basic water services, exposing 1.8 billion people, including health care workers and patients, to greater risk of infections.
- One in three health care facilities do not have hand hygiene facilities at the point of care.
- 10% of health care facilities have no sanitation service.
- One third do not segregate waste safely.
- Across the world's 47 LDCs, an estimated half of health care facilities do not have basic water services (Fig.2).
- Two thirds of health care facilities in LDCs lack basic sanitation services.
- 7 out of 10 LDC health care facilities do not have basic health care waste management services.
- Most countries in the world do not have sufficient data to report on basic WASH services in health care facilities. Filling data gaps and setting baselines should be an immediate priority.

FIGURE 2. WASH SERVICES IN HEALTH CARE FACILITIES OF LEAST-DEVELOPED COUNTRIES (2019)

WASH services	In LDCs
BASIC WATER	50%
BASIC SANITATION	37%
HAND HYGIENE AT POINTS OF CARE	74%
BASIC HEALTH CARE WASTE MANAGEMENT	30%
ENVIRONMENTAL CLEANING	INSUFFICIENT DATA

The WHO and UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (JMP) has produced regular updates on WASH since 1990 and WASH in institutions since 2016. This chapter presents estimates from the 2020 data update on national, regional and global progress on WASH in health care facilities between 2000 and 2019.

The JMP uses national data to generate internationally comparable estimates for a core set of standardized indicators covering water, sanitation, hygiene, waste management and environmental cleaning. The JMP uses 'service ladders' to benchmark and compare progress across countries (Fig. 3). These are designed to track progress towards a basic level of service, which is the indicator used for global monitoring. Additional indicators may be added in future as the availability and quality of data improves.

FIGURE 3. JMP SERVICE LADDERS FOR MONITORING WASH IN HEALTH CARE FACILITIES

	WATER	SANITATION	HYGIENE	WASTE MANAGEMENT	ENVIRONMENTAL CLEANING
Higher levels of service	To be defined at national level	To be defined at national level	To be defined at national level	To be defined at national level	To be defined at national level
Basic service	Water is available from an improved source[c] on the premises.	Improved sanitation facilities[d] are usable, with at least one toilet dedicated for staff, at least one sex-separated toilet with menstrual hygiene facilities, and at least one toilet accessible for people with limited mobility.	Functional hand hygiene facilities (with water and soap and/or alcohol-based hand rub) are available at points of care, and within five metres of toilets.	Waste is safely segregated into at least three bins, and sharps and infectious waste are treated and disposed of safely.	Basic protocols for cleaning are available, and staff with cleaning responsibilities have all received training.
Limited service	An improved water source is within 500 metres of the premises, but not all requirements for basic service are met.	At least one improved sanitation facility is available, but not all requirements for basic service are met.	Functional hand hygiene facilities are available either at points of care or toilets but not both.	There is limited separation and/or treatment and disposal of sharps and infectious waste, but not all requirements for basic service are met.	There are cleaning protocols and/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 metres from the premises; or there is no water source.	Toilet facilities are unimproved (e.g. pit latrines without a slab or platform, hanging latrines, bucket latrines) or there are no toilets.	No functional hand hygiene facilities are available either at points of care or toilets.	There are no separate bins for sharps or infectious waste, and sharps and/or infectious waste are not treated/ disposed of safely.	No cleaning protocols are available and no staff have received training on cleaning.

The JMP baseline report on WASH in health care facilities, published in 2019 *(34)*, introduced these service ladders and established national, regional and global baseline estimates for the year 2016. In 2020, this database was updated and the total number of countries with some data available increased from 125 to 165 countries, while the total number of health care facilities surveyed in the global database increased from 560 000 to 794 000. This increase in data coverage led to an increase in the numbers of countries and regions having estimates for basic WASH services in health care facilities in the year 2019 (Fig. 4).[e] New regional estimates became available for basic sanitation services in Latin America and the Caribbean and for LDCs, as well as for basic water services in Small Island Developing States. Sufficient data were available to produce regional estimates for 3 out of 5 basic WASH services (water, sanitation and waste management) in sub-Saharan Africa.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[c] Improved water sources are those which by nature of their design and construction have the potential to deliver safe water. These include piped water, boreholes or tubewells, protected dug wells, protected springs, rainwater, and packaged or delivered water.

[d] Improved sanitation facilities are those designed to hygienically separate human excreta from human contact. These include wet sanitation technologies – such as flush and pour flush toilets connecting to sewers, septic tanks or pit latrines – and dry sanitation technologies – such as dry pit latrines with slabs, and composting toilets.

[e] The JMP produces regional estimates for WASH in health care facilities provided data are available for at least 30% of the regional population.

FIGURE 4. DATA COVERAGE FOR BASIC WASH SERVICES IN HEALTH CARE FACILITIES, % OF POPULATION (COUNTRIES, AREAS AND TERRITORIES WITH NATIONAL ESTIMATES)

Data coverage by region	WATER DATA COVERAGE		SANITATION DATA COVERAGE		HYGIENE DATA COVERAGE		WASTE MANAGEMENT DATA COVERAGE		ENVIRONMENTAL CLEANING DATA COVERAGE	
	2019 baseline report	2020 data update	2019 baseline report	2020 data update	2019 baseline report	2020 data update	2019 baseline report	2020 data update	2019 baseline report	2020 data update
Australia and New Zealand (2)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
Central and Southern Asia (14)	9% (3)	9% (4)	0% (1)	8% (3)	0% (1)	8% (3)	11% (4)	11% (5)	0% (1)	0% (2)
Eastern and South-Eastern Asia (18)	78% (3)	77% (3)	0% (0)	3% (1)	63% (1)	65% (2)	14% (3)	15% (4)	0% (0)	3% (1)
Europe and Northern America (53)	2% (7)	2% (8)	2% (3)	1% (3)	2% (5)	2% (7)	2% (6)	2% (8)	0% (2)	1% (4)
Latin America and the Caribbean (50)	7% (3)	14% (7)	7% (3)	40% (4)	0% (0)	0% (0)	10% (4)	12% (5)	0% (0)	0% (0)
Northern Africa and Western Asia (25)	5% (4)	8% (5)	5% (4)	5% (4)	3% (3)	3% (3)	10% (5)	10% (5)	2% (1)	3% (2)
Oceania (21)	72% (1)	82% (7)	0% (0)	0% (2)	0% (0)	0% (0)	72% (1)	80% (5)	0% (0)	0% (0)
Sub-Saharan Africa (51)	60% (17)	66% (18)	41% (7)	40% (10)	26% (4)	26% (6)	73% (25)	77% (26)	0% (0)	5% (3)
Landlocked Developing Countries (32)	46% (9)	52% (12)	36% (6)	41% (11)	6% (3)	16% (8)	62% (13)	68% (16)	0% (0)	11% (5)
Least Developed Countries (47)	45% (12)	62% (21)	21% (5)	36% (10)	6% (2)	21% (6)	75% (25)	73% (29)	0% (0)	5% (4)
Small Island Developing States (53)	14% (3)	36% (10)	2% (2)	5% (4)	1% (1)	4% (2)	32% (5)	36% (9)	1% (1)	1% (1)
World (234)	36% (38)	37% (52)	7% (18)	12% (27)	23% (14)	26% (21)	19% (48)	20% (58)	0% (4)	2% (12)

Lightest Colour: <30% data coverage
Medium Colour: 30–50% data coverage
Darkest Colour : >50% data coverage

2019 DATA HIGHLIGHTS

WATER

1.8 billion
people lacked basic water services
at their health care facilities, including **1.1 billion** who had a **limited service** and **712 million** who had **no water service** at all.

In LDCs,
only 50%
of facilities had a basic water service.

9% of health care facilities had **no water service**, meaning that they either used water from an improved source more than 500 metres from the facility, an unimproved source, or had no water source at all.

Globally,
76%
of health care facilities had a **basic** water service, meaning that water was available from an improved water source located on premises.

52 countries and three of the eight SDG regions, had sufficient data to estimate coverage of basic water services in health care facilities, representing 37% of the global population.

Regional coverage of basic water services ranged from

46% to **89%**
in sub-Saharan Africa — in Eastern and South-Eastern Asia

- **15%** of health care facilities had a **limited** water service, meaning that they had access to an improved water source that was either located off premises or did not have water available at the time of the survey.
- Fewer hospitals (**12%**) lacked a basic water service compared to other health care facilities (**25%**).

2% of health care facilities in urban areas, and **9%** in rural areas, had **no water service.**

SANITATION

10% **of health care facilities,**
used by 800 million people globally, had **no sanitation service**, meaning that they had unimproved toilets or no toilets.

Only **27 countries** and two out of eight SDG regions had enough data to report on basic sanitation services, representing 12% of the global population.

The proportion of facilities without sanitation services ranged from

3% to **32%**
in Latin America and the Caribbean — Oceania

In LDCs, **20%** of facilities had **no sanitation service.**

37% of health care facilities in **LDCs**
had basic sanitation services, meaning having improved sanitation facilities that 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.

- There were not enough countries with basic estimates to calculate global sanitation coverage.

29% of health care facilities in sub-Saharan Africa and
38% of health care facilities in Latin America and the Caribbean
had **basic services.**

HAND HYGIENE

There were insufficient data available to generate global estimates for the proportion of health care facilities with **basic hand hygiene services,** meaning functional hand hygiene facilities were available both at points of care and at the toilets.

38% Only one SDG region, Eastern and South-Eastern Asia, had estimates for **basic** hand hygiene services in health care facilities (**38%**). This estimate was made possible by the national estimate from China (**36%**), since China represents 62% of the population of the region.

22 **71** Relatively few countries (**22**) had data on the availability of handwashing facilities at toilets, but more countries (**71**) had data on hand hygiene facilities at points of care.

70% **43%** In sub-Saharan Africa, more health care facilities had handwashing facilities with soap and water (**70%**) than had alcohol-based hand rub (**43%**) at points of care.

- Two out of three (**68%**) health care facilities globally had hand hygiene facilities at points of care.
- In sub-Saharan Africa, nearly three out of four (**73%**) health care facilities had hand hygiene materials at points of care.
- In sub-Saharan Africa, hospitals (**84%**) were more likely to have hand hygiene facilities at points of care than non-hospitals (**69%**). Two thirds of hospitals (**67%**) but only one third (**34%**) of non-hospitals had alcohol-based hand rub at points of care.

WASTE MANAGEMENT

30% of health care facilities in LDCs had a **basic** health care waste management service.

- There were not enough countries with data to calculate global coverage of **basic waste management services,** meaning that waste is safely segregated, and treated and disposed of safely.

58 countries **and two out of eight SDG regions** had sufficient data to estimate coverage of **basic** waste management services in health care facilities, representing 20% of the global population.

In sub-Saharan Africa, hospitals (54%) were more likely to have a basic waste management service than non-hospitals (31%).

Around one out of ten (**11%**) health care facilities in Oceania had a **basic** health care waste management service.

Two out of five (**40%**) health care facilities in sub-Saharan Africa had a **basic** health care waste management service.

Globally, **two out of three** (**69%**) health care facilities had systems for segregation of waste.

ENVIRONMENTAL CLEANING

Only 12 countries

had sufficient data to estimate coverage of **basic** environmental cleaning services in health care facilities, meaning that basic protocols for cleaning are available, and staff with cleaning responsibilities have all received training.

- There were not enough countries with basic estimates to calculate global coverage of environmental cleaning services

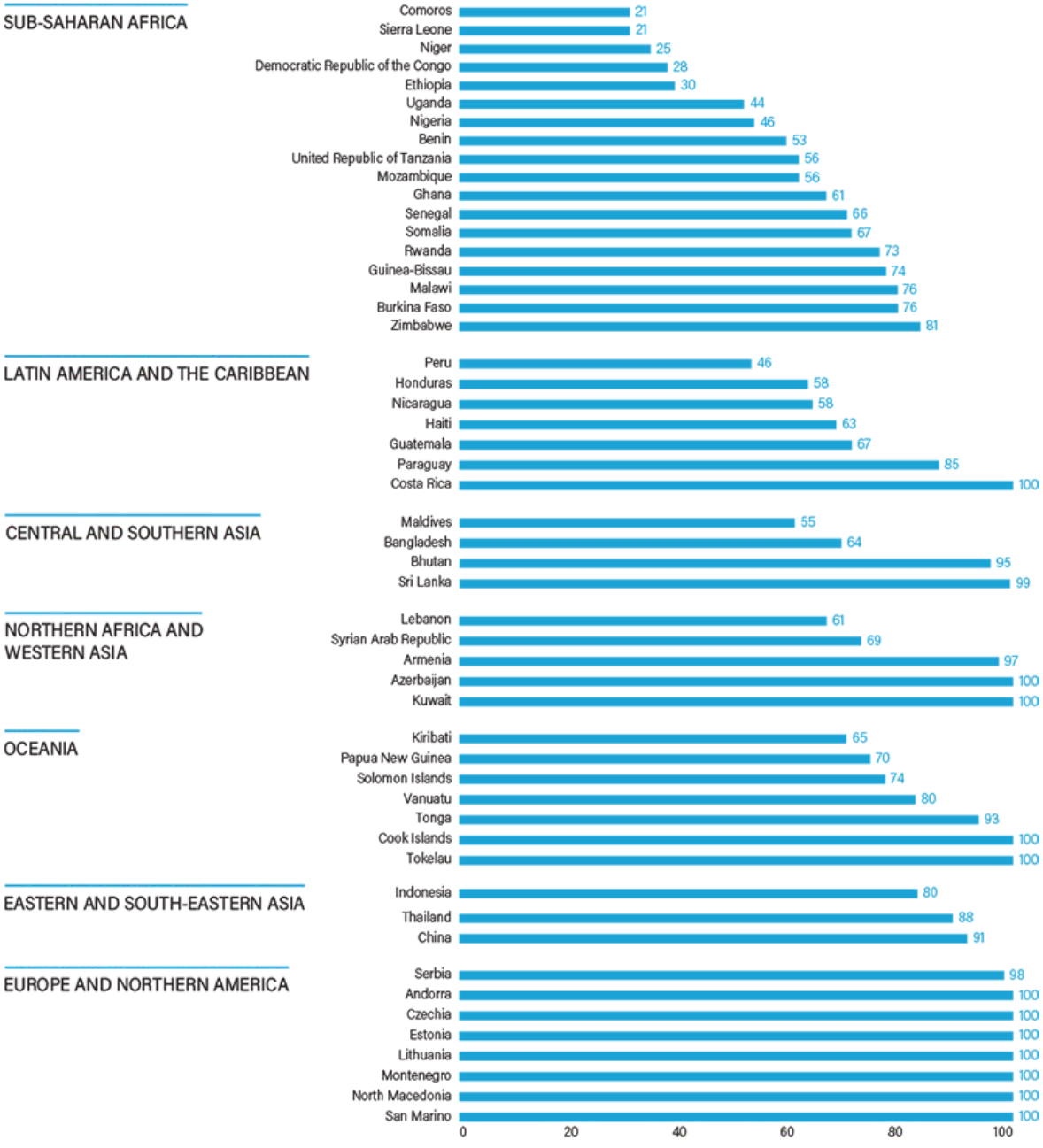
Water

A 'basic water service' means the health care facility has water available from an improved water source which is located on premises. Different facilities have varying water requirements depending on the type of health services offered, the scale of the facility and the climatic conditions (Fig. 5). These are difficult to measure and often not included in national monitoring systems.

The basic indicator for water does not include aspects of water quality or quantity. Thus countries with nearly universal coverage (i.e. >99%) for basic water may not have enough water to regularly meet all their needs in health care facilities and this water may not meet international or national water quality standards. Many countries have set higher thresholds for water services, including **Indonesia, Philippines, Hungary, Serbia**.

FIGURE 5. PROPORTION OF HEALTH CARE FACILITIES WITH BASIC WATER SERVICES, BY COUNTRY AND SDG REGION, 2019 (%)

In 2019, coverage of basic water services in health care facilities varied widely between countries.

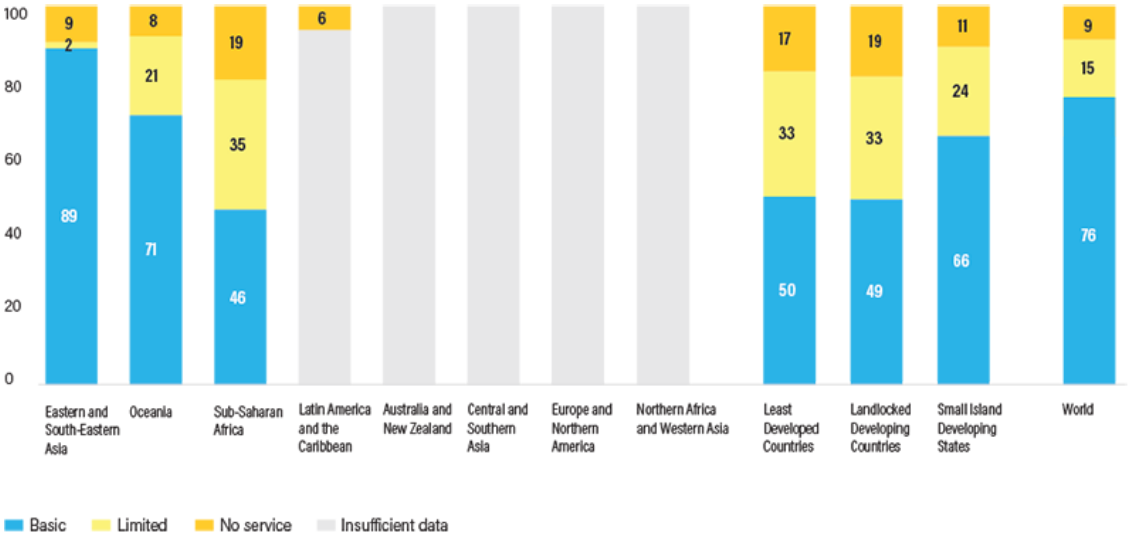


Only three of the eight SDG regions (Fig. 6) and 52 countries had sufficient data to estimate coverage of basic water services in health care facilities in 2019.

Some countries lack recent data and some national data sources do not give all the information necessary for monitoring basic water services (i.e. having water available from an improved water source which is located on premises). Data sources may have information on 'availability of water' without recording if the source is improved, or if it is located on premises. In 2019, 78 countries – representing 44% of the global population – had sufficient data to make estimates of the proportion of health care facilities with no water service (Fig. 7).

FIGURE 6. REGIONAL AND GLOBAL WATER SERVICES IN HEALTH CARE FACILITIES, BY SDG REGION, 2019 (%)

Half of health care facilities in LDCs lacked basic water services in 2019.



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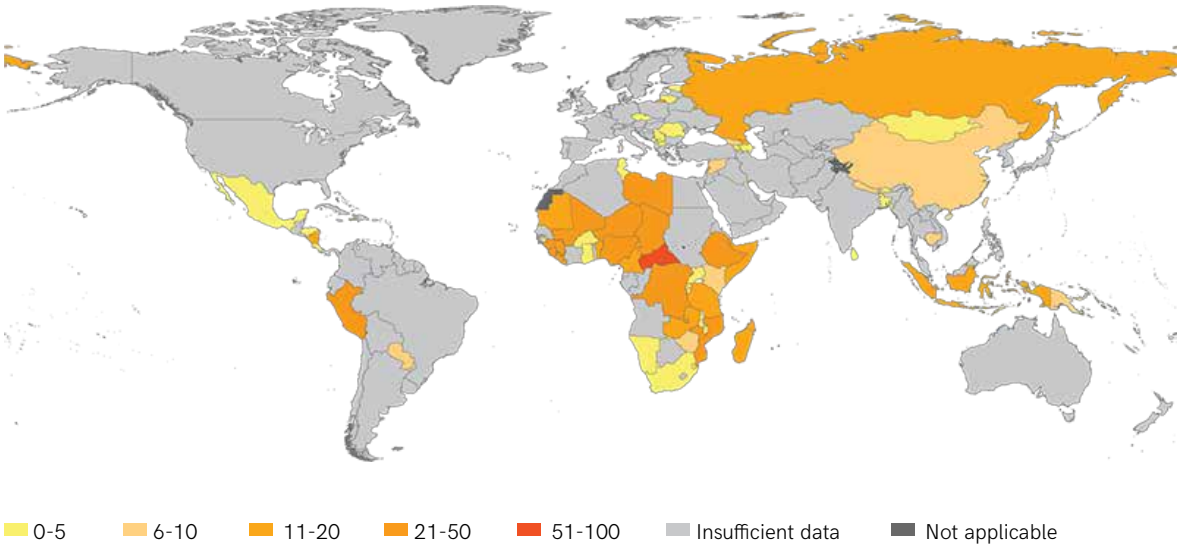
While basic water services require that water from an improved source is available on the premises, it may not be piped water: boreholes, protected springs, and rainwater also count towards basic water services. In many countries, coverage with improved water on premises can be substantially higher than piped water coverage. For example, in **Papua New Guinea,** a 2015 survey found that 88% of health care facilities had an improved water supply on premises – most commonly a rainwater catchment system – but only 2% were connected to piped water supplies (Fig.8) *(35)*. And piped water supplies are not always on premises: in some countries piped water is collected from public standposts outside the health care facility. Climate change threatens to worsen water supply challenges (see Box 9) and thus approaches to improving water supplies should consider climate smart interventions.

FIGURE 7. PROPORTION OF HEALTH CARE FACILITIES WITH NO WATER SERVICE, 2019 (%)

In 18 countries at least 20% of health care facilities had no water service.



BOX 9. WATER AND CLIMATE CHANGE: COMPOUNDING THE CHALLENGES OF LIMITED WATER SUPPLIES

The impact of climate change, which is already placing stress on delivering and sustaining public health outcomes, is predicted to increase in coming years. Evidence suggests that people living in developing countries will be worst hit by changes, particularly those living in marginalized and vulnerable environments.

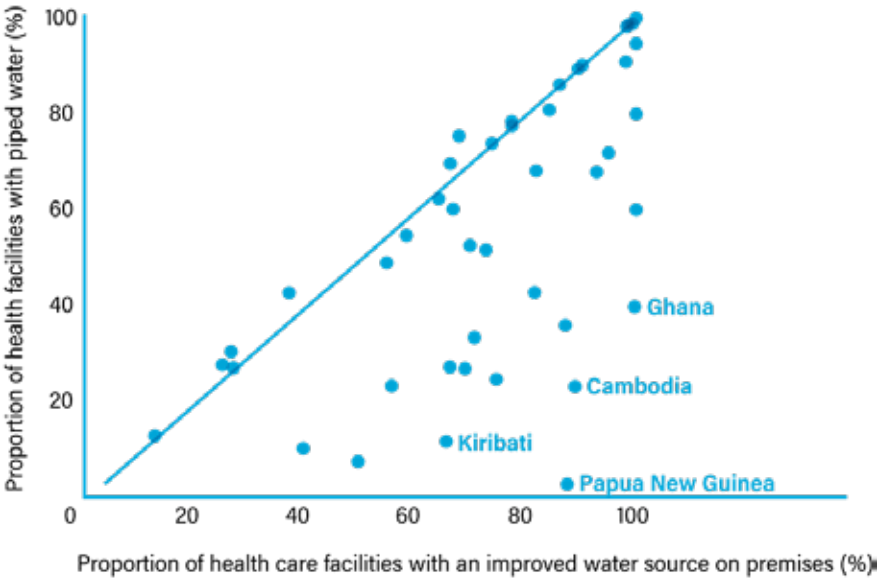
Availability, continuity and quality of water services in health care facilities will be threatened by climate change and many of the countries where 9% of health care facilities have no water services are likely to face even greater water scarcity in the near future, including those in the Sahel and East Africa (increasing frequency of prolonged drought) and Pacific Island states (rising saltwater intrusion).

Detailed climate risk analyses should be conducted, and any risks factored into the design, provision and maintenance of water services in health care facilities. Enhancing disaster risk prevention and preparedness is a first line of defence in adapting to future climate change. Simple climate smart adaptations may include installing back-up water supplies, such as rainwater harvesting or stored water, stocking water quality testing and treatment supplies, and raising and reinforcing infrastructure.

Source: (28).

FIGURE 8. PROPORTION OF HEALTH CARE FACILITIES AND HOSPITALS WITH PIPED WATER SUPPLY, SELECTED SURVEYS 2015–2020 (%)

Many improved water sources located on premises are non-piped supplies.



Sanitation

The 'basic sanitation services' indicator requires that health care facilities have improved and usable sanitation facilities. Many countries collect this information and it is estimated that **72% of health care facilities worldwide had access to improved and usable sanitation facilities in 2019**. However, one in ten health care facilities globally, and three out of ten in sub-Saharan Africa, had no sanitation service in 2019.

Health care facilities are only classed as having a basic sanitation service if they also have separate facilities dedicated for staff and for visitors and patients. Furthermore, sex-separated toilets should be available, and those for the use of women and girls should provide facilities for menstrual hygiene management, such as having a bin with a lid for disposing of used menstrual hygiene products, and water and soap available in a private space for washing. Finally, toilets should be available for patients with limited mobility. Many of these elements of basic sanitation services are not yet routinely captured in health management information systems or in facility assessments, though the number of countries with sufficient data increased by 50%, from 18 in the 2019 baseline report to 27 in the 2020 data update (Fig. 9).

In 2019, there were enough data to make estimates of basic sanitation services in two SDG regions (Fig. 10). Latin America and the Caribbean (38%) had sufficient data for the first time due to new data sources from **Brazil**, which holds nearly a third of the regional population. A new regional estimate was also available for LDCs showing that two thirds of health care facilities in LDCs lacked basic sanitation services.

Many more countries have some information on the availability of toilets at health care facilities. In 2019, 69 countries, representing 44% of the global population, had enough data to report on the proportion of health care facilities with no sanitation service, meaning that toilet facilities are unimproved or there are no toilets at all (Fig. 11).

FIGURE 9. PROPORTION OF HEALTH CARE FACILITIES WITH ELEMENTS OF BASIC SANITATION AMONG COUNTRIES WITH ESTIMATES, 2019 (%)

Access for those with limited mobility and availability of menstrual hygiene facilities are often the limiting factors for basic sanitation services.

Country	Any sanitation facility	Improved sanitation facility	Improved and usable	and dedicated for staff	and dedicated for Women	and menstrual hygiene management	and limited mobility	Basic
Kuwait	100	100	100	100	100	100	100	100
North Macedonia	100	100	100	100	100	-	-	100
Tokelau	100	100	100	100	-	100	-	100
Montenegro	100	100	100	100	100	100	85	85
Thailand	-	-	96	92	-	81	97	61
Cook Islands	-	80	80	60	-	80	-	60
Ethiopia	96	76	76	71	59	-	-	59
Burundi	-	-	76	72	48	-	-	48
Azerbaijan	100	100	98	48	100	100	-	48
Brazil	100	100	84	82	-	-	45	45
Mozambique	99	-	72	43	62	-	-	43
Armenia	-	81	62	87	42	42	41	41
Bangladesh	96	94	36	98	84	31	38	31
Paraguay	100	88	63	31	26	-	-	26
Nigeria	97	49	49	80	-	50	17	17
Zimbabwe	100	99	64	89	97	32	17	17
Guinea-Bissau	100	100	48	68	32	17	24	17
Bhutan	100	99	84	73	31	16	31	16
Lebanon	96	83	83	70	59	31	16	16
Maldives	100	100	99	80	15	30	57	15
Peru	97	90	83	86	66	-	7	7
Serbia	99	98	78	87	48	27	6	6
Rwanda	100	99	91	16	31	6	6	6
Malawi	-	93	77	20	40	3	44	3
Comoros	-	51	38	43	9	2	7	2
Honduras	100	96	84	78	70	-	1	1
Niger	-	74	29	30	31	0	27	0

FIGURE 10. REGIONAL AND GLOBAL SANITATION SERVICES IN HEALTH CARE FACILITIES, BY SDG REGION, 2019 (%)

Nearly two thirds of health care facilities in LDCs lacked basic sanitation services in 2019.

FIGURE 11. PROPORTION OF HEALTH CARE FACILITIES WITH NO SANITATION SERVICE, 2019 (%)

In 28 of 69 countries with available data, at least 10% of health care facilities had no sanitation service in 2019.

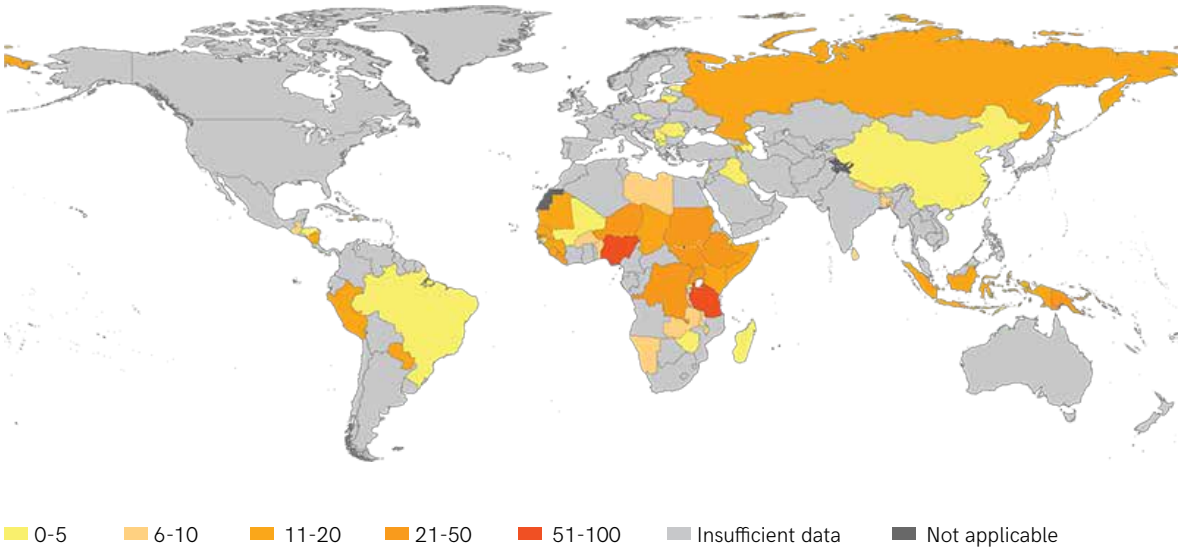
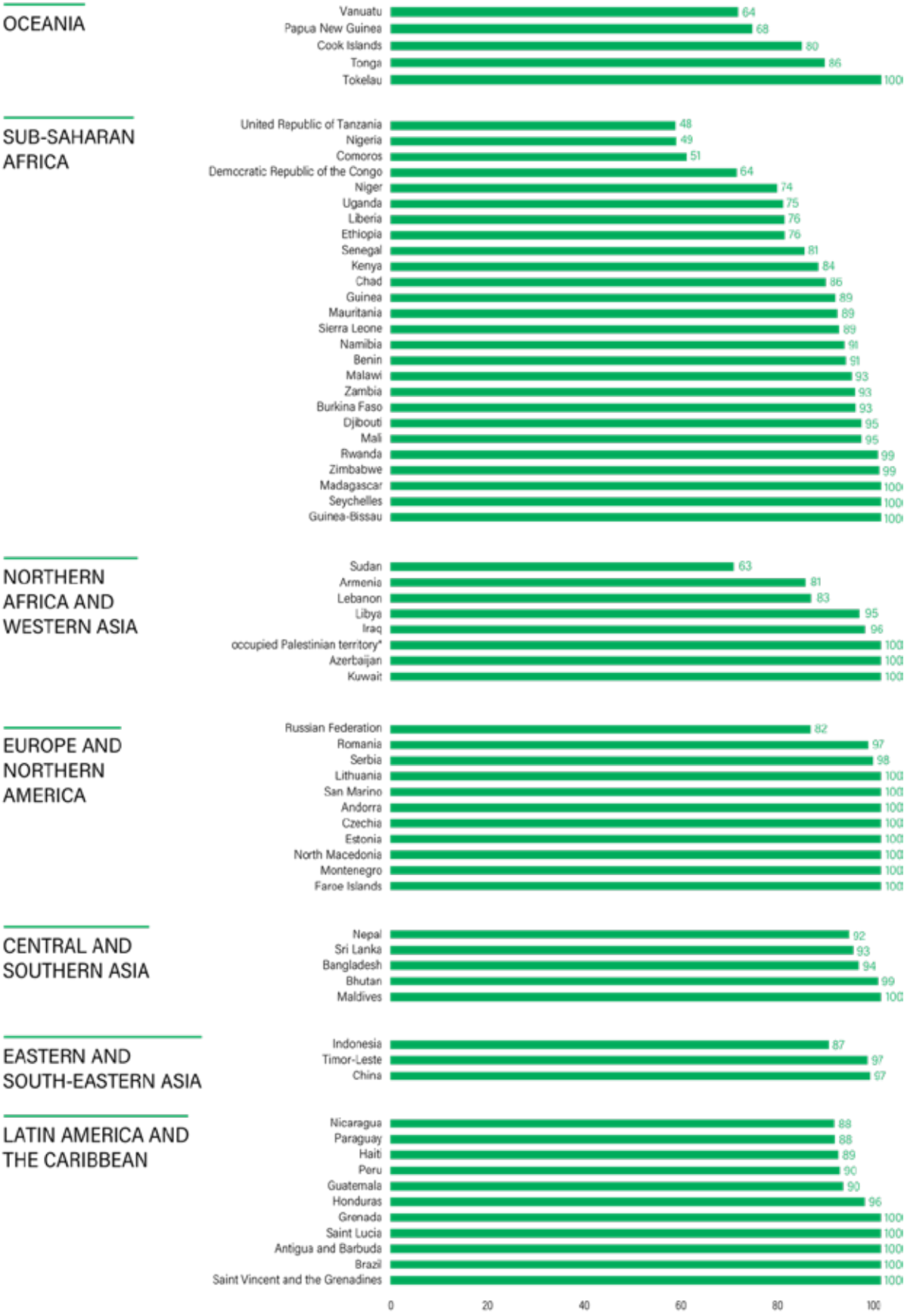


FIGURE 12. IMPROVED SANITATION COVERAGE IN HEALTH CARE FACILITIES, BY SDG REGION, 2019 (%)

69 countries had estimates for coverage of improved sanitation facilities in health care facilities in 2019.



*Occupied Palestinian territory includes east Jerusalem.

Hand hygiene

The `basic hand hygiene services' indicator calls for information about hand hygiene facilities at two types of locations: points of care[f] and toilets. Because of the lack of information about handwashing facilities at toilets, only 21 countries and one SDG region could report on basic hand hygiene services in 2019 (Figs. 13 and 14).

More countries had data on hand hygiene facilities at points of care, since most facility assessments ask about the presence of hand hygiene facilities (see Box 10). Out of the 71 countries with data available, in 12 countries less than half of health care facilities had hand hygiene facilities at points of care in 2019 (Fig. 15). In all SDG regions, with the exception of Europe and Northern America, at least one country lacked hand hygiene at points of care in more than half of health care facilities (Fig. 16).

FIGURE 13. REGIONAL AND GLOBAL HAND HYGIENE SERVICES IN HEALTH CARE FACILITIES, BY SDG REGION, 2019 (%)

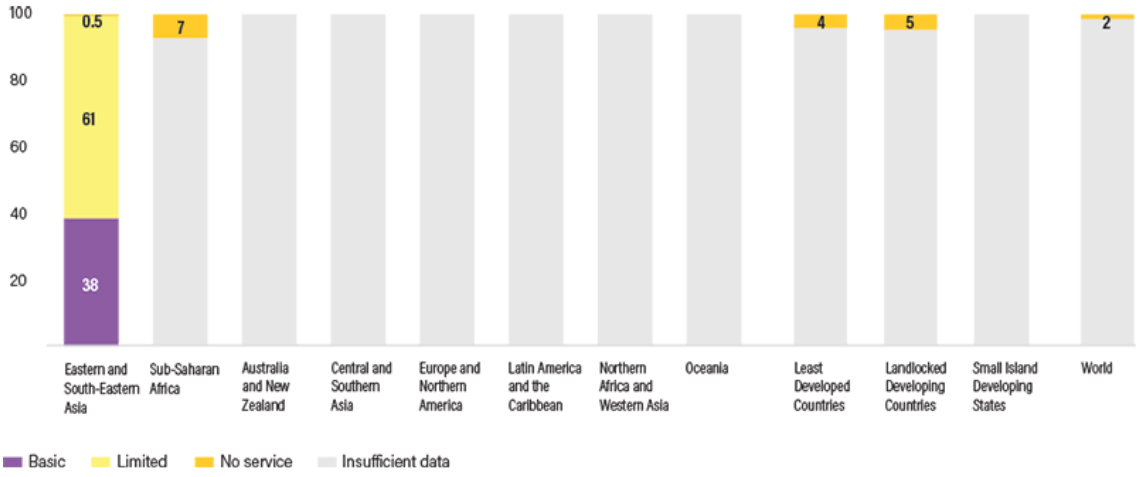
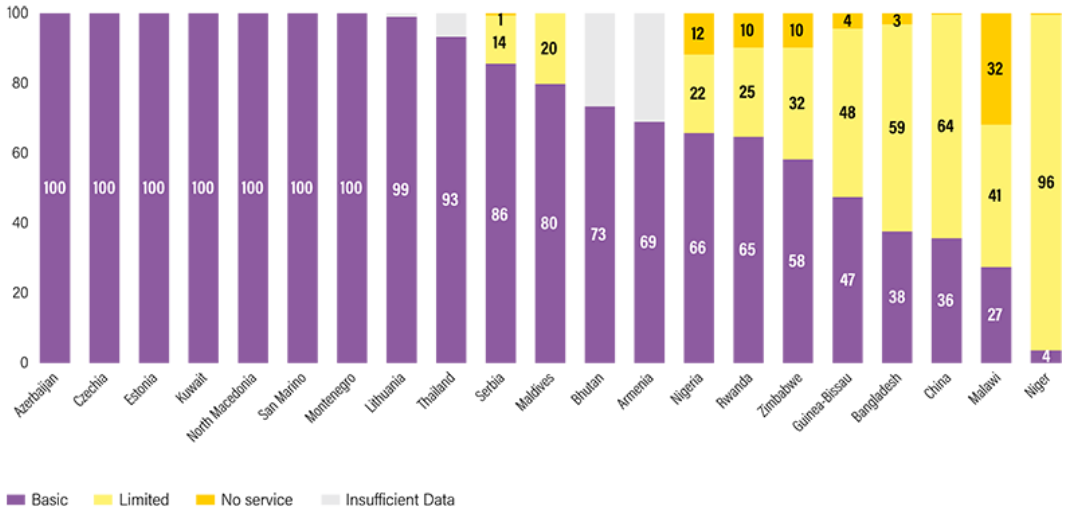


FIGURE 14. HAND HYGIENE SERVICES IN HEALTH CARE FACILITIES, BY COUNTRY, 2019 (%)

Estimates of basic hand hygiene services were available for 21 countries in 2019.



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

BOX 10. COLLECTING DATA ON HAND HYGIENE

National routine data reporting systems and facility inspections collect information about hand hygiene in a variety of ways, and it can be a challenge to aggregate and map these data to the global indicators.

Some of the most standardized data come from facility assessments supported by global programmes, such as the WHO-supported Service Availability and Readiness Assessments (SARA) or the United States Agency for International Development (USAID)-supported Service Provision Assessments (SPA). Both the SARA and SPA surveys typically ask about the availability of different infection prevention and control items, including hand hygiene facilities, in different locations of the health care facility (Table). Usually, the items can be recorded as 'observed', 'reported but not seen' or 'not available'.

The JMP classifies a point of care as having a hand hygiene facility with soap and water, or alcohol rub, are either observed or reported but not seen. Where multiple points of care are assessed in a health care facility, the JMP gives priority to data from the general consultation or outpatient area. If data from general consultation areas and outpatient departments are not available, the availability of hand hygiene facilities in any of the other available locations is recorded for use in calculating global indicators. If hand hygiene facilities were required to be available at all points of care assessed, coverage figures would be much lower.

Ghana District Health Information Management System (DHIS-2) is a routine data collection system in which health care facilities classify themselves as having 'improved', 'limited', or 'unimproved' hygiene services, which are roughly equivalent to the global indicators of basic, limited and no services. However, in some cases data are collected that include all of the global indicators and elements, but the global indicators may not be fully tabulated in the final reports. For example, the 2018 Cameroon Health Facility Assessment collected information on the availability of running water and soap for handwashing, but tabulated these separately, without tabulating facilities that have both running water and soap for handwashing.

Extracting comparable information from disparate sources is a major challenge for global monitoring, but as more countries adopt harmonized questions in their assessments (e.g. drawing on the JMP core questions), and make raw data available for analysis, comparability within and between countries will improve *(36)*.

TABLE. EXTRACT FROM SRI LANKA 2017 SARA QUESTIONNAIRE

Indicator code	Number	Question	Result			Skip
	INFECTION CONTROL PRECAUTIONS					
	600	Please tell me if the following resources/supplies used for infection control are available in the general outpatient area of this facility today. **ASK TO SEE THE ITEMS**	OBSERVED	REPORTED NOT SEEN	NOT AVAILABLE	
I15	01	Clean running water (piped, bucket with tap, or pour pitcher)	1	2	3	
I15	02	Hand-washing soap/liquid soap	1	2	3	
I15	03	Alcohol based hand rub	1	2	3	
I16	04	Disposable latex gloves	1	2	3	
I12	05	Waste receptacle (pedal bin) with lid and plastic bin liner (appropriate storage of infectious waste)	1	2	3	
I11	06	Sharps container ("safety box") (appropriate storage for sharp waste)	1	2	3	
I13	07	Environnemental désinfectant (e.g. chlorine, alcohol)	1	2	3	
I14	08	Single use Disposable syringes with disposable needles	1	2	3	
I114	09	Auto-disable syringes	1	2	3	

FIGURE 15. PROPORTION OF HEALTH CARE FACILITIES LACKING HAND HYGIENE FACILITIES AT POINTS OF CARE, 2019 (%)

In 12 of 71 countries with available data, less than half of health care facilities had hand hygiene facilities at points of care in 2019.

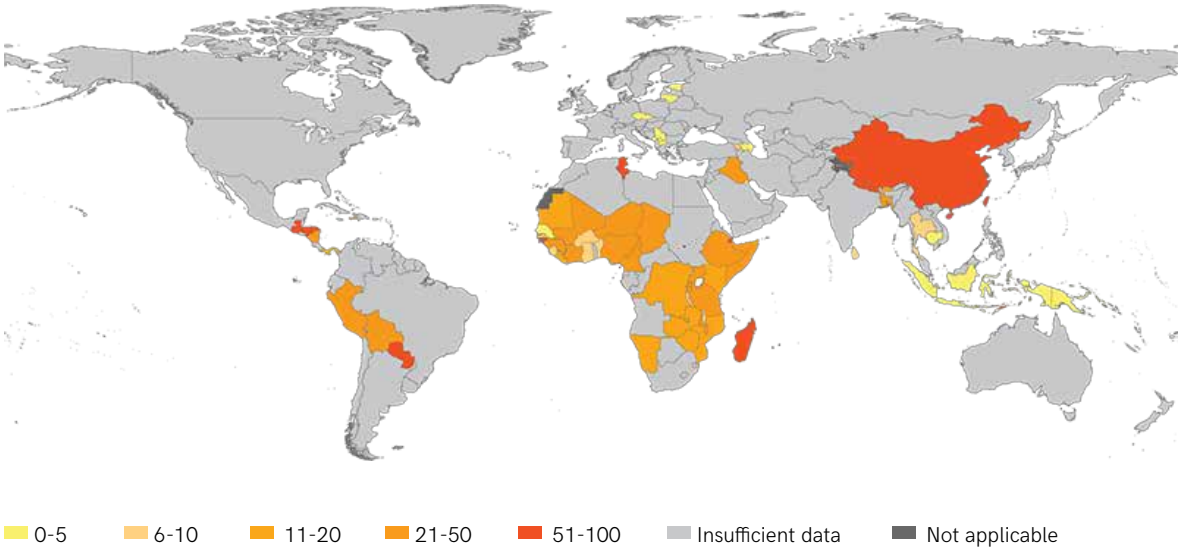
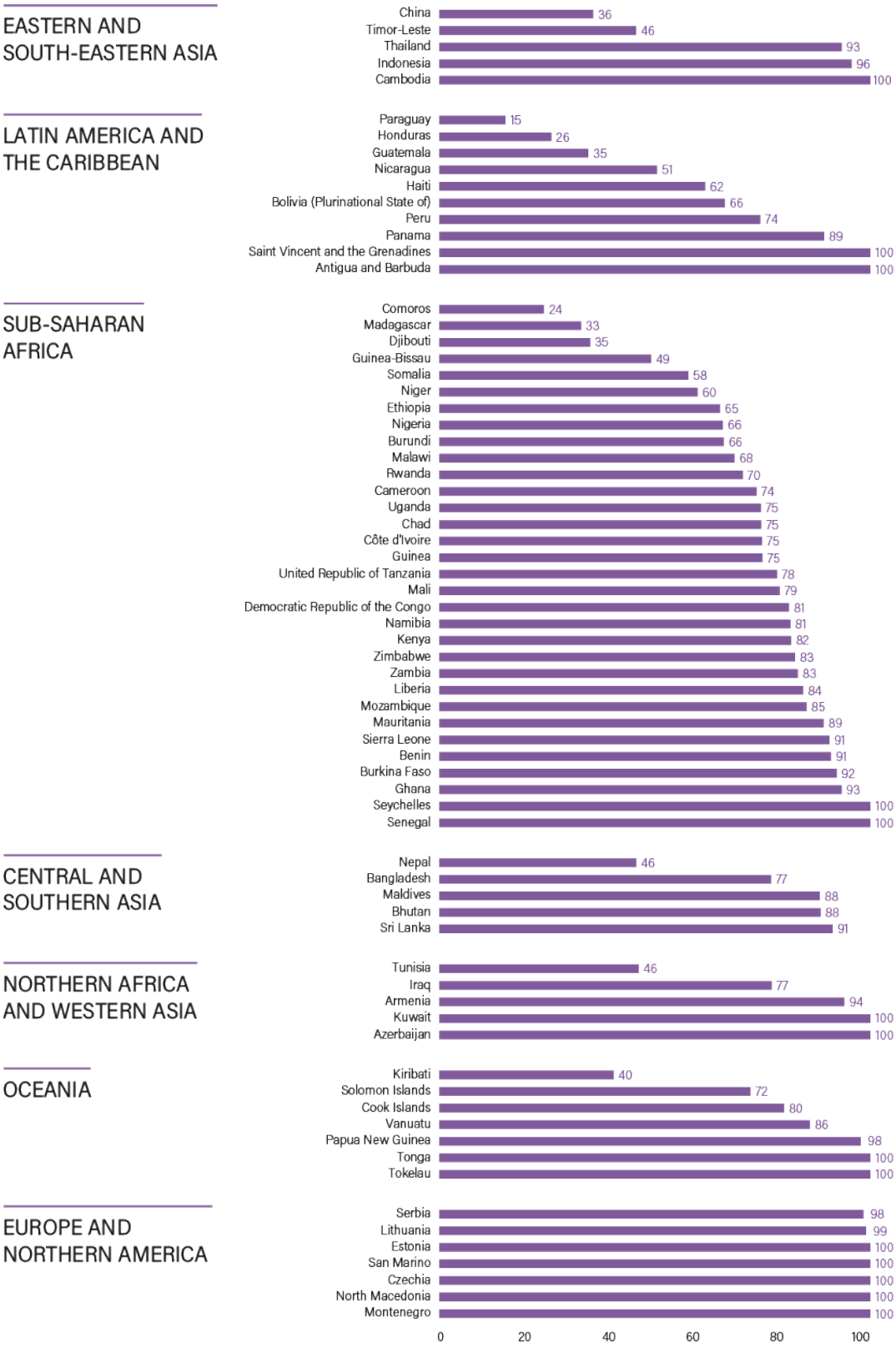


FIGURE 16. PROPORTION OF HEALTH CARE FACILITIES WITH HAND HYGIENE AT POINTS OF CARE, BY COUNTRY AND SDG REGION, 2019 (%)

In 12 of 71 countries with available data, less than half of health care facilities had hand hygiene facilities at points of care in 2019.



Waste management

In 2019, 58 countries had sufficient data to estimate coverage of basic waste management services in health care facilities, and in many countries most health care facilities lacked basic waste management services (Fig. 17). These national data represent 20% of the global population and were sufficient to produce regional estimates for sub-Saharan Africa and Oceania, but not for the world as a whole (Fig. 18).

FIGURE 17. PROPORTION OF HEALTH CARE FACILITIES LACKING A BASIC WASTE MANAGEMENT SERVICE, 2019 (%)

In 32 of 58 countries with available data, more than half of health care facilities lacked a basic waste management service in 2019.

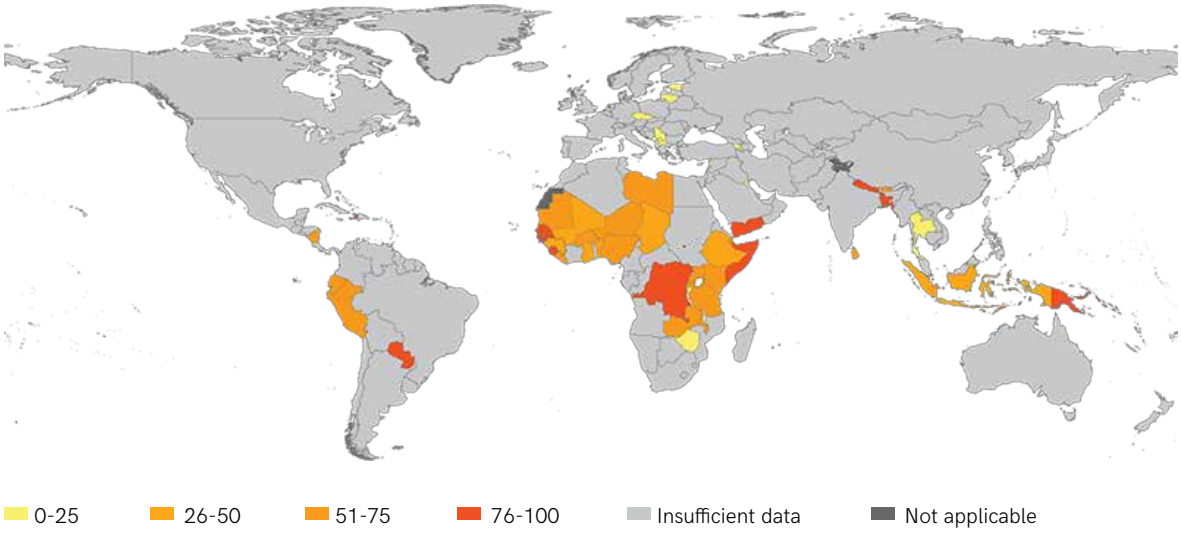
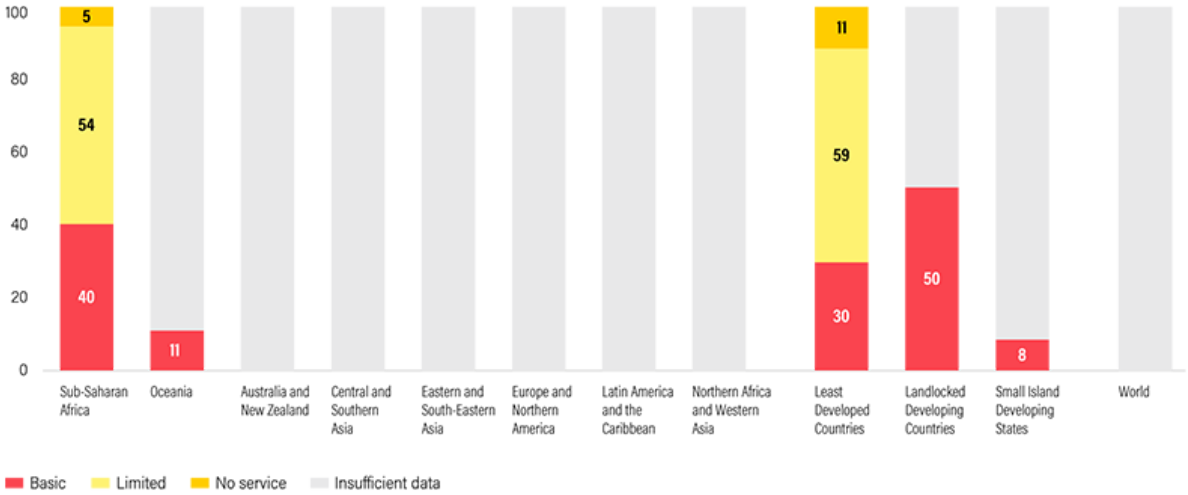


FIGURE 18. REGIONAL AND GLOBAL WASTE MANAGEMENT SERVICES IN HEALTH CARE FACILITIES, BY SDG REGION, 2019 (%)

Only 3 in 10 health care facilities in LDCs had basic waste management services in 2019.



Many countries collect information on segregation of health care waste, and national estimates were available for 66 countries in 2019, representing 42% of the global population. On average, 69% of health care facilities had at least some segregation system. However, the way in which segregation is assessed varies considerably. Some facility assessments simply record if there is a sharps box, while others check to see if sharps boxes are available in all waste-producing areas, are used properly (for example not overfilled) and are appropriately labelled. Many assessments do not collect information about segregation of other waste or use of the recommended three bin system. The SARA surveys do collect information on the availability of sharps containers (safety boxes) and waste receptacles (pedal bins) with a lid and plastic liner for storage of sharps and infectious waste (see Box 8) and in most cases find that segregation and appropriate storage is significantly better for sharps than for infectious waste. Surveys that collect information only about sharps containers may therefore overestimate segregation practices in health care facilities.

Slightly fewer countries had national estimates on waste treatment and disposal than had estimates on waste segregation. For global monitoring, the JMP counts autoclaving, burial in protected pits and removal off-site towards the basic service level. Incineration (including single-stage) are also classified as safe treatment and disposal for the purposes of global monitoring, although open burning is not.[g] Data are collected separately, where possible, for treatment and disposal of sharps and infectious materials. In 2019, national estimates on health care waste treatment and disposal were available for 64 countries, representing 21% of the global population. In 55 countries, representing 19% of the global population, data on both segregation and treatment/disposal were available (Fig. 19).

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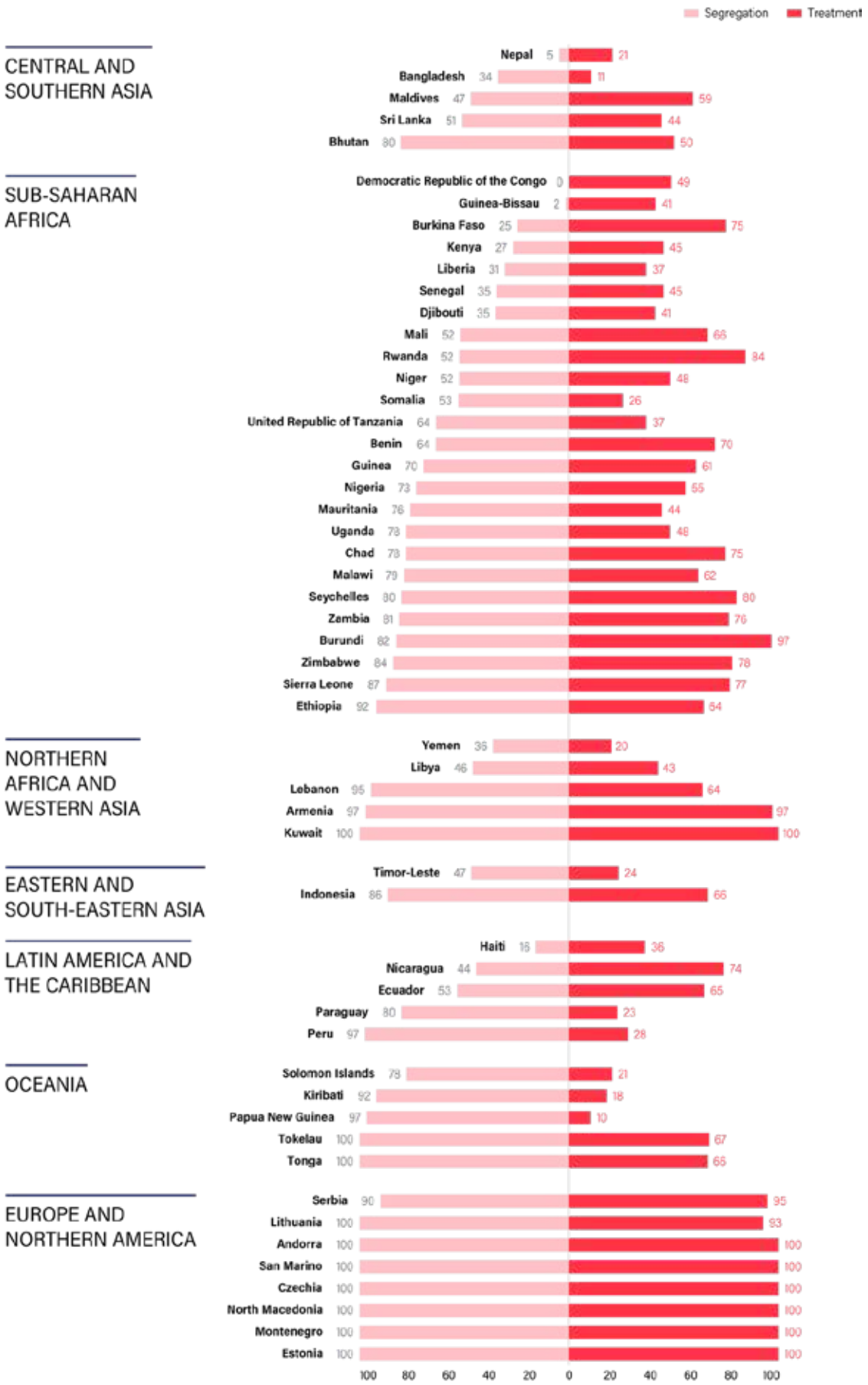
[g] The WHO waste management policy advises long-term phase out of low technology incineration *(37)*. The Stockholm Convention *(30)* recommends alternatives to any incineration without high-level pollution control devices.

FIGURE 19. PROPORTION OF HEALTH CARE FACILITIES WITH WASTE SEGREGATION AND TREATMENT, BY COUNTRY AND SDG REGION, 2019 (%)

Waste may be either segregated and not treated, or treated without segregation.



Environmental cleaning

The basic service level for environmental cleaning consists of having written protocols available and ensuring all staff with cleaning responsibilities have received related training. Facilities that either have no protocols in place – or have provided some but not all staff with training on environmental cleaning – are classified as having limited services, while facilities lacking both protocols and training are considered to have no service. In 2019, only 12 countries had sufficient data to estimate coverage of basic environmental cleaning services in health care facilities (Fig. 20). Some countries have data on either protocols or training and where both are available (Fig. 21), protocols may be in place without full training (e.g. **Rwanda**) and sometimes training happens even in the absence of protocols (e.g. **Bhutan**).

Of all the global indicators tracked by the JMP, the environmental cleaning indicator is the newest and the most data-poor. Efforts are needed to better understand why reporting on cleaning is so low, to call attention to the role cleaning serves in infection prevention and patient satisfaction. For women health care users, cleanliness is the top WASH demand *(24)*, and far too often overlooked as part of quality of care improvement packages. Considering this and the increased attention on environmental cleanliness for infection prevention and control in the context of preventing the spread of COVID-19, countries and supporting partners should prioritize collection of more and better data on environmental cleaning services.

FIGURE 20. BASIC ENVIRONMENTAL CLEANING SERVICES IN HEALTH CARE FACILITIES, 2019 (%)

Estimates of basic environmental cleaning services were available for just 12 countries in 2019.

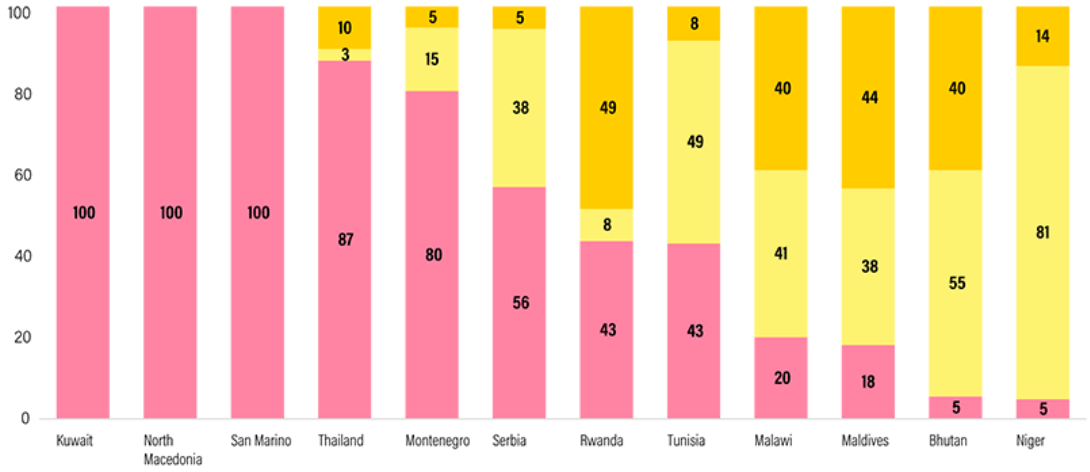


FIGURE 21. PROTOCOLS AND TRAINING ON ENVIRONMENTAL CLEANING SERVICES IN HEALTH CARE FACILITIES, BY COUNTRY, 2019 (%)

The availability of protocols and training on cleaning varies widely by country.

CHAPTER 4

Integration of WASH with energy and health programmes

KEY MESSAGES

- WASH is the foundation of high-quality health care and there are opportunities within current efforts to implement global health standards and tools that better integrate and operationalize WASH with health.
- Improving IPC has cross-over benefits and stimulates WASH improvement.
- WASH and IPC are 'best buys' in stopping the spread of AMR and national AMR action plans need to include specific indicators and funding for WASH in health care facilities.
- WASH plays a role in safe maintenance of routine immunization programmes; safe management and treatment of vaccine waste should be budgeted and can catalyse wider waste improvement efforts.
- Implementing key WASH and IPC interventions supports the effectiveness of reducing and treating NTDs as well as cholera.

Achieving the integrated vision outlined in the present report requires leadership and action from WASH and other health sectors. Collaboration and alignment of efforts will result in faster progress, the sum of actions being greater than its parts. By describing some of these WASH-health synergies, using tangible examples of collaboration and progress, the aim is to strengthen advocacy and stimulate further collaboration.

WASH as a core component of national IPC programmes and hand hygiene improvements

WASH services in health care facilities are recognized as one of the eight WHO IPC 'core components' *(38)*. Furthermore, there is a clear cross-over between aspects of WASH (e.g. hand hygiene and environmental cleaning) that are critical IPC elements reflected in the core component focusing on evidence-based guidelines and transmission-based precautions.

An evidence-based, multifaceted strategy for hand hygiene improvement in health care has existed since 2009, following pilot testing in a range of countries. It is described by WHO as a 'multimodal' strategy.

What does multimodal mean?

Multiple elements must be put in place to achieve optimal hand hygiene behavioural change. It comprises system change (infrastructure, equipment, supplies and other resources including human), training and education, monitoring and feedback, reminders and communications and culture change.

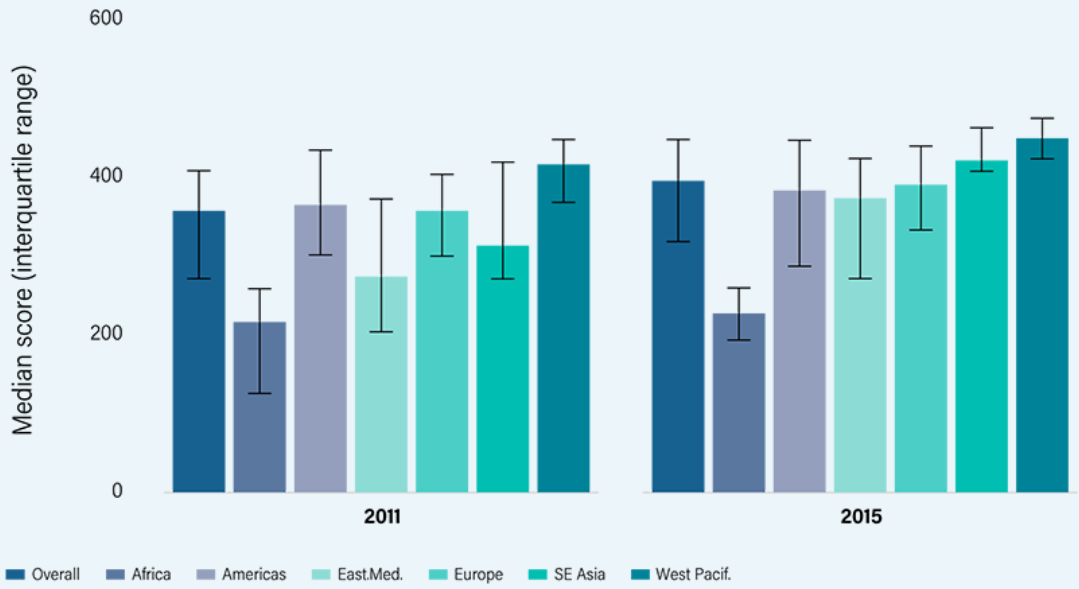
This strategy has since been applied to other IPC improvement interventions. Evidence indicates that hand hygiene work of this nature forms a building block for all IPC and quality of care efforts. The strategy has proven to be highly effective, leading to a significant improvement of key hand hygiene indicators, a reduction of health care-associated infections and AMR, and substantially helping to stop outbreaks. Case studies from **Timor-Leste** and **Liberia** (Annex 5) provide examples of this approach to hand hygiene improvement.

To evaluate the multimodal approach for IPC improvements, three global surveys using an evidence-based hand hygiene self-assessment framework (HHSAF) structured around the five multimodal elements have been conducted. Key findings from the 2011 and 2015 surveys are summarized in Box 11 below.

BOX 11. GLOBAL HAND HYGIENE SELF ASSESSMENT SURVEYS INDICATE IMPROVEMENTS IN HAND HYGIENE POSSIBLE WITH DEDICATED STAFF IMPLEMENTING A MULTIMODAL APPROACH

- In 2011, 2119 health facilities from 69 countries participated.
- In 2015, 807 health facilities from 91 countries participated.
- A total of 86 facilities submitted results for both 2011 and 2015 surveys.
- Of the 86 who completed both surveys, the overall score had a statistically significant increase from the previous survey, from 335 to 374: there were changes in training and education, system change, monitoring and feedback, communications and reminders and safety culture.
- From 2011 to 2015, facilities in the Eastern Mediterranean, Europe and Western Pacific WHO regions all improved significantly.
- The facilities involved in the assessments are likely more engaged and committed than other facilities. Therefore, understanding what has specifically allowed these facilities to excel and how these qualities can be strengthened in other facilities and nationally is an important next step.

FIGURE. MEDIAN OVERALL SCORES IN WHO HAND HYGIENE SELF-ASSESSMENT FRAMEWORK IN 2011 AND 2015 SURVEYS AND BY REGION (N=86 FACILITIES)



Source: (39).

In 2018, WHO conducted the first global situational analysis on the implementation of the IPC core components at the national level. The evaluation took place in 88 countries and examined IPC programmes, guidelines, training, monitoring, surveillance and feedback systems, as well as implementation strategies in health care facilities (see Box 12).

BOX 12. FINDINGS FROM SURVEY OF NATIONAL IPC PROGRAMMES

Most countries have an IPC programme (62.5%). However, only 26.1% identified as having a dedicated budget for IPC activities and national guidelines were available in just 67.0% of participating facilities. Considerable gaps and challenges were found in implementation, including that only 36.4% and 21.6% of countries reported having an implementation strategy and regular evaluation of compliance with guidelines, respectively. Furthermore, only 12.5% of participating countries had elements of all six core components in place. This challenge particularly affects low-/lower-middle-income countries.

These surveys are based on self-assessments (meaning participants may be more engaged than the average) and therefore the results should be interpreted with caution. However, they provide useful insights to inform global, country and facility level WASH and IPC work. As already outlined, WASH and IPC are intrinsically linked; WASH services are essential to achieve many of the hygiene indicators outlined in IPC tools, and using the IPC assessment tools regularly has been shown to help identify and drive WASH improvements.

WASH as a key change lever for improving quality of care for mothers, newborns and children

The Network for Improving Quality of Care for Maternal, Newborn and Child Health (also known as the Quality of Care Network) is a broad partnership of committed governments,[h] implementation partners and funding agencies working to ensure that every pregnant woman, newborn and child receives good quality care with equity and dignity. The goals of the network are to halve maternal and newborn deaths and stillbirths in participating health facilities across the network countries by 2022 and to improve patients' experience of care.

While all network countries have seen a large decline in child and maternal health activities due to the COVID-19 epidemic, there is an important opportunity now to strengthen and re-emphasize the WASH component of network activities as they restart. WASH is critical in three ways:

1. WASH is a core standard for quality of care

The backbone of the network is the implementation of a set of eight standards for maternal, newborn and child health, of which WASH is one *(40–42)*. The eight standards address aspects of provision and experience of care, as well as infrastructure and services needed to deliver quality care. The standard focused on WASH also calls for the health facility to commit regular funds to rehabilitate, improve and continually operate WASH services.

2. Quality improvement interventions: an opportunity to address WASH

Implementation and adherence to standards is assured through identification and implementation of a bundle of interventions that together, have a significant improvement on quality. Health workers are involved in designing and implementing these interventions including WASH, to ensure services are fit for purpose, used and maintained over time, and the community is engaged where possible. One example of interventions to improve IPC as a means to decrease maternal and newborn morbidity and mortality would be: functioning WASH facilities available in the childbirth room, coupled with appropriate IPC training of midwives and targeted discussions with mothers and their families regarding WASH services.

[h] For more information on the network visit www.qualityofcarenetwork.org. The eleven network countries are Bangladesh, Côte d'Ivoire, Ghana, Ethiopia, Ghana, India, Malawi, Nigeria, Sierra Leone, Tanzania and Uganda.

3. Including WASH in monitoring and learning exchange

In an effort to demonstrate accountability and results, network countries have committed to track fifteen quality of care indicators that should be present in their national information system. WASH is one of the fifteen. So far, nine network countries have incorporated WASH into health systems monitoring efforts or have national efforts that include WASH monitoring. To date, only two countries have reported on these WASH indicators. National and facility quality databases should be integrated with those on WASH, and WASH indicators incorporated into quality monitoring where they are missing.

National quality planning and policies

The new WHO *Quality planning guide (43)* articulates the need for effective WASH services at every level of the health system. From developing national strategic directions on quality, through district-level activities for improving quality health services, to facility-level activities for improving quality of health services at the point of care, WASH is fundamental (see Box 14). Stakeholder and community engagement is one of the foundational requirements to ensure regular, active and meaningful engagement of the community in quality improvement efforts.

Case study: Operationalizing quality of care standards at the country level: Ethiopia

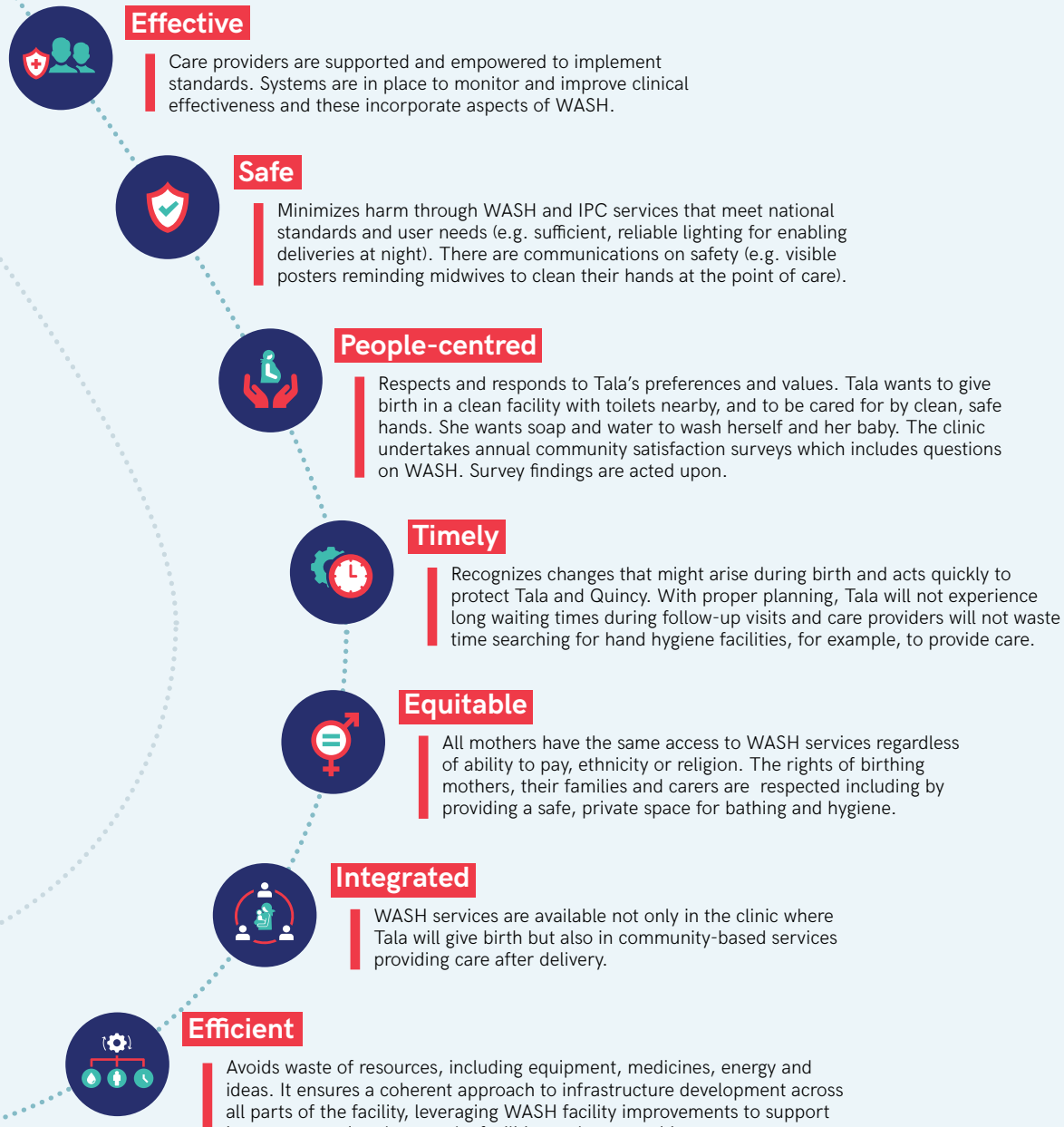
The Ethiopian National Healthcare Quality Strategy (NHQS), launched in March 2016, includes a set of interventions to drive large-scale improvement in quality of care delivery, with the ultimate aim of improving clinical care outcomes, patient safety and patient-centredness, while increasing access and equity for all segments of the Ethiopian population. Two national flagship initiatives – the Clean and Safe Hospital Initiative (CASH) and Clean and Timely Care in Hospital for Institutional Transformation (CATCH-IT) – support this agenda (44,45). Both involve quarterly assessments of hospitals using a validated audit tool and place "cleanliness and timeliness of care at the centre of everything in health care facilities". Cleanliness interventions include monthly cleaning days, outsourcing cleaning contracts and regular recognition schemes for clean wards.

BOX 13. BRINGING THE VISION TO LIFE

High-quality health care is described as the right care, at the right time, delivered in a coordinated way, responding to service users' needs and preferences, while minimizing harm and resource waste *(40,41)*.

But what does this mean at the level of an individual care-seeker? This is what a health care facility providing quality essential services to Tala, a 25 year-old first-time mother and her newborn son Quincy, would look like.

FIGURE. CARE THROUGH THE LENS OF THE SEVEN ELEMENTS OF QUALITY



National AMR action plans

In May 2015, the Sixty-Eighth World Health Assembly adopted the *Global Action Plan on Antimicrobial Resistance (46)*. The goal of the plan is to ensure, for as long as possible, continuity of successful treatment and prevention of infectious diseases with effective and safe medicines that are quality-assured.

There are five strategic objectives to achieve this goal, one of which ("to reduce the incidence of infection") can only be achieved if all aspects of WASH are addressed. All Member States were urged to develop and have in place, by 2017, national action plans (NAPs) on AMR that are aligned with the objectives of the global action plan. As of January 2020, 138 countries have finalised their NAPs. What remains unclear, is how NAPs are being funded, monitored and leveraged to address fundamental WASH services in health facilities, as means to improve IPC (Fig. 22).

Over half (94) of NAPs now include WASH within core objectives and planning processes. However, on further examination WASH is often only vaguely referenced, with no specificity of the setting, target or means of implementation (Fig. 23). This is a major gap. Embedding the eight practical steps within NAPs would provide an opportunity to advance both the national AMR and WASH in health care facility agendas.

BOX 14. WASH-RELATED EXTRACT FROM THE WHO *QUALITY PLANNING GUIDE (43)*

- **National.** National-level actors should consider the need for essential infrastructure such as for WASH and IPC as they select and prioritize their initial set of quality-related interventions.
- **District.** District management leadership and teams should engage with the WASH sector in its prioritization exercise and ensure that minimum requirements for WASH infrastructure, IPC and energy/power supply are all available and maintained.
- **Facility.** The essential infrastructure for quality that influences implementation are listed in Box 15.

BOX 15: ESSENTIAL INFRASTRUCTURE FOR QUALITY AT THE FACILITY LEVEL

Essential infrastructure includes, but is not limited, to:

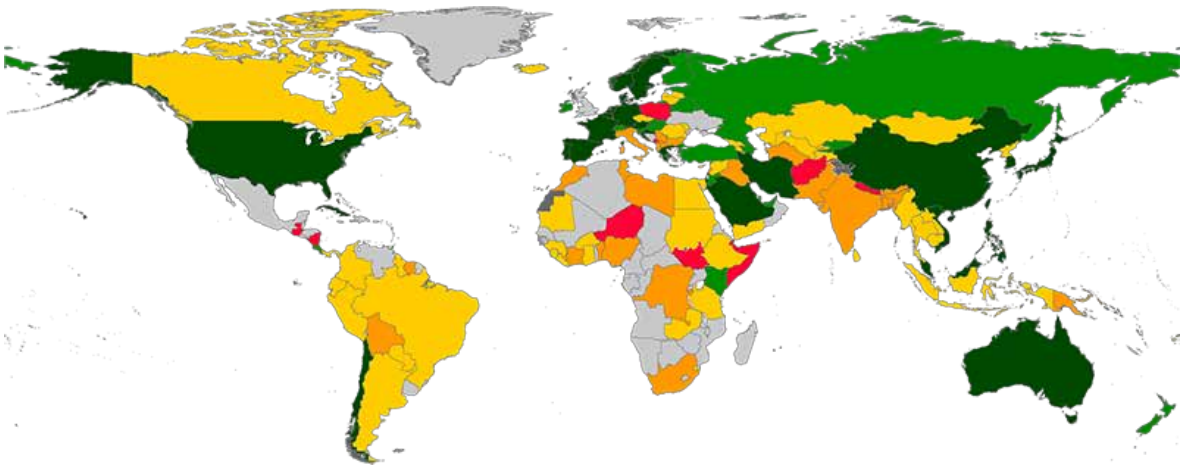
- elements related to the physical environment in which care is provided (e.g. WASH and safe waste disposal infrastructure; reliable energy/power supply; supplies of safe and effective medicines; medical devices and technologies; supplies of personal protective equipment; and hand hygiene materials;
- health workers: sufficient numbers of trained and competent staff.
- health management information systems and data systems (e.g. availability of quality measures and data collection templates to generate data; computer hardware/software to analyse data and synthesize the findings into actionable information for further improvement).

Source: (43).

Immunization programmes champion synergy and collaboration

Over the next decade, changes in population demography, disease epidemiology and the availability of new vaccines will increase the need to reach different age groups across the life course. This will require even stronger cross-sectoral collaboration with the WASH sector to ensure safe and hygienic practices. Current and future disease outbreaks are likely to increase the need for more vaccinations. It is highly likely, for example, that billions of doses of anti-COVID-19 vaccines will be administered in the near future. A safe injection is one that does not harm the recipient, does not expose the provider to any avoidable risk and does not result in waste that is dangerous for the community *(47)*. The anticipated upsurge in vaccinations will have major implications on vaccine waste management that will be felt most negatively in those facilities with the weakest infrastructures. A mass global distribution of COVID-19 vaccines presents an opportunity to monitor, strengthen and fund safe vaccination waste management and contribute to broader waste management improvement efforts.

FIGURE 22. COUNTRY PROGRESS IN IMPROVING INFECTION PREVENTION AND CONTROL TO COMBAT ANTIMICROBIAL RESISTANCE, 2019–2020

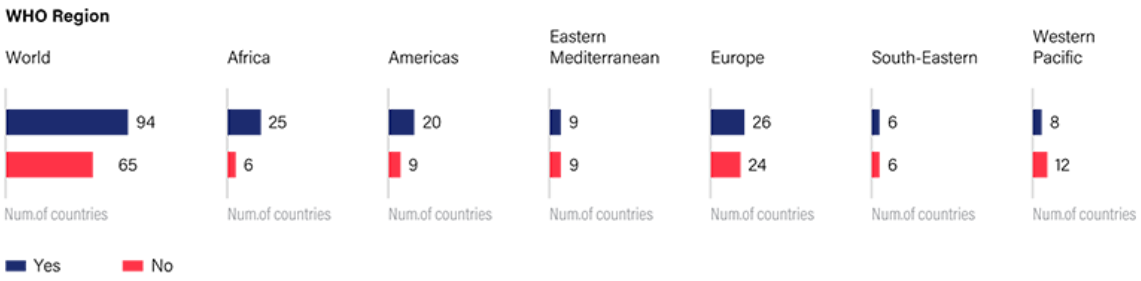


8.1 Infection Prevention and Control (IPC) in human health care

- A - No national IPC programme or operational plan is available.
- B - A national IPC programme or operational plan is available. National IPC and water, sanitation and hygiene (WASH) and environmental health standards exist but are not fully implemented.
- C - A national IPC programme and operational plan are available and national guidelines for health care IPC are available and disseminated. Selected health facilities are implementing the guidelines, with monitoring and feedback in place.
- D - National IPC programme available according to the WHO IPC core components guidelines13 and IPC plans and guidelines implemented nationwide. All health care facilities have a functional built environment (including water and sanitation), and necessary materials and equipment to perform IPC, per national standards.
- E - IPC programmes are in place and functioning at national and health facility levels according to the WHO IPC core components guidelines. Compliance and effectiveness are regularly evaluated and published. Plans and guidance are updated in response to monitoring.

Source: (48).

FIGURE 23. INCLUSION OF WASH IN NATIONAL ACTION PLANS FOR ANTIMICROBIAL RESISTANCE, 2019–2020



A second opportunity is through the *Immunization Agenda 2030 (49)*, which reinforces the clear need for effective partnerships with other health programmes, including with the WASH sector. Joint delivery of immunization and hygiene promotion could increase efficiency, reach, synergistic effects and the potential for influencing vaccine efficacy, provided that correct infection prevention and control measures are in place *(50)*. By doing so, immunization programmes will achieve their potential to contribute substantially towards PHC and achieve better health outcomes for all populations, particularly those currently underserved.

Better outbreak preparedness and prevention: National cholera prevention and control plans

WASH is at the heart of the implementation of the global roadmap to end cholera by 2030 *(51)* a preventable disease that, as of 2019, still affected 55 countries. Unlike past efforts that focused largely on responding to cholera outbreaks, countries are now in the process of developing national cholera plans that bring together WASH and health actors to jointly analyse data and develop solutions. One obvious focus is health care centres in 'hotspot' areas where cholera is known to reoccur. New WASH and IPC guidance for cholera treatment centres helps to prepare existing health care facilities to treat cholera patients by focusing on key interventions such as use of chlorine to disinfect drinking-water and functioning toilets to safely collect faecal waste *(52)*. To date, **Zambia** and **Zanzibar (United Republic of Tanzania)** have officially launched their national cholera control plans in line with the global roadmap, while other countries such as **Bangladesh, Kenya, Somalia, United Republic of Tanzania (mainland)** and **Zimbabwe** have, or soon will, complete their plans and start implementing multisectoral prevention and control measures, including those focused on WASH. Completing these national plans is more focused on efforts to better equip health care facilities in cholera hotspots (see Box 16).

Powering the delivery of health care services with better energy

An estimated 1 billion people globally are served by health facilities that lack electricity *(53)*. In particular, around 25% of health care facilities in eleven sub-Saharan African countries are estimated to have no access to electricity at all, while several others have access to unreliable electricity *(54)*. While most large hospitals have access to electricity, access rates drop dramatically for rural clinics. Electricity is essential for access to health services, required for the operation of critical medical devices, such as vaccine refrigeration, fetal heart monitors, neonatal infant warmers and basic surgical and diagnostic equipment, as well as for lighting, clean water supply, communication and several other services. Electricity also has a significant impact on key health service indicators, such as: prolonging night-time service provision; attracting and retaining skilled health workers to a facility; and providing faster emergency response, including for childbirth emergencies. Electrification of health care facilities and adequate policies and investments to promote both grid-connected and off-grid solutions are needed to reduce preventable deaths and improve quality of health services.

In May 2019, WHO, the UN Department of Economic and Social Affairs (DESA), UN Development Programme (UNDP) and the World Bank, in cooperation with the International Renewable Energy Agency (IRENA), launched the global Health and Energy Platform of Action (HEPA), a multi-stakeholder partnership aiming at strengthening political and technical cooperation between the health and energy sectors to improve electrification of health care facilities using renewable energy solutions. Key aims of HEPA include:

- Mobilizing significant political commitments, support and resources, and finding ways of encouraging new public and private commitments from the energy and health sectors, as well as from the climate change action and other arenas.
- Developing global or country implementation roadmaps for the priority areas of action.
- Promoting an interdisciplinary approach engaging a variety of stakeholders and building on and existing initiatives, while avoiding duplication of effort, fostering alignment and creating strong synergies.

BOX 16. IMPROVING CAPACITY OF HEALTH CARE FACILITIES IN CHOLERA HOTSPOTS TO TREAT AND KEEP DRINKING-WATER SAFE

Access to safe drinking-water is lacking in many parts of **Tanzania**, and chlorination is particularly important for killing bacteria, such as cholera and keeping water from becoming re-contaminated. The US Centers for Disease Control and Prevention (CDC) and PATH are working with the Government to supply health care facilities across several administrative districts in rural areas with automated chlorination devices that are affordable, easy to implement, and require minimal maintenance. Over the next year, they will assess the technology's effectiveness at improving water quality and acceptability to end-users in up to fifty facilities.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CHAPTER 5

Country and regional progress[i]

KEY MESSAGES

- All forty-seven countries included in the present report are working on one or more of the eight practical steps.
- For some countries, WASH in health care facilities is a relatively new area of work but the Resolution is proving to be a catalyst for action.
- Most progress has been seen in establishing baselines and developing standards, whereas integration of WASH indicators remains the biggest gap.
- Country efforts are focused on policy-level initiatives and still lack sufficient funding and investment to improve infrastructure and address large gaps in service.
- Progress is happening even in fragile and conflict settings.

Country responses to the global Call to action and World Health Assembly Resolution

The *Call to action on WASH in health care facilities* and 2019 Resolution stimulated many countries to act or to accelerate existing efforts. In this section, country progress on selected practical steps (and corresponding elements of the Resolution) is presented through country stories and highlights. Both a snapshot and a small number of in-depth country case studies provide insights into the catalytic actions that are fundamentally changing how WASH in health care facility services are understood, addressed and improved. Ongoing challenges that require further national, regional and global leadership are also highlighted. In addition, a country tracker provides an overview of which countries are taking action, in what areas and, importantly, where further efforts are needed.

Tracking progress

The country tracker (Table 1) provides the basis for the biennial update on progress against the Resolution, the first of which is due at the World Health Assembly in May 2021. All countries were invited to submit progress on five of the eight practical steps.[j]

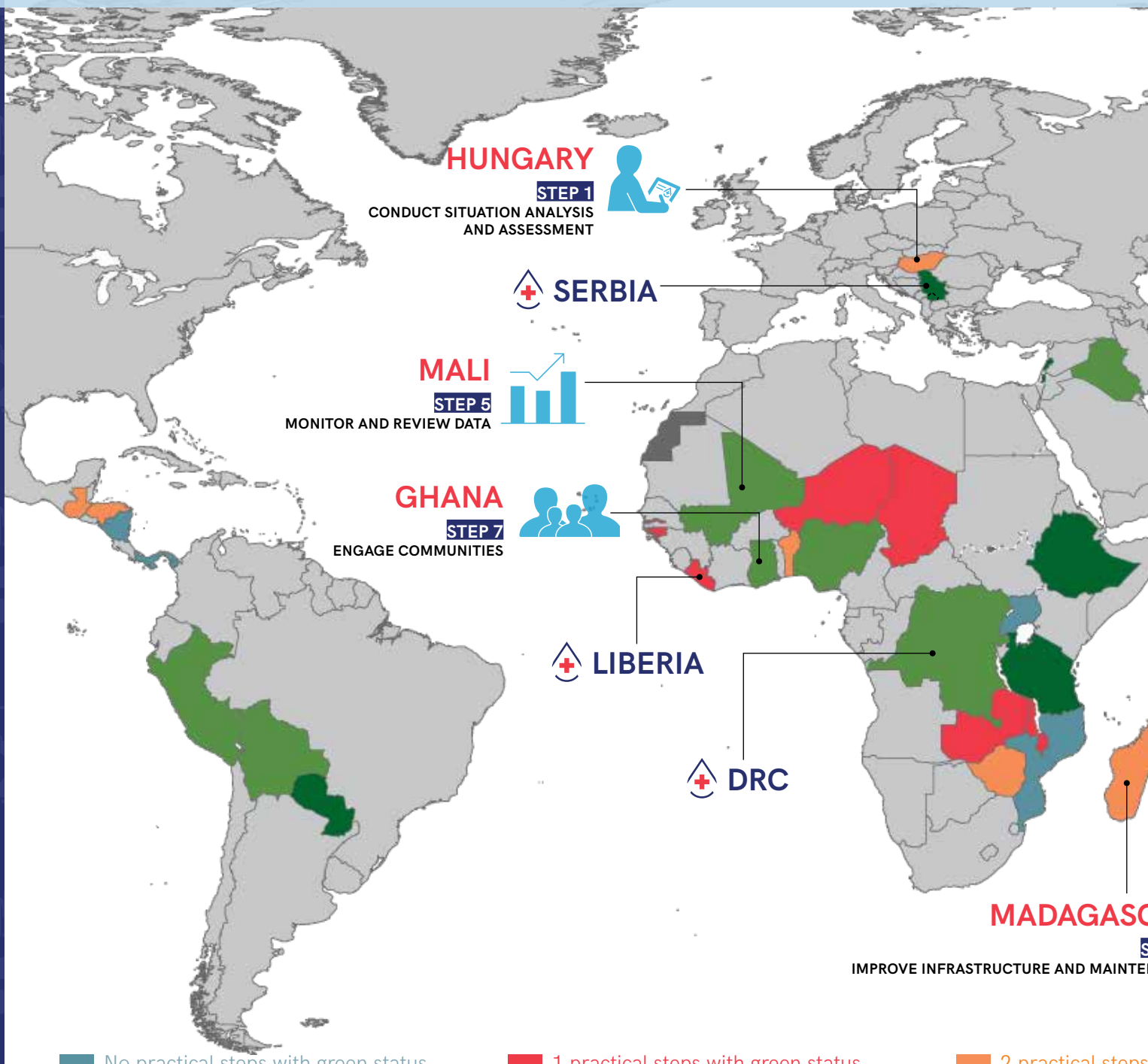
The tracker presents a snapshot of progress from forty-seven countries. The selection includes countries from every WHO and UNICEF region but some areas (e.g. Small Island States) are underrepresented. Future updates will seek to address these gaps.

Progress is rated using a four-point scale. Ratings are based on published documents (e.g. standards, national strategies), availability of JMP data, meetings and training reports, information from regional initiatives (e.g. WHO South-East Asia Regional Office Quality Dashboards) and through interviews and email exchanges with governments and partners. Data were validated by WHO and UNICEF country and regional focal points. For a more detailed explanation, refer to Annex 4.

[i] Special thanks are extended to WaterAid for their help compiling and contributing to case studies and country progress updates.

[j] Limited time and resources did not allow for rigorous follow-up with all countries and thus those included may be considered 'early adopters' or countries that are actively implementing the Resolution and documenting progress on the eight practical steps.

COUNTRY PROGRESS ON SELECTED PRACTICAL STEPS



EXPLORE MORE DETAILED CASE STUDIES

©World Vision/Jon Warren

DEMOCRATIC REPUBLIC OF THE CONGO

Step-by Step Certification Process of Healthy Healthcare Facility Program improves WASH services in 336 healthcare facilities

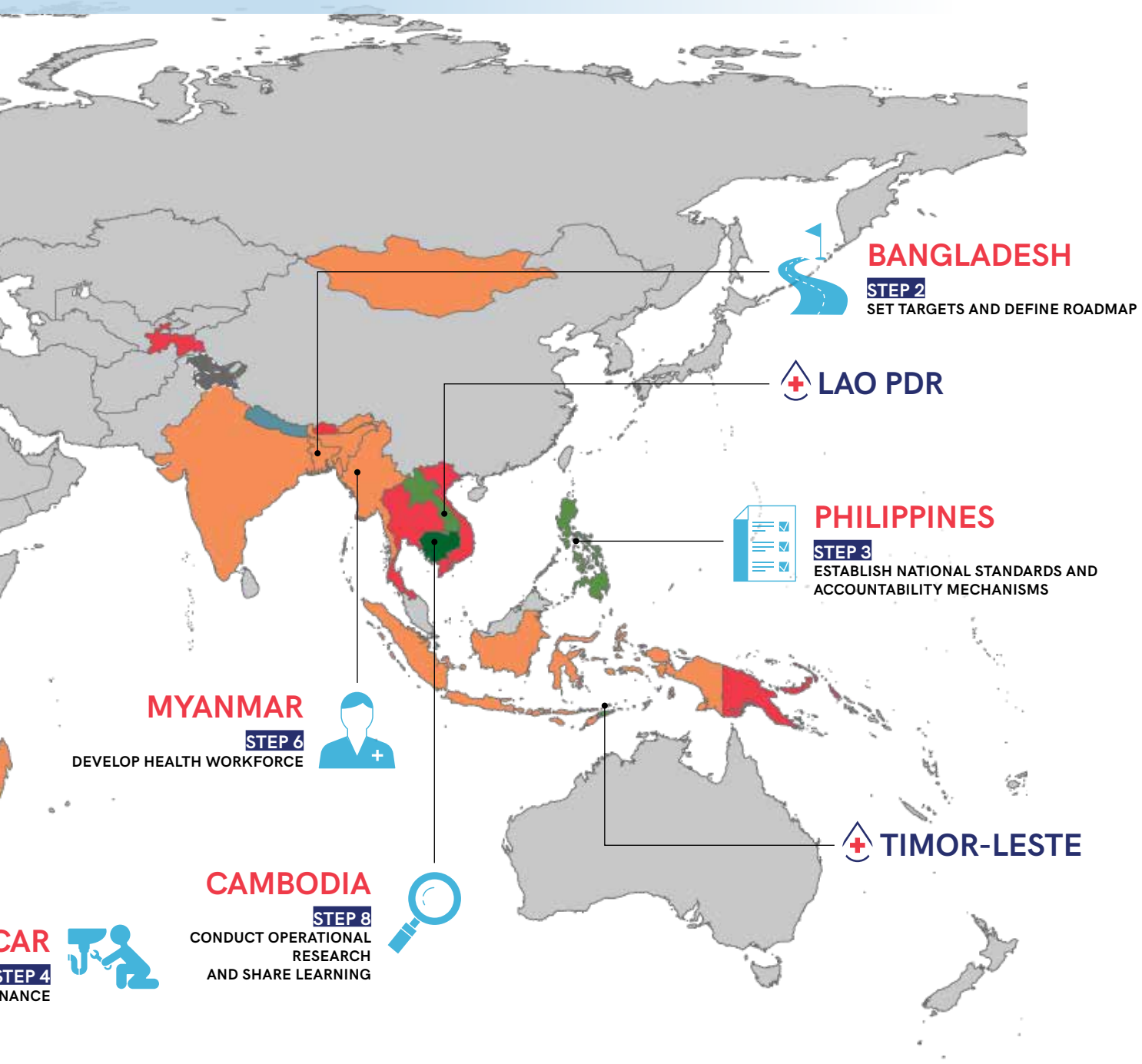
©WHO/Arabella Hayter

LIBERIA

Sustaining efforts after the Ebola outbreak through supportive supervision and mentoring with a strong focus on IPC and quality

©WHO/Arabella Hayter

NUMBER OF COUNTRIES **47**



LAO PDR

Combining WASH FIT with a comprehensive package of interventions for "Safe, Clean and Green" healthcare facilities

©WHO/Katarina Paunovic

SERBIA

Developing an "advanced" service level of indicators following a national situational analysis and assessment

©WHO/Shobhan Singh

TIMOR-LESTE

A twinning partnership with Macao SAR improves WASH and IPC in tertiary facilities

All of the countries in the tracker are making progress, even fragile and conflict affected countries (e.g. **Chad, Mali, Democratic Republic of Congo, occupied Palestinian territory**[k]). Seven (15%) countries have fully implemented four of the five steps, and eleven (23%) countries have fully implemented three steps. Only five countries (**Mozambique, Nepal, Nicaragua, Panama, Uganda**) have yet to fully implement at least one step. In some countries (e.g. **Niger**), WASH in health care facilities is still considered a new area for the Government but plans are underway for updating standards and conducting a national assessment.

There are three steps where countries are making most progress, measured by the number achieving green and orange status.[l] The number of countries **developing and implementing national standards** (86%), **conducting and establishing baselines** (85%), and establishing **national coordination mechanisms** and **developing roadmaps** (82%) is high. Establishing baselines is the only step that has been at least partially achieved by *all* countries. All but one country have begun or completed the process to establish and update standards.

Step 1 includes conducting multisectoral situational analyses and setting baselines. Twenty-one (46%) countries have completed the analysis of the policy and technical basis for improving WASH in health care facilities (e.g. **Cambodia, Ethiopia, Hungary, Serbia**) and an additional twelve (26%) have drafted and are working on updating, reviewing and validating such analyses.

Countries are considered to have achieved green status for baselines if they have basic estimates for any three or more of the five global indicators (17 countries, 36%). Some countries have conducted national assessments but have not used JMP global indicators (e.g. **Bolivia, Mali, Peru**), preventing their inclusion in regional and global comparisons and thus they achieve orange status (23 countries, 49%).[m]

Step 2 (**national coordination** and **development of roadmaps and targets)** has two criteria for achieving green status: formulating a national technical working group or coordination body to coordinate different ministries and implementing partners *and* developing a national costed roadmap or strategy with targets. Only sixteen countries (36%) have done both (e.g. **Ghana, Papua New Guinea**), while 20 (45%) have established national coordination bodies but have not developed roadmaps and thus achieve orange status (e.g. **Bangladesh, Guinea-Bissau**, **Zimbabwe).** According to the GLAAS 2018/2019 country survey, only 49 of 98 reporting countries (50%) indicated that they have national targets for drinking-water, sanitation and hygiene in health care facilities, of which approximately half are in Sub-Saharan Africa *(1)*. Some countries (e.g. **Burundi**, not included in the tracker) have targets for universal coverage for WASH in health care facilities by 2030. Other countries have interim targets that may be revised and replaced throughout the SDG period. For example, **Dominican Republic** (not included in the tracker) aims to reach 90% of health care facilities with basic on-site sanitation facilities designed for patients by 2020. Where targets have been set, these are often 100% within very short timeframes (2–3 years) and would require increased coverage of 30% to 40% per year in order to meet targets. Moreover, only eight of 69 responding countries (12%) reported having more than 75% of the funds needed to reach targets for WASH in health care facilities.

On Step 3, standards, 60% (28/44) of countries have recently published and are disseminating standards on WASH and/or waste and an additional ten (23%) are in the process of publishing and disseminating standards (e.g. **Bhutan, Nepal**)**.** For some countries, standards apply to a specific level of the health system only, for example PHC (**Nigeria**) or hospitals (**Rwanda**). Others have developed specific climate standards for health care facilities (e.g. **Lao PDR, Viet Nam**) or have stand-alone policies and legal frameworks for health care waste management (e.g. **United Republic of Tanzania, Zambia**). Some countries have linked national standards with accountability mechanisms, such as facility accreditation systems (e.g. **Lebanon, Rwanda, Philippines**), or are using WASH FIT to support their implementation (e.g. **Democratic Republic of Congo**, **Liberia, Madagascar**).

For Step 4, **Infrastructure improvements**, through WASH FIT or other similar frameworks, are being done in 60% (23/45) of countries. This includes countries where there are concerted national or sub-national infrastructure improvement efforts (e.g. **Liberia, Madagascar, Philippines**) and does not take into account smaller scale, ad hoc improvements being done at the local level. Many countries are supported by development partners to provide improvements and upgrades to services and these are not measured here. WASH FIT is also not the only method for making improvements but provides a tangible way to measure progress. In many countries where WASH FIT is being piloted, training and facility assessments are not followed by the necessary infrastructure improvements and budget actions to ensure recurrent costs for WASH are

[k] Occupied Palestinian territory includes east Jerusalem.

[l] In calculating proportions of countries, denominators varied in accordance with the number of countries providing responses.

[m] Countries who have a baseline but did not use global indicators are still considered as having a baseline (green) as these data are being used by governments for national priority setting (e.g. Peru, Mexico).

covered (e.g. **Zimbabwe**). **Workforce development** is not tracked as a stand-alone step, however many of those countries implementing WASH FIT have also conducted facility-level training on WASH and IPC (e.g. **Mali, Myanmar**) or as part of other health efforts, such as Ebola preparedness (e.g. **Liberia, Uganda)**.

The least progress has been seen on **integrating WASH into national monitoring systems** (Step 5) with only 44% of countries achieving green or orange status: only five countries (12%) have successfully integrated WASH indicators *and* are systematically collecting and analysing national data (e.g. **Benin, Serbia**) and the remaining 14 countries (33%) are in the process of reviewing and adapting monitoring systems but have not yet operationalized these data collection systems (e.g. **Ghana, Guinea-Bissau, Mali**). In some countries (e.g. **Liberia, Ethiopia**), data are collected through WASH FIT or equivalent facility-level programmes and used for resource prioritization.

Workforce development (Step 6), community engagement (Step 7) and operational research and learning (Step 8) are not yet being tracked and no quantitative analysis is presented here. Examples of these steps are found in case studies from **Bangladesh, Guinea-Bissau, Malaysia** and **United Republic of Tanzania** (Step 6), **Democratic Republic of Congo, Ghana** and **Liberia** (Step 7) and **Cambodia** (Step 8).

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TABLE 1: COUNTRY PROGRESS AT A GLANCE, OCTOBER 2020

	1		2	3 NATIONAL STANDARDS		4	5
	SITUATIONAL ANALYSIS	BASELINE ASSESSMENT OR DATA	NATIONAL COORDINATION & ROADMAPS	WASH IN HEALTH CARE FACILITIES	HEALTH CARE WASTE MANAGEMENT	INFRASTRUCTURE IMPROVEMENTS	WASH INDICATORS IN NATIONAL MONITORING
Bangladesh	🟠	🟢	🟢	🟡	🟡	🟡	🟠
Benin	🔴	🟢	🟠	🟠	🟠	🔴	🟢
Bhutan	🟠	🟢	🟡	🟠	🟠	🟡	🟠
Bolivia	🟢	🟡	🟢	🟡	🟢	🔴	🔴
Cambodia	🟢	🟡	🟢	🟢	🟢	🟢	🟠
Chad	🟢	🟠	🟡	🟡	🟡	🟠	🔴
Democratic Republic of Congo	🟠	🟡	🟢	🟢	🟡	🟢	🟡
Ethiopia	🟢	🟢	🟡	🟢	🟢	🟢	🟡
The Gambia	🔴	🟠	🔴	🟢	🟢	🔴	🔴
Ghana	🟢	🟡	🟡	🟢	🟢	🟢	🟡
Guinea-Bissau	🔴	🟢	🟠	🟠	🟠	🟠	🟠
Guatemala	🟢	🟡	🟡	🟡	🟢	🔴	🔴
Honduras	🟢	🟡	🟡	🟡	🟢	🔴	🔴
Hungary	🟢	🟠	🟡	🟢	🟢	🟡	🟡
India	🟡	🟠	🟡	🟢	🟢	🟢	🟡
Indonesia	🟢	🟡	🟡	🟢	🟢	🟡	🟡
Iraq	🟡	🟡	🟢	🟢	🟡	🟢	🟡
Lao People's Democratic Republic	🟡	🟡	🟢	🟢	🟢	🟢	🟡
Lebanon	🟢	🟢	🟢	🟢	🟢	🔴	🟢
Liberia	🟡	🟡	🟡	🟢	🟢	🟡	🟠
Madagascar	🟡	🟡	🟡	🟢	🟢	🟢	🟡
Malawi	🟠	🟢	🟠	🟡	🟠	🟡	🔴
Maldives	🟡	🟢	🔴	🟡	🟡	🟡	⚫
Mali	🟡	🟡	🟢	🟢	🟢	🟢	🟡
Mongolia	🟢	🟡	🟡	🟢	🟢	🟠	🟠
Mozambique	🟠	🟡	🟠	🟠	🟠	🟠	🔴
Myanmar	🟢	🟠	🟢	🟡	🟡	🟡	🟡
Nepal	🟠	🟡	🟡	🟡	🟡	🟡	🟡

	1		2	3 NATIONAL STANDARDS		4	5
	SITUATIONAL ANALYSIS	BASELINE ASSESSMENT OR DATA	NATIONAL COORDINATION & ROADMAPS	WASH IN HEALTH CARE FACILITIES	HEALTH CARE WASTE MANAGEMENT	INFRASTRUCTURE IMPROVEMENTS	WASH INDICATORS IN NATIONAL MONITORING
Nicaragua	🔴	🟡	⚫	⚫	⚫	🟠	⚫
Niger	🟠	🟢	🟠	🟠	🟠	🟠	🟠
Nigeria	🟠	🟢	🟡	🟢	⚫	⚫	🟢
occupied Palestinian territory*	🟢	🟢	🟢	🟠	🟢	🟡	🔴
Panama	🔴	🟡	🔴	🟡	🟡	🔴	🔴
Papua New Guinea	🟡	🟡	🟢	🔴	🔴	🔴	🔴
Paraguay	🟢	🟢	⚫	🟡	🟢	🟢	🔴
Peru	🟢	🟢	🟡	🟡	🟢	🔴	🔴
Philippines	🟢	🟠	🟡	🟢	🟢	🟢	🟠
Rwanda	🟢	🟢	🟢	🟡	🟡	🟡	🟡
Serbia	🟢	🟢	🟡	🟢	🟢	🔴	🟢
Tajikistan	🟢	🟡	🟡	🟡	🟡	🟡	🟠
United Republic of Tanzania	🟢	🟡	🟢	🟢	🟢	🟡	🟢
Thailand	🟡	🟢	⚫	⚫	⚫	⚫	⚫
Timor Leste	🟢	🟡	🟢	🟢	🟢	🟡	🔴
Uganda	🟡	🟡	🟡	🟠	🟠	🟠	🟡
Viet Nam	🟡	🟠	🟠	🟠	🟢	🟡	🟡
Zambia	🟡	🟡	🟢	🟡	🟢	🟠	🔴
Zimbabwe	⚫	🟢	🟢	⚫	⚫	🟡	⚫

🟢 Practical step completed or achieved on a national level and/or large-scale implementation ongoing

🟡 Practical step underway or partially completed

⚫ No data

🟠 A need has been identified to and/or plans are in place to start

🔴 No progress made and/or no plans in place to start

Conduct situation analysis and assessment

Set targets and define roadmap

Establish national standards and accountability mechanisms

Improve and maintain infrastructure

Monitor and review data

*Occupied Palestinian territory includes east Jerusalem.

Country case studies: Implementing the eight practical steps

The case studies presented in this document show only a snapshot of progress. Many of the countries highlighted are working on multiple practical steps, and particularly in larger countries may be working in other regions than those described here.[n]

The case studies have been selected according to three main criteria:

- Government-led efforts with evidence of successfully implementing one or more practical steps.
- Significant progress made since the Resolution and previous updates published in the 2019 practical steps document *(2)* and elsewhere.
- Clear integration of WASH and health with honest reflection about gaps and challenges.

These eight case studies provide an example of implementation of each of the eight practical steps. Additional case studies, including some featuring more detailed information, are presented in Annex 5.

1. HUNGARY

A national situational analysis highlights gaps in regulation of services and provides the basis for future monitoring

In 2019, the Hungarian Government conducted a situational assessment comprising: 1) an analysis of the regulatory environment and review of national standards and guidance; 2) a systematic review of published scientific and grey literature; and 3) a self-reporting survey of WASH and environmental conditions (adapted from JMP indicators to high-income settings). Responses were received from 206 health care facilities. The results indicated that while regulation covers most aspects of WASH (i.e. infrastructure, legal requirements and operational guidelines), some elements are overlooked, including menstrual hygiene, environmental aspects of IPC, wastewater management and monitoring. The findings are helping to define advanced service levels in Hungary. The survey revealed existing inequities in access to WASH services including for people with limited mobility and lack of menstrual hygiene management (MHM) facilities. The persistence of opportunistic pathogens in water, such as *Legionella*, remains a challenge, as does the growing environmental impact of waste and wastewater from health care facilities.

2. BANGLADESH

Bridging the gap between emergency and development efforts through leadership and collaboration

The establishment of an authoritative and empowered National Technical Committee (led by the Directorate of Health with four ministries and multiple partners, including WHO, UNICEF and WaterAid) which meets quarterly and is mandated to provide governance oversight sparked the development and subsequent implementation of a *National strategy for WASH in HCF (2019–2023) (55)*. The strategy provides an important bridge between development and emergency efforts, leading to more targeted, coordinated action and funding. It articulates a pathway that will enable all health care facilities in Bangladesh to deliver standardized IPC services and bring about a new era of quality health care. Over 100 community clinics in climate-related disaster-prone areas of southwest Bangladesh have been renovated with support from partners according to a newly developed set of WASH guidelines for community clinics. Finally, the collaboration of emergency and development sectors has been instrumental in the national roll-out of WASH FIT. First piloted in Cox's Bazar, it has led to assessment and improvements in 184 health care facilities with a further 104 health care workers trained in and around the Rohingya refugee camps.

3. PHILIPPINES

Development of 'Green and Safe' standards to help health care facilities adapt and respond to climate change

In 2020, the Philippines finalized its *Green and Safe Health Care Facilities Manual* in response to a global call to minimize the climate footprint of the health sector while continuing to improve quality health services *(56)*. The manual sets minimum standards for all hospitals and other

[n] In order to make this document more readable, some information has necessarily been omitted. Supplementary documents (e.g. national standards, training reports) and information on country progress can be downloaded from www.washinhcf.org/resources.

health care facilities and covers WASH as well as energy efficiency, siting and material sustainability, hospital safety and indoor environmental quality. It complements the Philippine Green Building Code and other Department of Health (DoH) initiatives such as Safe Hospitals in Emergencies and Disasters, the *Health Care Waste Management Manual*, the *Manual of Standards for Primary Care Facilities* and WASH FIT. It also supports the implementation of the *Universal Health Care Act* and *Climate Change Act*. The DoH is working to promote awareness and compliance to minimum requirements through web-based orientation and training for hospital chiefs and key facility staff (namely pollution control officers and administrative officers) and local government. To ensure the standards are implemented, a self-assessment checklist will have to be completed by all facilities to determine their level of compliance and to serve as a basis for improvement. Also see a more comprehensive case study in Annex 5.

4. MADAGASCAR

Using creative solutions for installation of waste management infrastructure during COVID-19

Over the past four years, Madagascar, with support from a number of partners, has been focusing attention on improving health care waste management, with regular assessments and improvements through WASH FIT. In 2018, Madagascar published a national policy on waste management, and all referral hospitals are expected to use this guidance. Supportive supervision, awareness-raising activities and a new waste management reporting system have been used to ensure adherence to guidelines. Of primary concern, however, is the availability of functional waste management infrastructure, particularly in district hospitals and PHC centres. In one hospital in a COVID-19 'hotspot' in eastern Madagascar, an autoclave had to be installed remotely when travel to the facility by engineers was not possible. With a good internet connection, some creativity to ensure social distancing by the local team during construction and remote-expertise from the technicians, the autoclave was successfully installed, making the hospital the first in the region to benefit from the technology. Regular WASH FIT assessments help to identify any problems that arise with the infrastructure to ensure regular and ongoing operation and maintenance.

5. MALI

Data collection mechanisms drive progress

In 2015, Mali started using the District Health Information Software (DHIS-2) monitoring platform to ensure data were captured from all health programmes in a more integrated way. Recent annual reporting and reviews have identified gaps in hygiene indicators leading to a review of the platform by the Ministry of Health (MoH) and partners and integration of WHO/UNICEF global WASH in health care facility indicators. Additionally, assessments are ongoing in the southern part of the country (data available at the end of 2020) as part of the COVID-19 response. In addition, COVID-19-relevant indicators have been integrated into WASH FIT, which in turn provides useful data for district and facility level planning. With a worsening security situation across the country, having routine data collection mechanisms are important for more rapidly identifying failures in WASH services and targeting resources. Having access to and regular national review of more comprehensive WASH data is important for the Government of Mali in prioritizing and directing domestic resources to WASH in health care facilities.

6. MYANMAR

Contextualized and targeted training leads to improved cleaning and IPC practices

To improve the quality and safety of maternal and newborn care, the Training in Environmental Hygiene and Cleaning in Healthcare (TEACH-CLEAN) *(57)* approach has been introduced in selected township-level hospitals. The training and capacity development programme was developed by the Ministry of Health and Sports, the London School of Hygiene and Tropical Medicine (LSHTM) and WaterAid, to improve environmental cleaning services in health facilities by focusing on the frontline workforce, specifically cleaners and those with cleaning responsibilities. The training, which covers gender-responsive, socially inclusive patient care systems and WASH infrastructure for patients and their attendants, will be made available nationwide. The national and regional government have also contextualized WASH FIT for application in one of the fastest growing peri-urban townships in Myanmar.

7. GHANA

An innovative community scorecard and local media allows the community to demand better services

The community serves a unique and influential role in Ghana's efforts to improve quality health services. Developed in 2018, the community scorecard engages and empowers community members to give regular feedback and propose solutions for addressing a number of quality areas, including WASH. The semi-quantitative community feedback is linked to the electronic DHIS-2 system and can be immediately reviewed at the facility, district and national level. Community members also propose ideas for improvements. Simple but important contributions that community members have made include building a fence around the health care waste area to protect children and keep out animals, planting flowers and beautifying the outdoor space of health care facilities and working with other community members to help them understand their rights for, and demand access to, better WASH and IPC services and practices. Ghana Health Services is now planning for a national rollout of the community scorecard and engagement. Also see a more comprehensive case study in Annex 5.

8. CAMBODIA

Research to address hygiene behaviours around birth as part of quality improvement

With recent improvements in WASH services, attention in Cambodia has been drawn to addressing hygiene behaviours to improve quality, with a focus on labour, delivery and the early postnatal period. With leadership and technical input from the MoH, LSHTM and WaterAid with support from the Australian Government Water for Women Fund are conducting research to understand determinants of hand hygiene behaviour during these critical times. This research project - Changing Hygiene Around Maternal Priorities or CHAMP *(58)* - involves a period of in-depth formative research, structured observation and participatory intervention development. The resulting multimodal intervention targets context-specific determinants of hand hygiene during childbirth and postnatal care. The intervention includes environmental nudges (dedicated "clean areas" in facilities, posters with hygiene messages), motivational drivers and supportive supervision. Results from the intervention pilot are expected in early 2021. Also see a more comprehensive case study in Annex 5.

South East Asia

Advancing WASH and IPC through "Fit for Service" Dashboards and targeted advocacy

The WHO Regional Office for South-East Asia (SEARO) is working on two regional initiatives: A situational analysis of WASH and IPC in health care facilities covering all eleven countries in the region and development of a regionally-specific advocacy toolkit. The first aims to understand the enabling environment for WASH services and involves assessing country progress on the eight practical steps (the results of which are seen in the country tracker); coverage data aligning with JMP core indicators; and use of the WHO 'Fit for service' dashboards for frontline health services, which cover wider issues related to safe and clean facilities and delivery of effective services *(59)*. The analysis will also cover specific questions on elements of WASH and IPC that are most relevant for COVID-19 testing and care in health facilities. Where data are available, initial results show that countries have made progress in national coordination, leadership and advocacy and in fostering multisectoral partnerships and community engagement. WASH FIT is the main tool in the region for incrementally improving WASH.

The advocacy toolkit is aimed at three different audiences: national users who want to influence policy; facility managers and staff to address problems; and the community. It will provide simple and easy-to-use, regionally-specific, resources to assess the situation, signpost to relevant technical guidance, prioritize actions and monitor advocacy plans. Both products will be published in 2021. The country stories from this region highlight the importance of national leadership and coordination (**Bangladesh** and **Indonesia**), workforce development and training (**Myanmar** and **Timor-Leste**) and infrastructure improvements to respond to COVID-19 (**Bhutan**).

Western Pacific

Making WASH in health care facilities a political priority

In 2020, WASH in health care facilities was named as one of the top ten public health priorities in the Western Pacific Region. This elevates the status of this work in line with other major health challenges such as universal health care, non-communicable diseases and climate change. A series of national situational analyses are being conducted to identify key gaps and essential investments in policies, systems strengthening and sustainable WASH facilities.

The country stories from this region highlight the value of leveraging hand hygiene training (**Malaysia**), how countries are responding to climate change (**Lao PDR** and **Philippines**), using data for decision making (**Papua New Guinea**) and driving quality through WASH improvements (**Cambodia**).

Africa

A focused sub-regional analysis to identify needs and direct resources

In 2019, the UNICEF Eastern and Southern Africa Regional Office conducted a regional scoping study and focused analysis on the enabling environment for WASH services in health care facilities across its 21 programming countries *(60)* to enhance programming in the region. The assessment was based on five systems strengthening building blocks: a) sector policy and strategy; b) institutional arrangements; c) sector financing; d) planning, monitoring and review; and e) capacity development. It produced an overall score of 60% for the region, highlighting the need for concerted efforts to accelerate progress. Of the five building blocks, capacity development scored highest (69%), followed by sector financing (64%) and sector policy and strategy (64%). Institutional arrangements, largely comprising mechanisms for operations and maintenance, scored weakest. The lack of mechanisms for operations and maintenance, which is a problem in many regions of the world, is discussed further in Chapter 6.

Across the region, 21 countries are implementing WASH in health care facility programmes with at least one core component of IPC, and 11 of the countries – **Burundi, Ethiopia, Kenya, Madagascar, Malawi, Rwanda, South Sudan, Tanzania, Uganda, Zambia and Zimbabwe** – have more comprehensive IPC programmes in line with six of WHO's eight IPC Core Components *(38)*. To support national WASH and IPC collaboration and implementation of standards, and to further knowledge exchange, a Regional IPC Support Group was established with support from six organisations (WHO, UNICEF, the Africa Centres for Disease Control and Prevention (Africa CDC), US CDC, the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) and the International Organization for Migration (IOM). This group collaborates closely with the WHO AFRO IPC team on elaboration of tools and information/data collection from countries.

The examples from across the African continent highlight the strength of WASH and IPC collaboration at the national and district level (**The Gambia, Mozambique, Uganda, Zimbabwe**), the value of data and supportive supervision for driving change (**Democratic Republic of Congo, Ethiopia, Guinea-Bissau, Liberia, Mali**), the importance of infrastructure (**Madagascar, Malawi**), the need for budgeting and financing to maintain and expand services (**Nigeria, United Republic of Tanzania**) and national leadership (**Zambia**).

Europe

A regional protocol and legally binding mechanism drives action

In the WHO European Region, 53 countries have committed to action on environment and health priorities under the Ostrava Declaration on Environment and Health *(51)*. In particular, the compendium of possible actions to the Declaration stipulates ensuring and sustaining the provision of adequate WASH services in schools and health care facilities through systematic situation assessments, and by setting national targets and action plans towards progressive improvement. The *Protocol on Water and Health to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes* also prioritizes action on WASH in health care facilities, as expressed by the programmes of work for the periods 2017–2019 and 2020–2022 *(62)*. The work under the Protocol raises the profile of, and attention to, WASH in health care facilities at regional and national levels and is helping to strengthen implementation of the Resolution. In-depth situational analyses and/or national assessments have been conducted in **Hungary**, **Serbia** and **Tajikistan** to assess the enabling policy environment for WASH in health care facilities and service provision. These assessments have provided a solid evidence base for developing national targets, defining advanced service levels and triggered context-appropriate policy interventions, essential for sustainable improvements. **Hungary** shared experience of ongoing national activities at the side event organized during the 73rd World Health Assembly virtual session dedicated to the 1st anniversary of the Resolution. In the **Republic of Moldova**, a pilot situational assessment was undertaken in December 2019 and **Georgia** initiated a national assessment of WASH in health care facilities. The WHO Regional Office for Europe is currently undertaking a review of evidence on WASH in health care facilities and developing a practical tool to support surveillance of WASH in health care facilities. The case studies from this region (**Hungary**, **Serbia** and **Tajikistan**) describe the benefits of undertaking national situational analyses (particularly in higher income settings) and the change these can bring about.

Latin America and the Caribbean

Political advocacy as a level for change

"Water, sanitation and hygiene is a fundamental human right. There is no place where such services are more important, than in health care facilities, especially during the COVID-19 pandemic which is ravaging our communities. I call on all countries and national authorities to act now and invest in universal WASH in health care facilities."

Madam Fabiola Yáñez, First Lady of Argentina

The Latin America and the Caribbean Region has recently demonstrated the power of strong political advocacy combined with technical support in implementing the practical steps. The COVID-19 pandemic, which has resulted in more cases in the Americas than any other region, has been a particular driver in improving WASH services *(63)*. A regional leaders summit hosted by the Pan American Health Organization (PAHO) in October 2020 *(64)*, brought together 19 countries to discuss the latest regional figures on WASH services and progress in implementing the practical steps in eight countries (**Bolivia, Honduras, Guatemala, Mexico, Nicaragua, Panama, Paraguay, Peru**). Discussions focused on aligning regional WASH indicators with global ones and integrating those into national health systems monitoring to ensure harmonized data collection and comparability. UNICEF is supporting countries to establish a regional WASH observatory to assess national monitoring systems. **Brazil, Colombia, Panama** and **Nicaragua** are the first set of countries to focus on WASH in health care facilities in 2020-21.

Water quality and hand hygiene have been noted as particularly important to the Region, especially for COVID-19 preparedness and response. Countries such as **Mexico** are working to implement robust hand hygiene programmes and water chlorination across all facilities. UNICEF and others are supporting training for national counterparts and community health workers on WASH and IPC: 36 000 staff across **Belize, Brazil, Haiti, Nicaragua, Paraguay** and **Venezuela** have been trained. The WASH and climate team at PAHO has contributed to regional IPC and COVID-19 training reaching 153 000 individuals. In total, 20 000 people have received WASH, waste and COVID-19 support through 33 thematic webinars, panels, and social media live sessions.

Country efforts to implement the practical steps and build more climate-resilient health care facilities (a major priority for the region) is facilitated through strong political advocacy, partner support and investments *(65)*. The First Ladies of **Argentina**, **Columbia** and **Paraguay**, have called on national leaders in all Latin American countries to adopt WASH in health care facilities as a priority issue. Furthermore, the Inter-American Development Bank (IADB), the UK Foreign, Commonwealth and Development Office, (FCDO), the Spanish Agency for International Development Cooperation (AECID), the Swiss Agency for Development and Cooperation (SDC), Sanitation and Water for All (SWA) and 31 nongovernmental organizations have all called for greater investments and are supporting implementation of the practical steps in the region.

The 2020-2030 PAHO *Plan of Action on Health, Environment and Climate Change* specifies concrete actions for reducing the carbon footprint of health systems and increasing green procurement for achieving environmentally sustainable and climate-resilient health systems. The use and adaptation of WASH FIT, with a particular focus on climate resilience, is starting with **Nicaragua** in early 2021.

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CHAPTER 6

An investment opportunity[o]

KEY MESSAGES

This chapter describes what we know about the barriers to WASH investments and opportunities to increase WASH investments and budgets, including:

- The lack of funding for WASH in health care facilities undermines sustainable services; more support is needed at the country level to assist in understanding costs, budgeting opportunities and viable financing mechanisms.
- The value of WASH services are manifold: preventing health care associated infections; saving health systems costs; improving quality care; protecting health workers, users and communities; increasing health system resilience.
- Governments and partners will need to jointly make the large capital investments needed to ensure coverage; they should also work from the outset to ensure recurrent operation and maintenance costs are provided for in domestic financing mechanisms, which may include sectoral budgets, COVID-19 and other emergency response funds, and health insurance and results-based financing schemes.

BOX 17. PRICE TAG FOR WASH IN HEALTH CARE FACILITIES IN LEAST-DEVELOPED COUNTRIES[p]

With the aim of increasing global investments and to support countries in budgeting for WASH services and pursuing sustainable investment strategies for WASH in health care facilities, UNICEF with support from WHO, World Bank, Water 2020 and WaterAid are developing a costing and investment package. The first piece of this work will provide a price tag for meeting basic service standards in the 47 least developed countries (LDCs). Detailed estimates will be released in 2021. Preliminary findings include:

- Costs vary significantly by country based on differences in current needs of WASH services and related infrastructure, technology preferences and input prices.
- Achieving universal basic WASH services in LDCs will cost a total of US$ 3.6 billion between 2020 and 2030. An estimated US$ 1.2 billion is needed in total capital investments and US$ 2.4 billion is required for total operations and maintenance.
- This is equivalent to approximately US$ 1 per capita (average US$ 0.10 per capita per year) for capital investments and US$ 2 per capita (average of US$ 0.20 per capita per year) for operations and maintenance.
- By comparison, in 2018, LDC governments collectively spent US$ 10 per capita on health.
- Annual operation and maintenance funding needs are equivalent to approximately 2% of recurrent health spending by LDC governments.

The price tag will inform ongoing efforts to raise awareness and funds globally, while more tailored analysis and dialogue is required to plan and budget for investments in countries.

[o] Special thanks are extended to the World Bank for leading the writing of this chapter.

[p] The costing analysis for LDCs is being led by UNICEF and WHO and is still under finalization. These figures are early, draft estimates. The full analysis, methods and findings will be described in a separate publication in 2021.

One example of a country that offers proof of concept for incorporating WASH into government budgets is Ghana (see Box 18).

BOX 18. PROOF OF CONCEPT DISTRICT COSTING EFFORTS IN GHANA

In Bongo and Kassena Nankana West districts, the district assemblies sought to develop a strategy to achieve universal WASH access and to understand the costing data to maintain this. At the same time, the Ghana Health Service was updating its plan to achieve universal health access and also needed WASH costing data. District officials worked with WaterAid to develop integrated WASH and health budgets.

The first piece of work involved calculating full life cycle costs for WASH in health care facilities.

Based on these data, a life cycle costing analysis was conducted to estimate WASH and waste management costs required to provide, operate and maintain these services up to 2030 (including capital maintenance expenditure). The analysis also included identifying the different financing sources (both domestic and external) that are mandated and/or that will be needed to help meet these costs. The following insights emerged from the effort:

- **Rigorous process to select and gather data**: Importance of process of deciding what data the District Health Directorate needed to collect and use.
- **Comprehensive analysis of funding**: To move plan into implementation stage, it is important to identify possible funding sources to fill gaps.
- **Accountability and learning**: Public commitments made by the district to achieve universal access to WASH by 2030 have increased momentum and accountability.

An integrated WASH and health budget and monitoring plan was ultimately developed for each district. Next steps include validating and disseminating this plan at regional level, engaging with development partners to support the plan in addition to district internal funding and sharing the process and lessons learned at the national level.

What do we know?

Governments should lead the mobilization and coordination of investments to improve and sustain WASH in health care facilities. In many countries, the needed funding will come primarily from public revenue allocated to the health, water, and other relevant sectors at the national and sub-national levels. Governments can also incentivize and regulate WASH in privately operated facilities, whose share of service delivery is substantial or growing in many countries. To support and complement government efforts, development banks and donors, philanthropic agencies, nongovernmental organizations and the private sector will need to play a range of critical and catalytic roles.

A lack of government financing

Too few countries devote sufficient resources to meeting these needs. The GLAAS 2019 report *(1)* found that only 11% of countries indicated that they had sufficient resources[q] to reach national targets for WASH in health care facilities. Furthermore, only 25% of national budgets have line items for WASH in health care facilities, making it difficult to determine how resources are allocated. Meeting universal access targets will require combining large-scale capital investments in WASH infrastructure where it is currently lacking with complementary investments focused on rehabilitation and sustained operations and maintenance of existing services. Consequently, both the capital and recurrent portions of government budgets will need to include WASH services. How best to increase public financing will vary by country and may include measures to increase the overall budget envelopes for the water and health sectors, ensure full and effective use of existing resources and grant facilities greater flexibility to respond to their own WASH needs.

[q] In the GLAAS 2018/2019 country survey sufficient resources were defined as having more than 75% of what is needed *(1)*.

BOX 19. FURTHERING WASH AND HEALTH COORDINATION AND FINANCING IN EMERGENCIES AND FRAGILE STATES

The global WASH cluster (led by UNICEF) and the global health cluster (led by WHO) are tasked with responding to emergencies in over 30 countries. Efforts to improve coordination between the two clusters, especially at the national level, are underway. The new 2020–2025 Global WASH cluster roadmap *(66)* includes a strategic element on health engagement and both clusters are working towards improving WASH in health care facilities where such services are needed most. In addition, the Sanitation and Water for All Initiative framework for fragile states provides an opportunity to target and direct financial resources to WASH in health care facilities and invest in long-term sustainable WASH infrastructure, monitoring and programming.

How much does it cost?

Systematic planning and budgeting for WASH in health care facilities will require more detailed information about both costs and needs. Several factors currently limit the availability of cost data. For example, some governments' and partners' budget and accounting procedures do not differentiate between WASH-related and other recurrent costs. Similarly, project funding seldom disaggregates allocations for WASH between health care facilities and other settings for 'institutional WASH'. In addition, cost data are often fragmented across multiple institutions responsible for different parts of the WASH services life cycle, such as water sector institutions covering capital investments and health sector institutions bearing operational costs.

Clearly defined WASH packages should also inform budgeting in each country. Needs will differ by geographic location, level of the health care facility, technology type, and other characteristics. Basic service criteria regarding sex-segregated sanitation facilities, accessibility for those with limited mobility, menstrual hygiene facilities, and location of water supply and handwashing facilities all need to be considered in the design of the WASH package. Ideally, packages will be designed such that investments make WASH services more climate resilient and less environmentally damaging. Where it is not included in the project design, projects should adhere to national level standards or include development of technical design standards and methods for treatment of surface water, construction and design standards for toilets and latrines, and WASH guidelines for health care facilities developed by national agencies such as the MoH. For example, **the United Republic of Tanzania** has developed national guidelines for WASH services in health care facilities to ensure a uniform and harmonized approach to delivery of these services across the country.

Investment plans for WASH in health care facilities should also consider emergencies, such as the COVID-19 pandemic, when the appropriate WASH package is one that can be deployed rapidly. Emergency WASH activities in health care facilities are expected to be small scale and to utilize existing service providers, such as for bulk water supply from commercial vendors.

The path forward

Multiple organizations are supporting inclusion of WASH in government and health care sector budgets to advance the goal of institutionalizing WASH in health care facilities. To facilitate achieving this objective, several actions are important.

BOX 20. UNDERSTANDING GAPS IN WASH WITHIN ESWATINI'S COVID-19 RESPONSE

A rapid WASH assessment of all hospitals and health care facilities in **eSwatini** revealed that while nearly a quarter of the 73 clinics and health centres nationwide lacked a water supply, operations and maintenance issues were more commonly observed. Only three health care facilities reported having either soap or alcohol-based hand rub available and all facilities were plagued by maintenance issues, such as broken taps, missing handles, leaking pipes and sewage overflow. The identified improvements will prioritize rapid improvements with appropriate investments for maintenance over time. These efforts are currently financed by the World Bank-funded COVID-19 Emergency Response Project.

Defining the value proposition for WASH in health care facilities

Articulating the evidence on the cost and benefits of WASH services in health care facilities – and the consequences of inaction – is critical to securing both global and national resources. A focused effort is underway to identify and report the range of benefits generated in a health care system with sustainable WASH infrastructure. This evidence can inform further analysis and advocacy, both within and across countries, to encourage increased investment. Categories of benefits include:

Disease prevention: WASH is necessary in order to carry out basic IPC measures which in turn reduces health care-associated infections, prevents spread of AMR and effectively prevents and treats a wide range of illnesses and disease – helping to ensure safe, quality health care.

Quality care: WASH is a fundamental human right, increases patient satisfaction and uptake of services and is particularly important around the time of childbirth – when far too many mothers and newborns suffer and die, including from preventable conditions such as sepsis.

Pandemic preparedness: COVID-19 has highlighted the absence of and overwhelming need for WASH in order to ensure resilient health care facilities that are prepared to respond to pandemics, outbreaks and climate threats.

Effective health systems: WASH services within health care facilities contribute to better health outcomes, more cost-effective services, improved occupational safety for health care workers, and a stronger health system.

Healthier and more productive communities: WASH provides the foundation for sustainably managed and well-run health care systems that can generate improved community health and resilience.

Partnerships for funding at scale

In some countries, resource needs – especially for up-front investments – will exceed public means, and partnerships can help to mobilize capital from diverse sources. This could involve a multi-donor funding plan to scale up WASH coverage in health care facilities throughout an entire country. One such example is **Ethiopia**'s Consolidated WASH Account, which is a harmonized funding instrument with pooled financing from the Government of Ethiopia and its development partners to finance implementation of the One WASH National Programme, of which WASH in health care facilities is one element. Another approach could be a multi-donor trust fund or similar vehicle to provide seed funding and technical assistance to integrate WASH into health care-related projects. The World Bank's Global Water Security and Sanitation Partnership is working together with the Global Financing Facility for Women, Children, and Adolescents (GFF) to leverage technical assistance and analytic resources aimed at improving the quality of investments for WASH in health care facilities. For example, in **Guinea** the World Bank and GFF are co-financing a health project that aims to improve water access in health centres and district hospitals in the supported regions.

Where financing from major donors and investors is needed, efforts to achieve scale will benefit from project platforms that can be replicated and presented as effective options. Promising work is underway involving the Conrad N. Hilton Foundation and multiple partners in **Uganda** and **Ghana** implementing novel approaches at the district level, while concurrently strengthening the institutional arrangements both at the district and national levels. These district partnerships are designed to achieve and measure impact thereby providing a platform that can be scaled through increased investment by in-country and external funders in order to achieve SDG6.

Furthermore, implementers such as World Vision are engaging their funders to support the scale up of WASH in health care facilities. World Vision and their partners made a three-year commitment to provide comprehensive WASH in 800 rural health care facilities serving an estimated 7.2 million people at a cost of US$ 100 million. Eighteen months since that commitment, the work has been completed in 84% or 672 health care facilities. These developments are an initial step towards accelerating the integration of WASH in health care facilities into global and country level funding strategies. On a broader level, WHO and UNICEF are seeking and actively tracking commitments (see Box 21).

BOX 21. WHO AND UNICEF SEEK COMMITMENTS TO SUPPORT THE RESOLUTION AND PRACTICAL STEPS

To date, over 130 commitments to improve WASH in health care facilities have been made by health and WASH stakeholders – many of whom gathered in Washington D.C. in June 2019 and at the Global Meeting on WASH in health care facilities in **Zambia** in September 2019. Efforts are now underway to increase national commitment through regional mechanisms and events, including in the **European Region** through the Water and Health Protocol and in **Latin America and the Caribbean**, by the First Ladies of the Americas. The First Ladies of **Paraguay**, **Argentina**, and **Colombia** have called for international support to address WASH in health care facilities. Faith leaders have also spoken out. **The Vatican's** Dicastery for Integral Human Development urged Bishops to review and, where possible, take steps to improve WASH conditions in Catholic health care facilities, and the **Dalai Lama** called for urgent action.

WHO and UNICEF seek commitments from governments, partners, organizations and individuals in line with the Resolution. Commitments should focus on supporting government processes and systems and may be made in relation to one or more practical steps. New commitments can be made, and existing commitments updated, at **www.washinhcf.org/make-a-commitment**.

Engaging with the private sector

Partnerships are needed that integrate and leverage diverse sources of public and private philanthropic and corporate capital. These partnerships can be 'bankable' (i.e. attractive to investors). Traditional WASH sector corporate partners such as Unilever, Procter and Gamble, Lixil and others are already involved in promotion of hand hygiene, provision of handwashing materials, and improved toilet technologies, and could be drawn on for engagement in WASH in health care facilities. Corporate actors also have an important role to play in contributing to systems and solutions for safely disposing of chemical, laboratory and other types of infectious health care waste. Suppliers of infectious disease testing kits (e.g. for COVID-19 or HIV), vaccines and other medical supplies should pay for reverse chain logistics to take waste back to centralized safe treatment by autoclaves or high temperature incinerators and/or contribute funds to local safe waste treatment and disposal. In addition, local private sector product and service providers are key parts of the WASH in health care facility value chain. These include cleaners, disinfectant providers, waste handlers and management companies, as well as local safe water enterprises.

Climate financing

Ensuring that climate risks have been identified and incorporated into the design and siting of WASH infrastructure, management and interventions will ensure that the benefits of such interventions will last for decades. While the contexts and solutions in each country vary, climate risks and the consideration of how these are going to affect health, should be included in any WASH interventions. Some specific interventions, including the solarization of health care facilities, and increased water/energy efficiency of WASH services, are considered as climate mitigation activities with others as adaptation or climate resilience activities (e.g. ensure reliable access to WASH services), and can be considered for a range of climate financing options. For example, as a risk inclined and impact-oriented institution, the Green Climate Fund plays a pivotal role in shifting and catalysing financial flows, including those managed by the private sector, into low-emission and climate-resilient investments in developing countries. Additional climate change funds to be considered for strengthening the climate resilience and environmental sustainability of WASH services are the Global Environment Facility and the Adaptation Fund.

Sustainability: Financing operations and maintenance

There is a risk that increased commitment to addressing WASH needs in health care facilities will yield a surge of near-term investment in new infrastructure without sufficient planning or commitment for long-term sustainability. To sustain WASH services, countries will need to incorporate operating and maintenance costs into health sector budgets and operating plans. Partners should provide appropriate technical support to ensure that sustainability, training and oversight systems are established and functional. This could include assistance to create operations and maintenance plans and budget for consumables (e.g. soap, toilet paper, cleaning supplies), and support to develop management arrangements and sanitation service chains.

Innovation: Results-based approaches to strengthen country systems

Numerous replicable innovative financing mechanisms are being implemented. For example, results-based approaches can help to structure incentives for 'soft' outcomes such as operations and maintenance of WASH services in health care facilities. This would ensure both the construction of eligible WASH facilities in health care facilities and the functionality and sustainable operations and maintenance of those facilities, including criteria for water quality. The Government of **Burkina Faso** has committed to increase the share of sanitation and handwashing facilities in health care facilities that are operational and properly maintained following construction using a results-based approach.

The WASH gap is solvable – greater investment in systems is needed

In short, insufficient investment in WASH undermines the health system by leaving too many facilities with services and hygiene practices that are sub-standard, in disrepair or both. Governments can and must do more to address the gap - WASH investments offer high value, and suitable technologies exist, even for the most remote and resource-scarce settings. Where domestic financing falls short, governments should call on partners for coordinated and catalytic support. In every country, careful analysis and dialogue can provide sober resource needs estimates, foster collaborative planning and budgeting between infrastructure and health ministries, and secure government and partner commitment to a realistic, needs-based financing strategy and a single robust investment plan.

Spotlight: World Bank efforts to catalyse sustainable investments in WASH in health care facilities

WORLD BANK GROUP

The World Bank is working to increase the quality and number of sustainable and cost-effective investments for WASH in health care settings. To provide a basis for this acceleration, the World Bank conducted an inventory of lending projects that include investments for WASH in health care facilities across the Water and Health, Nutrition and Population (HNP) Global Practices (GPs) lending portfolios. An initial analysis explored information from 28 projects in 21 countries across all World Bank regions. This analysis has since been revised to include an additional 70 projects that have included WASH in health care facilities under the COVID-19 Fast-Track Facility (FTF).

In the initial set of 28 projects, water supply and sanitation investments were included in 11 projects, while hygiene and handwashing were addressed in 16 projects. Only one project included environmental cleaning and health care waste management. Water supply interventions, such as construction of new water systems (e.g. boreholes), rehabilitation or upgrading of water systems were addressed equally in both HNP and Water GP projects. For example, the **Djibouti** Towards Zero Stunting Project, includes water treatment, safe water storage, and promotion of hygienic practices in health facilities. Conversely, projects led by the Water GP were more likely to involve sanitation and hygiene infrastructure interventions than HNP GP projects. These included provision of latrines and hand hygiene facilities meeting SDG criteria and mechanisms for improved operations and maintenance.

Safe WASH services in health care facilities were included in COVID-19 FTF projects under a component on health systems strengthening. These activities did not constitute major works but rather were focused on ensuring minimum WASH standards were achieved through rehabilitation of infrastructure, where needed, and materials and equipment to address emergency supply gaps and to avoid service disruptions. Of the 70 COVID-19 emergency preparedness and response projects that address WASH in health care facilities, 23 projects include provisions for emergency water supply, such as using trucks or carts to deliver water to health facilities or construction of basic sanitation facilities.

The active projects covering WASH in health care facilities investments amount to total financing of US$ 8.1 billion, of which US$ 5.8 billion prior to the COVID-19 pandemic and US$ 2.3billion since. More than half of the financing (approx. US$ 4.4 billion) goes towards projects in the African region.


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CHAPTER 7

Where do we go from here?

Accelerating progress and increasing investments

KEY MESSAGES

Based on the data and analysis in this report we provide four main recommendations to accelerate investments and improvements in WASH services in health care facilities. These are:

- Implement costed national roadmaps with appropriate financing.
- Monitor and regularly review progress in improving WASH services, practices and an essential enabling environment.
- Develop capacities of health workforce to sustain WASH services and promote and practice good hygiene.
- Integrate WASH into regular health sector planning, budgeting, and programming, including COVID-19 response and recovery efforts to deliver quality services.

1 Implement costed national roadmaps with appropriate financing

Costed national roadmaps on WASH in health care facilities provide the blueprint for action, a mechanism for coordination, and, when appropriately financed, enable comprehensive and sustainable incremental improvements. Such roadmaps should either be embedded in or directly coordinated with broader health and infrastructure planning and processes. Several diverse countries, including **Ghana, Lao People's Democratic Republic, Iraq, Lebanon, Mali, Myanmar, Rwanda, United Republic of Tanzania, Timor Leste, Zambia** and **Zimbabwe,** demonstrate that the development of costed roadmaps is possible. Most of these have a strong focus on quality and link directly to national health policies and strategies.

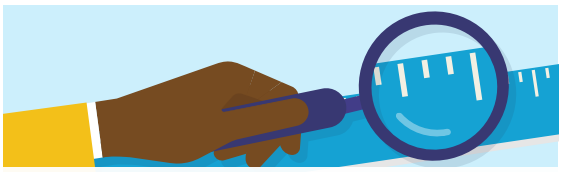
These roadmaps should take advantage of and be firmly rooted in national efforts to accelerate progress on achieving SDG 3 and SDG 6. The SDG 6 accelerators on financing, data, capacity development, innovation and governance provide a framework for particular focus and effort.

Once established, these roadmaps should serve as the basis by which partners, donors and internal government bodies and institutions engage, track progress and target resources. What many of these costed roadmaps still lack is appropriate financing and a clear understanding of the mechanisms by which WASH in health care facilities will come to be adequately reflected in routine planning, budgeting, and asset management at facility, district and national levels.

The development of roadmaps requires a multi-year, multisectoral process and leadership from a national taskforce or coordination body. It is evident from the countries included in this report that leadership is a critical ingredient for initiating and sustaining action. A national taskforce that has the mandate to direct strategy and policy decision-making and the ability to influence health, environment and finance

stakeholders and government entities is critical for systems change and strengthening. The country stories from **Bangladesh**, **Cambodia**, **Ghana, Liberia, Malawi, Nigeria** and **Timor Leste** provide examples of this.

Inclusive decision-making, engaging the public, communities – in particular women – are important for effective implementation of national roadmaps. Citizens who are knowledgeable and empowered are better positioned to demand their rights to WASH, to better and safer care, and to create awareness and accountability for upholding these rights among those with the responsibility for providing WASH. More than half of the 28 country examples in Annex 5 highlight examples of where WASH partners have worked to develop and mobilize action and ensure greater citizen representation within decision-making. Without this engagement and partnership it is not possible to ensure inclusive and responsive services and health system processes.



2 Monitor and regularly review progress in improving WASH services, practices and an essential enabling environment

While the global database is substantial, with 154 country files, gaps remain. Data on environmental cleaning, higher levels of WASH services and aspects of sanitation are especially lacking. Global WASH indicators should be incorporated into facility surveys and regular health monitoring and data should be regularly collected, analysed and used to direct resources and prioritize action *(36)*. Data gaps have been highlighted in Chapters 3 and 5. According to JMP data, there is a dearth of countries with basic estimates to calculate global coverage of environmental cleaning services.

Within health programming, WASH should be monitored and reviewed whenever data on quality of care are generated. These data should be used to drive improvements – because without the fundamentals of WASH in place, other interventions to improve quality of care will have limited impact. This could not be more apparent than in the quest to end preventable maternal and newborn deaths. Work is also needed to accelerate integration of WASH indicators into national monitoring systems as well as in infection prevention surveys or AMR national action plans.

Efforts to document and track implementation of the practical steps and World Health Assembly Resolution should be continued and strengthened. Countries not included in the tracker should assess and share their progress. Further analyses should be undertaken to understand key elements of each step (e.g. an effective national roadmap) and processes for facilitating implementation. The political commitments and regular reporting on progress to the World Health Assembly through the Resolution provide an opportunity to influence countries to engage and make progress on the practical steps.

3 Develop capacities of health workforce to sustain WASH services and promote and practice good hygiene

Sustaining WASH services, particularly cleaning and safe management of health care waste, requires dedicated, trained and supported staff. These non-health care providing staff, who are often overlooked and undercompensated, need to be recognized and elevated within health workforce policies, programming and budgeting.

All staff in health care facilities should be supported to practice good hand hygiene and care providers should be capable of effectively delivering and encouraging good hand hygiene to patients and their families. This is particularly important for mothers and newborns, where contacts are frequent and risk of infection is high.

WASH FIT provides a mechanism to empower health facility staff to monitor services, engage in incremental improvements and demonstrate ownership of WASH services. Its use, alongside other quality improvement tools, is shown in examples from **Democratic Republic of Congo** and **Lao People's Democratic Republic.** In many countries, WASH FIT (and equivalent national improvement programmes) are used to conduct assessments but are not followed up with improvements. Before such efforts are undertaken, there should be a clear understanding of who will analyse and act upon the data and regularly report on actions. This starts

with empowering facility staff to make simple but important improvements such as more regular and effective hand hygiene and cleaning practices and waste segregation. At the district and national levels WASH FIT, and quality improvement efforts more broadly, should be linked with existing national WASH and health programming and budgeting efforts to streamline and sustain local improvements.

4 Integrate WASH into regular health sector planning, budgeting, and programming, including COVID-19 response and recovery efforts to deliver quality services

The COVID-19 pandemic has exposed stark inequities in public services across a range of sectors, including for health and WASH. Government and external donors need to prioritize investments in core health system functions that are fundamental to protecting and promoting health and well-being. WASH and waste are "common goods for health" that must be financed if any other health objectives, including the primary goal of UHC, are to be achieved *(67)*.

All COVID-19 responses, vaccination programmes and economic recovery plans should monitor and budget for WASH services in health care facilities, including the safe disposal of personal protective equipment, testing materials and vaccine waste. Intersectoral budget and financing dialogue is needed to ensure that both capital and recurrent WASH costs are budgeted and responsibility for maintaining quality services is articulated and regulated. Catalytic funds to demonstrate proof of concept and gains for investing in climate smart WASH and waste services are also needed.

Investment in healthier environments for health protection, environmental regulation and ensuring health systems are climate resilient, provides protection against future disaster and offers some of the best returns for society. WHO's Manifesto for a healthy recovery from COVID-19 calls for investment in essential services, from water and sanitation to clean energy in health care facilities *(68)*. Every dollar invested in hand hygiene alone in health care facilities is estimated to yield, on average, a US$ 15 return *(27)*.

As highlighted in Chapter 2, there are examples of partnership working to ensure enhanced hand hygiene facilities in support of COVID-19 national efforts, including through the Hand Hygiene for All initiative.

> *"The pandemic is a reminder of the delicate relationship between people and planet. Any efforts to make our world safer are doomed to fail unless they address the interface between people and pathogens, and the existential threat of climate change, that is making our Earth less habitable."*
>
> WHO Director-General Dr Tedros Adhanom Ghebreyesus. Address to the 73rd World Health Assembly. 18 May 2020.

The need for investment is a common thread throughout this report, but this is not only about finance. A key ingredient for quality health care is consistent leadership from governments, policy-makers, clinical leaders, health system managers and civil society. Health partners and advocates are particularly key to the success of these efforts. As detailed in Chapters 2 and 4, many global health strategies and frameworks include WASH and waste in health care facilities standards and elements. Yet as this report has shown, operationalization of these WASH fundamentals, especially at the national and sub-national levels is often lacking. WASH needs to be budgeted, monitored and programmed within and alongside infection prevention and control, patient safety, maternal and child health and health care workforce efforts, all with a strong focus on ensuring quality health services. COVID-19 provides an opportunity to ramp up progress through country plans and dedicated donor support, especially around rapid identification of gaps and targeted resourcing, testing and vaccines.

Advocacy efforts should focus on driving greater attention and resources to WASH in health care facilities, primarily through health but also within broader WASH sector, energy and infrastructure investments. Continued coordination of existing partners by WHO and UNICEF and engagement of new partners will be important to realize national and global targets. Existing global health campaigns

provide an opportunity to call attention to gaps in WASH services, highlight effective models for joint WASH and health efforts, and build a broader coalition of actors committed to country-led actions and roadmaps. For more details on the campaigns, focus and opportunities to integrate WASH refer to Annex 6. In addition, Annex 7 suggests actions that health policy-makers, health care facility managers, health workforce, WASH partners and advocates can take to implement recommendations.

The elements exist to meet universal WASH targets in health care facilities. The *Global Call to Action* by the UN Secretary General, the availability of a global database and government commitments articulated in and regularly reported on through the World Health Assembly Resolution provide a strong framework for action. WASH and health sector partners are increasingly working together to align policies and standards. These joint efforts now need to be operationalized and institutionalized within existing government budgets, functions and regulatory and monitoring systems. It is only with the WASH fundamentals in place that the ultimate aim of delivering safe, quality essential health services for all will be achieved.

"Now that we have running water inside the maternity ward, the place feels like home again. It's easy to wash hands before and after we assist any patient. Our patients can clean themselves after giving birth right here at the health facility. They no longer have to risk their lives and lose dignity by walking long distances. Personally I feel good to work here having clean water. It has brought confidence in my line of work. Lives are saved."

Mary, midwife from Malawi.

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ANNEXES

ANNEX 1. PRACTICAL STEPS TO IMPROVE WASH IN HEALTH CARE FACILITIES

1. Conduct situation analysis and assessment

A **situation analysis** looks at the enabling environment for WASH in health care facilities, specifically health and WASH policies, governance structures and other institutional arrangements, funding streams and stakeholders. An **assessment** provides updated figures on WASH coverage and compliance. These may be distinct activities led by different stakeholders or conducted together. The results of both should be published and disseminated, to raise the profile of WASH in health care facilities and to form the basis for prioritizing action and mobilizing resources to implement the remaining practical steps.

For a detailed description of how to conduct a situational analysis with specific country examples, refer to *Understanding barriers to quality of care: an approach for conducting a situational analysis of water, sanitation and hygiene (WASH) and quality in health care facilities (1)*.

How is it being tracked? Situational analyses and assessment are tracked separately. Situational analyses are based on the availability of published documents. Baseline assessments are based on the availability of basic estimates of the five global indicators (water, sanitation, hand hygiene, health care waste and environmental cleaning).

Further reading

- *Achieving quality universal health coverage through better water, sanitation and hygiene services in health care facilities: A focus on Ethiopia (2).*
- *Achieving quality health services for all through better water, sanitation and hygiene. Lessons from three African countries (3).*
- *National situational analysis of water, sanitation and hygiene in health care facilities in Serbia. Summary report (4).*
- *Achieving quality universal health coverage through better water, sanitation and hygiene in health care facilities: A focus on Cambodia (5).*

2. Establish a national coordination mechanism and publish a costed roadmap with targets

Once the national conditions of WASH in health care facilities have been established through a situational analysis and assessment (step 1), the government should **set detailed targets** (with a national roadmap detailing how the country will reach those targets) to address gaps. A roadmap should take into consideration the special needs of vulnerable groups and underserved areas and facilities. It should include short-, medium- and long-term goals and activities, clarify who is responsible for achieving these goals and importantly, how much it will cost.

Costing estimates should include costs for capital investments, rehabilitation, as well as recurrent costs associated with operation and maintenance. These costs should also include energy costs for pumping and treating water, treating waste and keeping toilets and shower areas lit. In addition, costs for supportive supervision and regular skills-building (training) for all staff – including managing WASH supplies, waste and/or cleaning – should be assessed as part of wider quality improvement and supervision investments. Finally, related costs including development and dissemination of technical manuals, guidance and monitoring should also be factored in.

A joint WASH and health taskforce or **technical working group** with formally defined terms of reference and membership can be an effective mechanism to help set these targets and develop a roadmap, providing technical and political leadership, and coordinating implementation efforts. Ideally, such a taskforce would be led by the Minister of Health, Prime Minister or President and would include decision-makers from relevant ministries as well as technical staff and partners engaged in WASH in health care facility activities. All partners *must* support the government's goals, as outlined in the roadmap, giving priority to government-preferred tools and approaches over partner or donor preferences.

How is it being tracked? Tracking focuses on the existence of a functional intersectoral national team (i.e. technical working group, taskforce or similar) with a defined mandate or terms of reference and an up-to-date national roadmap with targets and costing as evidence from meeting reports, roadmap documents and other communication materials.

3. Establish national standards and accountability mechanisms

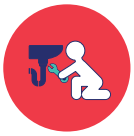
National standards and policies for WASH in health care facilities are necessary for implementing, monitoring and regulating health services. Standards are a set of requirements that dictate the infrastructure and resources necessary to provide sustainable WASH services within health care facilities. These requirements will vary based on the type of care provided and size of facility. PHC and hospitals may have different, stand-alone standards. Standards should be relevant to the local context, comprehensive (covering all aspects of WASH and waste) and specific enough to provide actionable technical guidance. They must also reflect the needs of vulnerable populations including those with limited mobility.

To develop a set of national standards, countries may use existing international standards (e.g. those covering WASH, environmental health, health care waste management, IPC, quality of care etc.), monitoring indicators and/or existing national standards from comparable countries as a template. WASH in health care facilities standards may include aspects of climate resilience and water/energy conservation or be part of a 'minimum package' for health care facilities: they do not need to be a stand-alone document.

Developing a set of standards is not sufficient to ensure implementation. Roll out, sensitization, engagement of partners and accountability mechanisms (to help ensure that standards are implemented, met and upheld) are all important. Examples include regulation, accreditation, licensing, community scorecards and feedback mechanisms. Other forms of incentivization (including pay for performance, competitions, rewards and penalties) may also be used.

Developing, disseminating and implementing standards has financial implications, which should also be budgeted for.

How is it being tracked? Standards for WASH and for health care waste management are tracked by reviewing published standards. In many instances WHO is directly involved in reviewing and assisting in the process to update such standards. In most countries there are separate WASH and waste standards. Where they are integrated, only one rating is given. Ideally such standards are then integrated into regular monitoring, certification, regulation and supportive supervision tools to promote accountability. However, given there are such a wide range of ways in which health providers can be held to account for standards, there is no uniform way to track at the global level.



4. Install, improve and maintain infrastructure

Selecting and installing infrastructure in health care facilities should begin with a comprehensive stakeholder discussion, with the following considerations: environmental and climate (mitigating negative impact on the environment and users and resilience to climate shocks); safety (for users, operators and managers and the surrounding community); cultural (acceptability to users of a given technology); economic (funds required for capital costs and regular operation and maintenance); technological (power requirements, local technical knowledge and availability of engineers and supply chains); workforce and training (personnel to install, operate and maintain); and regulatory (accreditation or licensing processes).

Most large infrastructure improvements require the engagement of finance institutions, government agencies and contractors. An infrastructure improvement plan can help define the scope of work and outline the costs in a particular facility (primary, secondary or tertiary) and location (urban or rural). A costing analysis can compare the benefits of new WASH infrastructure to the costs associated with the lack of WASH infrastructure.

Even in health care facilities equipped with advanced WASH infrastructure, this can quickly fall into disrepair without sufficient staff, funds and systems to maintain it. Ongoing operation and maintenance of advanced WASH infrastructure, particularly in rural areas, requires resources (e.g. for electricity), supply chains, and trained staff. For this reason, health care facilities are encouraged to include costs and capacity for ongoing operation and maintenance in their infrastructure plans.

Processes and tools such as WASH FIT help staff identify and prioritize risks and develop improvement plans for WASH, particularly when resources are limited. Incremental improvements, such as the

installation of hand hygiene stations, coloured waste bins, products for environmental hygiene and WASH/IPC training are actions that are measurable. Such improvements may also have positive ripple effects on WASH practices in communities.

How is it being tracked? WASH FIT is just one method to incrementally improve and sustain infrastructure and provides a tangible way to track progress. Other global and national approaches and tools may also be used to improve infrastructure; similar national level programmes (e.g. CASH in Ethiopia, Clean Clinic Approach in Democratic Republic of Congo) are also included.

5. Monitor and review data

The best way to track the status or progress of WASH interventions is by monitoring and reviewing indicators on a regular basis. Appropriate data should be shared locally, nationally and globally so that incremental progress can be documented and priority investments can be made.

Indicators for WASH in health care facilities are most easily tracked when they are embedded in existing health monitoring systems. In such cases, WASH in health care facility indicators should be harmonized with water sector indicators to avoid the two sectors collecting the same data independently or using different definitions. Indicators for WASH in health care facilities can also be included in externally-supported, nationally representative surveys (e.g. SPA, SARA, and health facility assessments) and programme-specific surveys (e.g. HIV/AIDS surveys, maternity and obstetric services assessments, and Health Resources and Services Availability Monitoring System (HeRAMS) surveys for emergencies).

Monitoring data are also essential for tracking progress toward SDG 6 (*clean water and sanitation*) and measuring inputs associated with Goal 3.1 (*maternal mortality*), 3.2 (*newborn mortality*) and 3.8 (*universal health care*).

How is it being tracked? Integration of WASH indicators into health monitoring information systems followed by consistent data collection, analysis and review.

Further reading

- *Core questions and indicators for monitoring WASH in health care facilities in the Sustainable Development Goals (6).*

6. Develop the health workforce

Investment in a well-trained and well-supported health workforce enables health systems to perform well and to respond appropriately to challenges. This has become even more apparent with the essential role of health workers in responding to the COVID-19 pandemic. Health facility personnel deserve to work in an environment that protects their occupational health and safety and allows them to perform their job to the best of their ability. Pre-service education and in-service training and mentoring must be provided for all health care facility personnel, both clinical (i.e. doctors, nurses and other clinicians) and support personnel (i.e. cleaners, janitors, health care waste technicians etc.) and must emphasize the importance of WASH and IPC evidence-based/best practices, including hand hygiene action. It should be noted that while the education and training of health workers is a global investment priority for strengthening WASH approaches, policy-makers and planners must pay attention to parallel interventions at individual, organizational and systemic levels that are foundational, contribute to, or act as levers in providing well-rounded WASH support and enhanced capacity for health workers. These include ensuring decent working conditions, promoting health worker safety and ensuring the routine availability of PPE, and effective management support including proper supervision, risk communication and deployment/surge management.

In particular, there should be mechanisms within quality of care efforts to address human resources for health gaps in maternal and newborn care across all facilities. In addition to training and capacity development, attracting and retaining human resources within critical specialized areas of maternal and newborn care including auxiliary services should be prioritized.

> The charter *Health worker safety: a priority for patient safety*, launched on World Patient Safety Day 2020, calls for urgent and sustainable action in a number of areas, WASH being one. Under the header Protect health workers from physical and biological hazards, the charter states: "...ensure adequate environmental services, including water, sanitation and hygiene, disinfection, and ventilation, at all health care facilities." *(7)*

Education and training of health workers may be provided through a variety of institutions and mechanisms: accredited colleges and universities; on-the-job skills development; and academic and/or professional associations. If none of these are well established, a gradual, step-by-step approach should be applied – bearing in mind the local health labour market realities – to plan their programmes and outcomes in line with expected WASH services and the needs of the population to be served.: The participants will determine the correct approach, including optimal training group size and what disciplines to include. Whichever method is used, training should be as participatory as possible, according to WHO IPC evidence-based guidance.

Health facility cleaners and health care waste operators need additional skills and competencies to safely and effectively conduct their work. Cleaners, an important and often undervalued profession, are an integral part of the health workforce and should also undergo regular, targeted training *(8)*.

"I always underestimated the talent and ingenuity of health facility cleaners until I had to train them. In fact, they trained me in the ideas they offered for overcoming limited resources, how they supported each other, and how quickly they grasped new skills and understanding about the value of cleaning."

Environmental hygiene and IPC trainer, health centre, The Gambia

Creating a long-term career path for WASH and IPC health personnel, with education and certification requirements, encourages the retention and growth of professionals. A set of IPC competences now exists that provide a career pathway and include knowledge on WASH in health care facilities *(9)*.

National level activities to design and implement workforce training:

- Convene a national multisectoral and multidisciplinary project team including expertise in training and education as they relate to the local health labour market.
- Explore existing health care worker education and training opportunities and identify where WASH/IPC training may be integrated.
- Identify additional stakeholders, champions, leaders and institutions to lead training.
- Identify who will deliver the training (and assess if they have the necessary expertise).
- Develop an action plan with defined roles and timelines and establish the frequency of follow up and feedback to ensure impact is achieved.
- Revise the training package/plan as necessary.

In April 2020, the London School of Hygiene and Tropical Medicine (LSHTM) found that requests for a freely available training package for cleaners – TEACH CLEAN – peaked at 10 times the average weekly number of requests. This is likely a result of COVID-19: The illustrative guidelines provided by this training package were a particularly popular approach to use given the challenges of being unable to run face-to-face training *(8)*.

How is it being tracked? Not tracked at global level due to a lack of systematic reporting at national level and range of approaches used. WASH FIT, tracked through Step 4, helps staff identify and prioritize risks and develop improvement plans for WASH, thus supporting workforce development.

7. Engage communities

Community members and community organizations play an important role in ensuring that health care facilities provide the level of care that citizens deserve and expect. In some countries, rural health care facilities are directly managed by the community, giving local leaders and community members agency in decision-making and management of WASH services and hygiene practices. Sometimes community members also provide technical expertise support and should be consulted regarding preferences in design and use of WASH facilities. Community engagement is not a prescriptive concept and what may apply in one country context may not apply in others. In one village in Mali, for example, community members agreed with the head doctor of a facility to increase user fees by 20% in order to pay for facility maintenance. In Ghana, the Community Health Management Committee regularly undertakes cleaning activities at the facility and identifies small, low-cost improvements (e.g. fencing the facility to prevent livestock entry) that they can undertake.

Since patients may feel uncomfortable speaking up about conditions in local health care facilities, it may be beneficial to explore anonymous or more discrete ways to provide feedback, using approaches that do not exclude low-literacy populations. Such mechanisms should be built into quality improvement cycles to help to design, improve and maintain WASH services to meet user needs.

"Frontline (those health workers who are closest to communities and are often first responders to health needs or crises) workers are working under immense pressure and they are extremely courageous. The least we can do is give them the tools, the training and the environment in which they can do their work at the safest possible level".

Dr Mike Ryan, Executive Director, WHO Health Emergencies Programme

Specific approaches to engage communities in designing, implementing and sustaining better services include:

- Holding regular "townhall" meetings to discuss user preferences and factors affecting experience of care, including facility cleanliness, toilet and shower designs and other WASH issues.
- Developing mechanisms for seeking user feedback (i.e. individual comment forms, through community scorecards) that are linked to care provider review and action.
- Organizing community skits and street entertainment to inform care-seekers and their families about the importance of good hygiene, especially hand hygiene.
- Regularly featuring health issues, quality of care and importance of good WASH services and practices on local radio, social media platforms and newspapers.
- Developing gardens and other 'healing spaces' within facility grounds to improve the experience of care, foster pride and encourage the community to use and care for the facility.

How is it being tracked? Not tracked due to limited reporting at national level and range of approaches used.

8. Operational research and learning

A stronger evidence base for WASH in health care facilities helps to understand the problem (what, how and why), what to do about the problem and where investments should be prioritized. When evidence from every level (facility, sub-national, national, regional, and global) is distilled and shared, it can spark innovation and scale-up of proven improvement approaches.

Operational research requires documenting not just what has been done but how it has been done, the associated challenges and how they have been addressed. While the links between WASH and infection prevention are clear, measuring them is complicated and expensive. In many situations it would be better to use indirect indicators such as uptake of services, patient and staff satisfaction, knowledge and attitudes, community engagement and participation, facility revenue and visual cleanliness rather than health outcomes and impacts to measure the effect of WASH interventions in health care facilities.

Using research for decision-making requires the following considerations: What information is required to improve programme performance? What limits quality, efficiency, effectiveness and sustainability? What alternative service delivery strategies would yield the most effective outcomes? What will the impact of the intervention be? What (scientific) evidence allows you to develop a plan/strategy/policy or intervention for action?

Sharing and learning is also considered one of the four foundational requirements for quality health services and has been described as fundamental to improving quality *(10)*. Within the context of operational research, consideration should be given to how best to develop and share emerging learning and how to promote local innovation and the flow of learning upwards from the facility level as well as to ensure district-to-district and facility-to-facility learning around WASH improvement. Community-based learning and learning from other stakeholders (including global networks) is also an important consideration.

How is it being tracked? Not tracked as this can, and should, take place at all levels (from facility to global) and is not reported systematically at the national level.

Establishing the research agenda: a review of existing evidence

Emory University and the University of North Carolina at Chapel Hill conducted a literature review in 2019 of existing WASH in health care facilities research and subsequently produced an annotated review *(11)*. The review found that while substantial research has been undertaken on the status of WASH within health care facilities in countries through the world, insufficient evidence remains to support practitioners and policy-makers in their decision-making. Key areas requiring further research were identified, including burden of disease, factors for enabling environments, costing analysis, evaluation of tools and training, requirements for sustainability, the needs of specific populations, and the role of enterprise/private sector.

Efforts to develop a new strategic research agenda for WASH in health care facilities are underway, in order to have a more comprehensive approach and diverse set of research interests. This research agenda will include efforts to demonstrate the impact of WASH conditions in health care facilities on health outcomes, including: assessing health care-associated infections; identifying solutions and impact pathways for improving WASH service delivery in health care facilities; evaluating high-impact WASH interventions using an implementation science approach; calculating the life-cycle costs and benefits of WASH services in health care facilities; and generating evidence-based recommendations for driving advocacy and policy reform. Discussion among a diverse set of academic and research leaders will produce the initial framework for prioritizing research on WASH in health care facilities.

Common activities for all the eight practical steps

Common to all of the steps are a number of 'grounding elements' that are prerequisites for sustained improvements and are nuanced and less quantifiable. Such actions include:

- Using a trigger (e.g. health policy planning process, health data, visiting a health facility with poor WASH services) to initiate a comprehensive plan and joint action.
- Thoughtful and responsive engagement within and between stakeholders.
- Collection and use of data and learning at the facility, sub-national and national level to strengthen accountability, target resources and adjust programmatic approaches and improve processes/outcomes of care.
- Enabling health systems through leadership and governance, essential commodities, trained and empowered health workforce and health information systems.

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ANNEX 2.1 | NATIONAL WATER ESTIMATES

WATER COUNTRY, AREA OR TERRITORY	Year	Population (thousands)	% urban	NATIONAL					URBAN					RURAL				
				Basic water services *(improved, available and on premises)*	Limited water services *(improved, not available and/or not on premises)*	No water service *(no facility or unimproved)*	Improved water source	Improved water on premises	Basic water services *(improved, available and on premises)*	Limited water services *(improved, not available and/or not on premises)*	No water service *(no facility or unimproved)*	Improved water source	Improved water on premises	Basic water services *(improved, available and on premises)*	Limited water services *(improved, not available and/or not on premises)*	No water service *(no facility or unimproved)*	Improved water source	Improved water on premises
Afghanistan	2019	38 042	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Albania	2019	2 881	61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Andorra	2019	77	88	100	0	0	100	100	-	-	-	-	-	-	-	-	-	-
Angola	2015	27 884	63	-	-	51	49	-	-	-	-	-	-	-	-	-	-	-
Anguilla	2019	15	100	-	-	0	-	-	-	-	-	-	-	NA	NA	NA	NA	NA
Antigua and Barbuda	2019	97	25	-	-	0	100	100	-	-	-	-	-	-	-	-	-	-
Armenia	2019	2 958	63	97	3	0	100	98	-	-	-	-	-	-	-	-	-	-
Azerbaijan	2019	10 048	56	100	0	0	100	100	-	-	-	-	-	-	-	-	-	-
Bangladesh	2019	163 046	37	64	33	2	98	64	90	10	0	100	91	67	31	2	98	69
Barbados	2009	281	32	-	-	12	88	76	-	-	-	-	-	-	-	-	-	-
Belize	2019	390	46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benin	2019	11 801	48	53	31	16	84	53	92	3	5	95	94	29	49	22	78	29
Bhutan	2019	763	42	95	5	0	100	100	-	-	-	-	-	-	-	-	-	-
Bolivia (Plurinational State of)	2019	11 513	70	-	-	-	-	-	-	-	-	-	-	88	5	7	93	93
Brazil	2016	206 163	86	89	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Burkina Faso	2019	20 321	30	76	19	5	95	93	79	17	3	97	93	72	26	2	98	98
Burundi	2019	11 531	13	-	-	2	98	68	-	-	-	-	-	-	-	-	-	-
Cambodia	2019	16 487	24	-	-	6	94	55	-	-	-	-	-	-	-	-	-	-
Cameroon	2019	25 876	57	-	-	10	90	36	-	-	-	-	-	-	-	-	-	-
Central African Republic	2019	4 745	42	-	-	52	48	13	-	-	-	-	-	-	-	-	-	-
Chad	2019	15 947	23	-	-	43	57	-	-	-	23	77	-	-	-	43	57	-
China	2019	1 457 558	61	91	1	9	91	91	-	-	5	95	-	-	-	10	90	-
Colombia	2019	50 339	81	-	-	-	-	-	-	-	-	-	-	64	3	32	68	68
Comoros	2019	851	29	21	18	61	39	33	-	-	-	-	-	-	-	-	-	-
Congo	2018	5 244	67	37	45	18	82	64	61	29	10	90	90	9	64	27	73	51
Cook Islands	2019	18	75	100	0	0	100	100	100	0	0	100	100	100	0	0	100	100
Costa Rica	2019	5 048	80	100	0	0	100	100	-	-	-	-	-	-	-	-	-	-
Côte d'Ivoire	2019	25 717	51	-	-	-	-	73	-	-	-	-	81	-	-	-	-	-
Czech Republic	2019	10 689	74	100	0	0	100	100	-	-	-	-	-	-	-	-	-	-
Democratic Republic of the Congo	2019	86 791	45	28	41	30	70	28	41	51	7	93	65	18	45	36	64	18
Djibouti	2019	974	78	-	-	18	82	-	-	-	5	95	-	-	-	34	66	-
Dominican Republic	2019	10 739	82	-	-	-	-	-	-	-	-	-	-	82	2	15	85	85
Egypt	2019	100 388	43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
El Salvador	2019	6 454	73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eritrea	2012	3 250	36	-	-	14	86	77	-	-	-	-	-	-	-	-	-	-
Estonia	2019	1 326	69	100	0	0	100	100	-	-	-	-	-	-	-	-	-	-
Eswatini	2019	1 148	24	-	-	0	100	-	-	-	-	-	-	-	-	-	-	-
Ethiopia	2019	112 079	21	30	36	34	66	66	76	14	11	90	85	25	48	28	72	43
Gabon	2014	1 884	88	-	-	3	97	95	-	-	-	-	-	-	-	-	-	-
Gambia	2019	2 348	62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Georgia	2019	3 997	59	-	-	9	91	78	-	-	-	-	-	-	-	-	-	-
Germany	2019	83 517	77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

WATER	HOSPITAL					NON-HOSPITAL					GOVERNMENT					NON-GOVERNMENT				
COUNTRY, AREA OR TERRITORY	Basic water services (improved, available and on premises)	Limited water services (improved, not available and/or not on premises)	No water service (no facility or unimproved)	Improved water source	Improved water on premises	Basic water services (improved, available and on premises)	Limited water services (improved, not available and/or not on premises)	No water service (no facility or unimproved)	Improved water source	Improved water on premises	Basic water services (improved, available and on premises)	Limited water services (improved, not available and/or not on premises)	No water service (no facility or unimproved)	Improved water source	Improved water on premises	Basic water services (improved, available and on premises)	Limited water services (improved, not available and/or not on premises)	No water service (no facility or unimproved)	Improved water source	Improved water on premises
Afghanistan	74	26	0	100	74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Albania	100	0	0	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Andorra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Angola	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anguilla	-	-	0	100	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-
Antigua and Barbuda	-	-	0	100	100	-	-	0	100	100	-	-	0	100	100	-	-	0	100	100
Armenia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Azerbaijan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bangladesh	79	21	0	100	79	66	34	0	100	69	71	29	0	100	71	84	16	0	100	88
Barbados	-	-	-	-	-	-	-	-	-	-	-	-	12	88	76	-	-	-	-	-
Belize	-	-	0	100	88	-	-	21	79	72	-	-	20	80	75	-	-	-	-	-
Benin	-	-	0	100	-	49	34	17	83	49	-	-	-	-	-	64	19	17	83	64
Bhutan	75	25	0	100	100	96	4	0	100	100	95	5	0	100	100	-	-	-	-	-
Bolivia (Plurinational State of)	-	-	-	-	-	88	5	7	93	93	-	-	-	-	-	-	-	-	-	-
Brazil	-	-	-	-	-	89	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Burkina Faso	91	8	1	99	99	67	27	5	95	90	79	19	2	98	98	-	-	3	97	-
Burundi	-	-	-	-	-	-	-	2	98	68	-	-	-	-	-	-	-	-	-	-
Cambodia	-	-	0	100	63	-	-	12	88	47	-	-	6	94	55	-	-	-	-	-
Cameroon	57	37	7	93	57	-	-	13	87	38	-	-	21	79	22	-	-	6	94	51
Central African Republic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chad	-	-	17	83	-	-	-	41	59	-	-	-	42	58	-	-	-	29	71	-
China	-	-	-	-	-	91	1	9	91	91	91	1	9	91	91	-	-	-	-	-
Colombia	-	-	-	-	-	64	3	32	68	68	-	-	-	-	-	-	-	-	-	-
Comoros	20	40	40	60	60	21	17	62	38	31	-	-	-	-	-	-	-	-	-	-
Congo	47	47	6	94	75	36	45	19	81	62	28	49	23	77	57	53	38	9	91	75
Cook Islands	100	0	0	100	100	100	0	0	100	100	100	0	0	100	100	-	-	-	-	-
Costa Rica	100	0	0	100	100	100	0	0	100	100	100	0	0	100	100	-	-	-	-	-
Côte d'Ivoire	-	-	-	-	-	-	-	-	-	66	-	-	-	-	78	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Democratic Republic of the Congo	37	49	14	86	41	16	38	45	55	16	19	40	40	60	19	39	46	14	86	42
Djibouti	-	-	0	100	-	-	-	22	78	-	-	-	20	80	-	-	-	8	92	-
Dominican Republic	-	-	-	-	-	82	2	15	85	85	-	-	-	-	-	-	-	-	-	-
Egypt	-	-	0	100	-	-	-	-	-	-	-	-	-	-	-	-	-	0	100	-
El Salvador	-	-	0	100	-	-	-	26	74	58	-	-	23	77	67	-	-	-	-	-
Eritrea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Estonia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eswatini	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethiopia	87	8	5	95	95	27	49	24	76	43	24	53	23	77	48	73	22	5	95	92
Gabon	-	-	-	-	-	-	-	-	-	-	-	-	3	97	93	-	-	-	-	-
Gambia	-	-	0	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Georgia	-	-	-	-	-	-	-	-	-	-	-	-	0	100	91	88	7	5	95	88
Germany	100	0	0	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

WATER COUNTRY, AREA OR TERRITORY	Year	Population (thousands)	% urban	NATIONAL					URBAN					RURAL				
				Basic water services (improved, available and on premises)	Limited water services (improved, not available and/or not on premises)	No water service (no facility or unimproved)	Improved water source	Improved water on premises	Basic water services (improved, available and on premises)	Limited water services (improved, not available and/or not on premises)	No water service (no facility or unimproved)	Improved water source	Improved water on premises	Basic water services (improved, available and on premises)	Limited water services (improved, not available and/or not on premises)	No water service (no facility or unimproved)	Improved water source	Improved water on premises
Ghana	2019	30 418	57	61	38	1	99	-	74	16	9	91	91	50	37	13	87	50
Grenada	2019	112	36	-	-	0	100	100	-	-	-	-	-	-	-	-	-	-
Guatemala	2019	17 581	51	67	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Guinea	2019	12 771	37	-	-	50	51	-	-	-	-	-	-	-	-	-	-	-
Guinea-Bissau	2019	1 921	44	74	25	1	99	97	-	-	-	-	-	-	-	-	-	-
Guyana	2016	771	26	-	-	23	77	52	-	-	-	-	-	-	-	-	-	-
Haiti	2019	11 263	56	63	24	12	88	65	65	30	5	95	65	77	11	13	87	77
Honduras	2019	9 746	58	58	42	1	99	99	-	-	-	-	-	53	47	0	100	86
Hungary	2019	9 685	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
India	2019	1 366 418	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indonesia	2019	270 626	56	80	7	13	87	80	84	15	2	98	98	78	16	6	94	90
Kenya	2019	52 574	28	-	-	10	90	-	-	-	4	96	-	61	36	3	97	63
Kiribati	2019	118	55	65	1	34	66	65	86	0	14	86	86	60	0	40	60	60
Kuwait	2019	4 207	100	100	0	0	100	100	100	0	0	100	-	-	-	-	-	-
Kyrgyzstan	2019	6 416	37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lebanon	2019	6 856	89	61	2	37	64	-	-	-	-	-	-	-	-	-	-	-
Lesotho	2019	2 125	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Liberia	2019	4 937	52	-	-	49	51	-	-	-	44	56	-	-	-	55	46	-
Libya	2019	6 777	80	-	-	28	72	-	-	-	-	-	-	-	-	-	-	-
Lithuania	2019	2 760	68	100	0	0	100	100	-	-	-	-	-	-	-	-	-	-
Madagascar	2019	26 969	38	-	-	11	89	-	-	-	-	-	-	-	-	-	-	-
Malawi	2019	18 629	17	76	23	1	99	80	-	-	0	100	100	75	24	1	99	81
Maldives	2019	531	40	55	43	2	98	55	25	75	0	100	-	55	42	2	98	55
Mali	2019	19 658	43	-	-	24	76	-	-	-	5	95	-	82	0	18	82	82
Mauritania	2019	4 526	55	-	-	11	89	-	-	-	-	-	-	-	-	-	-	-
Mexico	2019	127 576	80	-	-	0	100	100	88	10	3	97	88	-	-	-	-	-
Mongolia	2019	3 225	69	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-
Montenegro	2019	628	67	100	0	0	100	100	-	-	-	-	-	-	-	-	-	-
Mozambique	2019	30 366	37	56	19	26	74	56	86	4	11	89	86	54	28	18	82	55
Myanmar	2018	53 708	31	-	-	8	92	-	-	-	1	99	-	-	-	14	86	-
Namibia	2019	2 495	51	-	-	0	100	-	-	-	-	-	-	-	-	-	-	-
Nepal	2019	28 609	20	-	-	7	93	64	-	-	-	-	-	-	-	-	-	-
Nicaragua	2019	6 546	59	58	29	12	88	81	74	25	1	99	96	39	36	24	76	72
Niger	2019	23 311	17	25	36	39	61	27	74	24	2	98	74	25	31	44	56	27
Nigeria	2019	200 964	51	46	29	24	76	52	65	30	5	95	65	38	26	37	63	43
North Macedonia	2019	2 083	58	100	0	0	100	100	100	0	0	100	100	-	-	-	-	-
occupied Palestinian territory*	2019	4 981	76	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Panama	2019	4 246	68	-	-	-	-	-	-	-	-	-	-	67	0	33	67	67
Papua New Guinea	2019	8 776	13	70	24	6	94	88	-	-	-	-	-	-	-	-	-	-
Paraguay	2019	7 045	62	85	8	7	93	86	-	-	-	-	-	-	-	-	-	-
Peru	2019	32 510	78	46	24	30	70	55	-	-	5	95	91	55	28	16	84	55
Philippines	2018	106 651	47	-	-	-	-	-	-	-	-	-	-	-	-	20	81	61
Republic of Moldova	2014	4 073	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Romania	2019	19 365	54	-	-	1	99	-	-	-	-	-	-	-	-	-	-	-
Russian Federation	2019	145 872	75	-	-	15	85	69	-	-	-	-	-	-	-	-	-	-

*Occupied Palestinian territory includes east Jerusalem.

WATER	HOSPITAL					NON-HOSPITAL					GOVERNMENT					NON-GOVERNMENT				
COUNTRY, AREA OR TERRITORY	Basic water services (improved, available and on premises)	Limited water services (improved, not available and/or not on premises)	No water service (no facility or unimproved)	Improved water source	Improved water on premises	Basic water services (improved, available and on premises)	Limited water services (improved, not available and/or not on premises)	No water service (no facility or unimproved)	Improved water source	Improved water on premises	Basic water services (improved, available and on premises)	Limited water services (improved, not available and/or not on premises)	No water service (no facility or unimproved)	Improved water source	Improved water on premises	Basic water services (improved, available and on premises)	Limited water services (improved, not available and/or not on premises)	No water service (no facility or unimproved)	Improved water source	Improved water on premises
Ghana	94	5	1	99	94	38	51	10	90	38	48	47	5	95	48	-	-	-	-	51
Grenada	-	-	0	100	100	-	-	0	100	100	-	-	0	100	100	-	-	0	100	100
Guatemala	81	-	-	-	-	53	-	-	-	-	67	-	-	-	-	-	-	-	-	-
Guinea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Guinea-Bissau	-	-	-	-	-	73	26	1	99	97	-	-	-	-	-	-	-	-	-	-
Guyana	-	-	18	82	76	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Haiti	75	13	12	88	75	63	32	6	94	64	62	26	12	88	64	65	21	14	86	-
Honduras	-	-	-	-	-	53	47	0	100	95	55	42	3	97	82	-	-	-	-	-
Hungary	100	1	0	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
India	94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indonesia	-	-	2	98	-	77	9	13	87	80	-	-	-	-	-	-	-	-	-	-
Kenya	-	-	3	97	-	61	27	12	88	62	63	31	5	95	63	-	-	22	78	-
Kiribati	100	0	0	100	100	64	0	36	64	64	65	0	35	65	65	-	-	-	-	-
Kuwait	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kyrgyzstan	-	-	5	95	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lebanon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lesotho	-	-	0	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Liberia	-	-	0	100	-	-	-	49	51	-	-	-	53	47	-	-	-	40	60	-
Libya	-	-	14	86	-	-	-	39	61	-	-	-	-	-	-	-	-	-	-	-
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Madagascar	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Malawi	-	-	0	100	-	77	22	1	99	82	71	27	2	98	76	-	-	-	-	-
Maldives	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mali	-	-	-	-	-	88	7	5	95	91	85	0	15	85	85	-	-	12	88	-
Mauritania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mexico	88	10	3	97	88	-	-	0	100	100	-	-	0	100	100	-	-	0	100	100
Mongolia	-	-	2	98	95	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-
Montenegro	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mozambique	94	5	2	98	94	58	25	17	83	59	58	29	14	86	62	-	-	-	-	-
Myanmar	-	-	1	99	-	-	-	17	83	-	-	-	10	90	-	-	-	-	-	-
Namibia	-	-	0	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nepal	-	-	10	90	77	-	-	6	94	60	-	-	6	94	62	-	-	12	88	71
Nicaragua	75	16	10	90	87	58	20	22	78	75	-	-	-	-	-	-	-	-	-	-
Niger	56	43	1	99	56	25	39	36	64	27	24	36	41	59	26	25	74	1	99	25
Nigeria	-	-	8	92	66	46	44	10	90	47	42	25	33	67	52	47	52	1	99	47
North Macedonia	100	0	0	100	100	100	0	0	100	100	100	0	0	100	100	100	0	0	100	100
occupied Palestinian territory*	-	-	0	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Panama	-	-	-	-	-	67	0	33	67	67	-	-	-	-	-	-	-	-	-	-
Papua New Guinea	-	-	-	-	-	71	24	5	95	88	-	-	-	-	-	-	-	-	-	-
Paraguay	-	-	-	-	-	-	-	-	-	-	85	8	7	93	86	-	-	-	-	-
Peru	-	-	-	-	-	45	39	16	84	57	46	27	27	73	58	-	-	-	-	-
Philippines	-	-	-	-	-	-	-	20	81	61	-	-	20	81	61	-	-	-	-	-
Republic of Moldova	-	-	24	76	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Romania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Russian Federation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

WATER COUNTRY, AREA OR TERRITORY	Year	Population (thousands)	% urban	NATIONAL					URBAN					RURAL				
				Basic water services (improved, available and on premises)	Limited water services (improved, not available and/or not on premises)	No water service (no facility or unimproved)	Improved water source	Improved water on premises	Basic water services (improved, available and on premises)	Limited water services (improved, not available and/or not on premises)	No water service (no facility or unimproved)	Improved water source	Improved water on premises	Basic water services (improved, available and on premises)	Limited water services (improved, not available and/or not on premises)	No water service (no facility or unimproved)	Improved water source	Improved water on premises
Rwanda	2019	12 627	17	73	27	0	100	96	-	-	-	-	-	73	26	1	99	90
Saint Kitts and Nevis	2019	53	31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Saint Lucia	2009	172	19	-	-	4	96	92	-	-	-	-	-	-	-	-	-	-
Saint Vincent and the Grenadines	2019	111	53	-	-	0	100	100	-	-	-	-	-	-	-	-	-	-
San Marino	2019	34	97	100	0	0	100	100	100	0	0	100	100	-	-	-	-	-
Senegal	2019	16 296	48	66	-	-	-	66	87	13	0	-	94	62	37	1	-	62
Serbia	2019	8 772	56	98	1	1	99	98	100	0	0	100	100	96	2	2	98	96
Sierra Leone	2019	7 813	42	21	53	26	74	21	16	64	21	79	16	24	73	3	97	24
Solomon Islands	2019	670	24	74	0	26	74	74	73	16	11	89	73	80	0	20	80	80
Somalia	2019	15 443	46	67	22	11	-	-	80	14	6	-	-	48	34	18	-	-
South Africa	2019	58 558	67	-	-	0	100	-	-	-	-	-	-	-	-	-	-	-
South Sudan	2017	10 911	19	-	-	36	64	21	-	-	-	-	-	-	-	-	-	-
Sri Lanka	2019	21 324	19	99	0	1	99	99	100	0	0	100	100	99	0	1	99	99
Syrian Arab Republic	2019	17 070	55	69	25	7	93	82	-	-	-	-	-	-	-	-	-	-
Tajikistan	2019	9 321	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thailand	2019	69 626	51	88	-	-	-	100	-	-	-	-	-	-	-	-	-	-
Timor-Leste	2019	1 293	31	-	-	4	96	92	-	-	-	-	-	-	-	-	-	-
Togo	2019	8 082	42	-	-	-	-	-	-	-	0	100	-	-	-	-	-	-
Tokelau	2019	1	0	100	0	0	100	100	NA	NA	NA	NA	NA	100	0	0	100	100
Tonga	2019	104	23	93	0	7	93	93	100	0	0	100	100	88	0	12	88	88
Trinidad and Tobago	2019	1 395	53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tunisia	2019	11 695	69	-	-	5	95	91	-	-	-	-	-	-	-	-	-	-
Uganda	2019	44 270	24	44	55	1	99	73	-	-	2	98	-	38	54	8	92	-
United Republic of Tanzania	2019	58 005	35	56	31	14	86	74	74	24	3	97	90	45	29	26	74	59
Vanuatu	2019	300	25	80	0	20	80	80	100	0	0	100	100	80	0	20	80	80
Venezuela (Bolivarian Republic of)	2019	28 516	88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Viet Nam	2018	95 546	36	51	46	3	97	51	-	-	-	-	-	-	-	-	-	-
Zambia	2019	17 861	44	-	-	16	84	-	-	-	5	95	-	75	25	0	100	83
Zimbabwe	2019	14 645	32	81	13	6	94	-	89	5	5	95	-	80	14	6	94	-

WATER COUNTRY, AREA OR TERRITORY	HOSPITAL					NON-HOSPITAL					GOVERNMENT					NON-GOVERNMENT				
	Basic water services (improved, available and on premises)	Limited water services (improved, not available and/or not on premises)	No water service (no facility or unimproved)	Improved water source	Improved water on premises	Basic water services (improved, available and on premises)	Limited water services (improved, not available and/or not on premises)	No water service (no facility or unimproved)	Improved water source	Improved water on premises	Basic water services (improved, available and on premises)	Limited water services (improved, not available and/or not on premises)	No water service (no facility or unimproved)	Improved water source	Improved water on premises	Basic water services (improved, available and on premises)	Limited water services (improved, not available and/or not on premises)	No water service (no facility or unimproved)	Improved water source	Improved water on premises
Rwanda	-	-	-	-	-	72	27	0	100	99	82	18	0	100	94	-	-	-	-	-
Saint Kitts and Nevis	-	-	-	-	-	-	-	0	100	100	-	-	-	-	-	-	-	0	100	100
Saint Lucia	-	-	-	-	-	-	-	-	-	-	-	-	4	96	92	-	-	-	-	-
Saint Vincent and the Grenadines	-	-	-	-	-	-	-	-	-	-	-	-	0	100	100	-	-	-	-	-
San Marino	100	0	0	100	100	100	0	0	100	100	100	0	0	100	100	100	0	0	100	100
Senegal	81	19	0	100	81	65	-	-	-	65	64	-	-	-	64	82	18	0	100	82
Serbia	100	0	0	100	100	98	1	1	99	98	98	1	1	99	98	-	-	-	-	-
Sierra Leone	-	-	-	-	-	28	64	8	92	28	21	71	7	93	21	-	-	-	-	-
Solomon Islands	70	2	29	71	70	75	0	25	75	75	74	0	26	74	74	-	-	-	-	-
Somalia	86	12	2	-	-	66	23	12	-	-	65	22	13	-	-	73	22	5	-	-
South Africa	-	-	-	-	-	-	-	0	100	-	-	-	-	-	-	-	-	-	-	-
South Sudan	-	-	9	91	61	-	-	40	60	13	-	-	-	-	-	-	-	-	-	-
Sri Lanka	100	0	0	100	100	99	0	1	99	99	99	0	1	99	99	100	0	0	100	100
Syrian Arab Republic	78	15	7	93	80	61	33	6	94	82	69	25	7	93	82	-	-	-	-	-
Tajikistan	24	76	0	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thailand	93	-	-	-	100	82	-	-	-	100	88	-	-	-	100	-	-	-	-	-
Timor-Leste	50	25	25	75	75	-	-	4	96	91	-	-	-	-	-	-	-	-	-	-
Togo	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tokelau	100	0	0	100	100	-	-	-	-	-	100	0	0	100	100	-	-	-	-	-
Tonga	100	0	0	100	100	92	0	8	92	92	93	0	7	93	93	-	-	-	-	-
Trinidad and Tobago	-	-	0	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tunisia	-	-	-	-	-	-	-	5	95	91	-	-	5	95	91	-	-	-	-	-
Uganda	-	-	9	91	-	61	36	3	97	80	-	-	4	96	-	-	-	3	97	-
United Republic of Tanzania	63	27	10	90	72	59	35	6	94	86	47	34	20	80	66	72	26	1	99	87
Vanuatu	100	0	0	100	100	80	0	20	80	80	80	0	20	80	80	-	-	-	-	-
Venezuela (Bolivarian Republic of)	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Viet Nam	46	53	1	99	46	52	44	4	96	52	-	-	-	-	-	-	-	-	-	-
Zambia	-	-	2	98	-	68	20	12	88	80	71	17	12	88	76	-	-	4	96	-
Zimbabwe	90	6	5	95	-	80	14	6	94	-	81	14	6	94	-	81	13	6	94	-

ANNEX 2.2 | NATIONAL SANITATION ESTIMATES

SANITATION COUNTRY, AREA OR TERRITORY	Year	Population (thousands)	% urban	NATIONAL					URBAN					RURAL				
				Basic sanitation services *(improved, usable, dedicated for staff, sex-separated with menstrual hygiene facilities, and adapted for limited mobility)*	Limited sanitation services *(improved, not meeting all criteria for basic)*	No sanitation service *(no facility or unimproved)*	Improved	Improved and useable	Basic sanitation services *(improved, usable, dedicated for staff, sex-separated with menstrual hygiene facilities, and adapted for limited mobility)*	Limited sanitation services *(improved, not meeting all criteria for basic)*	No sanitation service *(no facility or unimproved)*	Improved	Improved and useable	Basic sanitation services *(improved, usable, dedicated for staff, sex-separated with menstrual hygiene facilities, and adapted for limited mobility)*	Limited sanitation services *(improved, not meeting all criteria for basic)*	No sanitation service *(no facility or unimproved)*	Improved	Improved and useable
Afghanistan	2019	38 042	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Albania	2019	2 881	61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Andorra	2019	77	88	-	-	0	100	100	-	-	-	-	-	-	-	-	-	-
Antigua and Barbuda	2019	97	25	-	-	0	100	100	-	-	-	-	-	-	-	-	-	-
Armenia	2019	2 958	63	41	40	19	81	62	-	-	-	-	-	-	-	-	-	-
Azerbaijan	2019	10 048	56	48	52	0	100	98	-	-	-	-	-	-	-	-	-	-
Bangladesh	2019	163 046	37	31	63	6	94	36	28	69	3	97	28	29	66	5	95	48
Benin	2019	11 801	48	-	-	9	91	-	-	-	9	91	-	-	-	8	92	-
Bhutan	2019	763	42	16	83	1	99	84	-	-	-	-	-	-	-	-	-	-
Bolivia (Plurinational State of)	2019	11 513	70	-	-	-	-	-	-	-	-	-	-	-	-	7	93	-
Brazil	2019	211 050	87	45	55	0	100	84	-	-	-	-	-	-	-	-	-	-
Burkina Faso	2019	20 321	30	-	-	7	93	-	-	-	5	95	-	-	-	5	95	-
Burundi	2019	11 531	13	48	-	-	-	76	-	-	-	-	-	-	-	-	-	-
Cambodia	2019	16 487	24	-	-	-	-	100	-	-	-	-	-	-	-	-	-	-
Chad	2019	15 947	23	-	-	14	86	-	-	-	8	92	-	-	-	29	71	-
China	2019	1 457 558	61	-	-	3	97	83	-	-	-	-	-	-	-	-	-	-
Colombia	2019	50 339	81	-	-	-	-	-	-	-	-	-	-	-	-	28	72	-
Comoros	2019	851	29	2	49	49	51	38	-	-	-	-	-	-	-	-	-	-
Congo	2019	5 381	67	-	-	-	-	-	-	-	-	-	-	-	-	0	100	-
Cook Islands	2019	18	75	60	20	20	80	80	50	0	50	50	50	67	33	0	100	100
Czech Republic	2019	10 689	74	-	-	0	100	-	-	-	-	-	-	-	-	-	-	-
Democratic Republic of the Congo	2019	86 791	45	-	-	36	64	64	-	-	17	83	82	-	-	42	58	58
Djibouti	2019	974	78	-	-	5	95	-	-	-	0	100	-	-	-	11	89	-
Dominican Republic	2019	10 739	82	-	-	-	-	-	-	-	-	-	-	-	-	9	91	-
Egypt	2010	82 761	43	-	-	9	91	82	-	-	-	-	-	-	-	-	-	-
Eritrea	2012	3 250	36	-	-	18	82	65	-	-	-	-	-	-	-	-	-	-
Estonia	2019	1 326	69	-	-	0	100	100	-	-	-	-	-	-	-	-	-	-
Ethiopia	2019	112 079	21	59	17	24	76	76	66	23	10	90	85	3	69	28	72	55
Faroe Islands	2019	49	42	-	-	0	100	-	-	-	-	-	-	-	-	-	-	-
Gabon	2014	1 884	88	-	-	10	90	80	-	-	-	-	-	-	-	-	-	-
Georgia	2019	3 997	59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Germany	2019	83 517	77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ghana	2019	30 418	57	-	-	-	-	-	-	-	-	-	-	2	82	16	84	33
Grenada	2019	112	36	-	-	0	100	100	-	-	-	-	-	-	-	-	-	-
Guatemala	2019	17 581	51	-	-	10	90	31	-	-	-	-	-	-	-	-	-	-
Guinea	2019	12 771	37	-	-	12	89	-	-	-	-	-	-	-	-	-	-	-
Guinea-Bissau	2019	1 921	44	17	83	0	100	48	-	-	-	-	-	-	-	-	-	-
Guyana	2008	747	27	-	-	11	89	82	-	-	-	-	-	-	-	-	-	-

SANITATION COUNTRY, AREA OR TERRITORY	HOSPITAL					NON-HOSPITAL					GOVERNMENT					NON-GOVERNMENT				
	Basic sanitation services *(improved, usable, dedicated for staff, sex-separated with menstrual hygiene facilities, and adapted for limited mobility)*	Limited sanitation services *(improved, not meeting all criteria for basic)*	No sanitation service *(no facility or unimproved)*	Improved	Improved and useable	Basic sanitation services *(improved, usable, dedicated for staff, sex-separated with menstrual hygiene facilities, and adapted for limited mobility)*	Limited sanitation services *(improved, not meeting all criteria for basic)*	No sanitation service *(no facility or unimproved)*	Improved	Improved and useable	Basic sanitation services *(improved, usable, dedicated for staff, sex-separated with menstrual hygiene facilities, and adapted for limited mobility)*	Limited sanitation services *(improved, not meeting all criteria for basic)*	No sanitation service *(no facility or unimproved)*	Improved	Improved and useable	Basic sanitation services *(improved, usable, dedicated for staff, sex-separated with menstrual hygiene facilities, and adapted for limited mobility)*	Limited sanitation services *(improved, not meeting all criteria for basic)*	No sanitation service *(no facility or unimproved)*	Improved	Improved and useable
Afghanistan	-	-	5	95	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Albania	61	39	0	100	96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Andorra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Antigua and Barbuda	-	-	0	100	100	-	-	-	-	-	-	-	0	100	100	-	-	0	100	100
Armenia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Azerbaijan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bangladesh	19	77	4	96	19	21	71	8	92	21	17	77	6	94	17	34	63	2	98	36
Benin	-	-	2	98	98	-	-	10	90	-	-	-	7	93	-	-	-	15	85	-
Bhutan	12	88	0	100	96	14	85	1	99	83	16	83	1	99	84	-	-	-	-	-
Bolivia (Plurinational State of)	-	-	-	-	-	-	-	7	93	-	-	-	-	-	-	-	-	-	-	-
Brazil	-	-	-	-	-	32	65	3	97	84	-	-	-	-	-	-	-	-	-	-
Burkina Faso	-	-	0	100	100	-	-	7	93	-	-	-	5	95	-	-	-	5	95	-
Burundi	-	-	-	-	-	48	-	-	-	76	48	-	-	-	74	26	-	-	-	84
Cambodia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	-	-	-	-	-
Chad	-	-	7	93	-	-	-	16	84	-	-	-	20	80	-	-	-	32	68	-
China	-	-	-	-	-	-	-	3	97	83	-	-	3	97	83	-	-	-	-	-
Colombia	-	-	-	-	-	-	-	28	72	-	-	-	-	-	-	-	-	1	100	-
Comoros	20	80	0	100	60	1	47	52	48	36	-	-	-	-	-	-	-	-	-	-
Congo	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cook Islands	100	0	0	100	100	33	33	33	67	67	60	20	20	80	80	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Democratic Republic of the Congo	-	-	24	76	74	-	-	47	53	53	-	-	42	58	58	-	-	28	72	72
Djibouti	-	-	0	100	-	-	-	6	94	-	-	-	6	94	-	-	-	0	100	-
Dominican Republic	-	-	-	-	-	-	-	9	91	-	-	-	-	-	-	-	-	-	-	-
Egypt	-	-	5	95	89	-	-	9	91	81	-	-	10	90	80	-	-	2	98	97
Eritrea	-	-	20	80	59	-	-	17	83	66	-	-	-	-	-	-	-	-	-	-
Estonia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethiopia	79	10	10	90	90	3	70	27	73	56	2	73	24	76	56	89	6	5	95	94
Faroe Islands	-	-	0	100	-	-	-	-	-	-	-	-	0	100	-	-	-	-	-	-
Gabon	-	-	-	-	-	-	-	-	-	-	-	-	12	88	76	-	-	-	-	-
Georgia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	100	100
Germany	-	-	0	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ghana	53	46	0	100	99	2	82	15	85	33	2	79	19	81	30	-	-	-	-	-
Grenada	-	-	0	100	100	-	-	-	-	-	-	-	0	100	100	-	-	-	-	-
Guatemala	-	-	5	95	67	-	-	14	86	2	-	-	10	90	31	-	-	-	-	-
Guinea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Guinea-Bissau	-	-	-	-	-	15	85	0	100	45	-	-	-	-	-	-	-	-	-	-
Guyana	-	-	-	-	-	-	-	12	88	81	-	-	12	89	81	-	-	-	-	-

SANITATION COUNTRY, AREA OR TERRITORY	Year	Population (thousands)	% urban	NATIONAL					URBAN					RURAL				
				Basic sanitation services *(improved, usable, dedicated for staff, sex-separated with menstrual hygiene facilities, and adapted for limited mobility)*	Limited sanitation services *(improved, not meeting all criteria for basic)*	No sanitation service *(no facility or unimproved)*	Improved	Improved and useable	Basic sanitation services *(improved, usable, dedicated for staff, sex-separated with menstrual hygiene facilities, and adapted for limited mobility)*	Limited sanitation services *(improved, not meeting all criteria for basic)*	No sanitation service *(no facility or unimproved)*	Improved	Improved and useable	Basic sanitation services *(improved, usable, dedicated for staff, sex-separated with menstrual hygiene facilities, and adapted for limited mobility)*	Limited sanitation services *(improved, not meeting all criteria for basic)*	No sanitation service *(no facility or unimproved)*	Improved	Improved and useable
Haiti	2019	11 263	56	-	-	11	89	89	-	-	6	94	94	-	-	13	87	87
Honduras	2019	9 746	58	1	95	4	96	84	-	-	-	-	-	4	79	18	82	76
Hungary	2019	9 685	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
India	2019	1 366 418	34	-	-	-	-	-	-	-	-	-	-	-	-	11	89	-
Indonesia	2019	270 626	56	-	-	13	87	-	-	-	1	99	-	-	-	1	99	-
Iraq	2019	39 310	71	-	-	4	96	92	-	-	1	99	97	-	-	7	93	86
Kenya	2019	52 574	28	-	-	16	84	-	-	-	-	-	-	5	93	2	98	84
Kuwait	2019	4 207	100	100	0	0	100	100	100	0	0	100	100	-	-	-	-	-
Kyrgyzstan	2019	6 416	37	-	-	-	-	-	-	-	-	-	-	-	-	3	97	-
Lao People's Democratic Republic	2018	7 061	35	-	-	-	-	68	-	-	-	-	-	-	-	-	-	-
Lebanon	2019	6 856	89	16	66	18	83	83	-	-	-	-	-	-	-	-	-	-
Lesotho	2019	2 125	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Liberia	2019	4 937	52	-	-	24	76	-	-	-	8	93	-	-	-	26	75	-
Libya	2019	6 777	80	-	-	5	95	-	-	-	-	-	-	-	-	-	-	-
Lithuania	2019	2 760	68	-	-	0	100	100	-	-	-	-	-	-	-	-	-	-
Madagascar	2019	26 969	38	-	-	0	100	-	-	-	-	-	-	-	-	-	-	-
Malawi	2019	18 629	17	3	89	7	93	77	-	-	-	-	-	3	91	6	94	79
Maldives	2019	531	40	15	85	0	100	99	50	50	0	100	100	13	87	0	100	99
Mali	2019	19 658	43	-	-	5	95	-	-	-	5	95	-	2	95	3	97	78
Mauritania	2019	4 526	55	-	-	11	89	-	-	-	-	-	-	-	-	-	-	-
Mexico	2019	127 576	80	-	-	-	-	-	30	67	3	97	90	-	-	-	-	-
Mongolia	2019	3 225	69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Montenegro	2019	628	67	85	15	0	100	100	-	-	-	-	-	-	-	-	-	-
Mozambique	2019	30 366	37	43	-	-	-	72	67	33	0	-	80	2	73	25	75	43
Myanmar	2019	54 045	31	-	-	-	-	-	-	-	-	-	100	-	-	-	-	-
Namibia	2019	2 495	51	-	-	9	91	81	-	-	-	-	-	-	-	-	-	-
Nepal	2019	28 609	20	-	-	8	92	92	-	-	-	-	-	-	-	-	-	-
Nicaragua	2019	6 546	59	-	-	12	88	-	-	-	2	98	-	-	-	32	68	-
Niger	2019	23 311	17	0	74	26	74	29	-	-	2	98	64	0	72	28	72	26
Nigeria	2019	200 964	51	17	31	51	49	49	27	-	-	-	67	30	-	-	-	53
North Macedonia	2019	2 083	58	100	0	0	100	100	100	0	0	100	100	-	-	-	-	-
occupied Palestinian territory*	2019	4 981	76	-	-	0	100	-	-	-	-	-	-	-	-	-	-	-
Papua New Guinea	2019	8 776	13	-	-	32	68	-	-	-	-	-	-	-	-	-	-	-
Paraguay	2019	7 045	62	26	62	12	88	63	-	-	-	-	-	-	-	-	-	-
Peru	2019	32 510	78	7	83	10	90	83	-	-	-	-	-	-	-	4	96	-
Philippines	2018	106 651	47	-	-	-	-	-	-	-	-	-	-	-	-	5	95	-
Romania	2019	19 365	54	-	-	3	97	-	-	-	-	-	-	-	-	-	-	-
Russian Federation	2019	145 872	75	-	-	18	82	-	-	-	-	-	-	-	-	-	-	-
Rwanda	2019	12 627	17	6	93	1	99	91	-	-	-	-	-	6	92	2	98	91
Saint Kitts and Nevis	2019	53	31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Occupied Palestinian territory includes east Jerusalem.

SANITATION	HOSPITAL					NON-HOSPITAL					GOVERNMENT					NON-GOVERNMENT				
COUNTRY, AREA OR TERRITORY	**Basic sanitation services** *(improved, usable, dedicated for staff, sex-separated with menstrual hygiene facilities, and adapted for limited mobility)*	**Limited sanitation services** *(improved, not meeting all criteria for basic)*	**No sanitation service** *(no facility or unimproved)*	**Improved**	**Improved and useable**	**Basic sanitation services** *(improved, usable, dedicated for staff, sex-separated with menstrual hygiene facilities, and adapted for limited mobility)*	**Limited sanitation services** *(improved, not meeting all criteria for basic)*	**No sanitation service** *(no facility or unimproved)*	**Improved**	**Improved and useable**	**Basic sanitation services** *(improved, usable, dedicated for staff, sex-separated with menstrual hygiene facilities, and adapted for limited mobility)*	**Limited sanitation services** *(improved, not meeting all criteria for basic)*	**No sanitation service** *(no facility or unimproved)*	**Improved**	**Improved and useable**	**Basic sanitation services** *(improved, usable, dedicated for staff, sex-separated with menstrual hygiene facilities, and adapted for limited mobility)*	**Limited sanitation services** *(improved, not meeting all criteria for basic)*	**No sanitation service** *(no facility or unimproved)*	**Improved**	**Improved and useable**
Haiti	-	-	4	96	96	-	-	12	88	88	-	-	14	86	86	-	-	9	91	91
Honduras	-	-	-	-	-	4	84	12	88	79	4	92	4	96	80	-	-	-	-	-
Hungary	63	37	0	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
India	-	-	-	-	90	-	-	32	68	-	-	-	-	-	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-	13	87	-	-	-	-	-	-	-	-	-	-	-
Iraq	-	-	-	-	-	-	-	15	85	62	-	-	4	96	92	-	-	-	-	-
Kenya	-	-	9	91	91	4	85	11	89	89	0	93	7	93	93	-	-	23	77	-
Kuwait	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kyrgyzstan	-	-	0	100	-	-	-	3	97	-	-	-	-	-	-	-	-	-	-	-
Lao People's Democratic Republic	-	-	-	-	55	-	-	-	-	75	-	-	-	-	-	-	-	-	-	-
Lebanon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lesotho	-	-	0	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Liberia	-	-	5	95	-	-	-	24	76	-	-	-	25	76	-	-	-	6	94	-
Libya	-	-	11	89	-	-	-	0	100	-	-	-	-	-	-	-	-	-	-	-
Lithuania	-	-	0	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Madagascar	-	-	-	-	-	-	-	0	100	-	-	-	-	-	-	-	-	-	-	-
Malawi	-	-	4	96	96	3	92	5	95	80	4	88	9	91	73	-	-	-	-	-
Maldives	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mali	-	-	8	92	-	2	96	3	97	78	2	96	3	97	78	-	-	6	94	-
Mauritania	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mexico	30	67	3	97	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mongolia	-	-	-	-	-	-	-	56	44	-	-	-	-	-	-	-	-	-	-	-
Montenegro	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mozambique	86	14	0	-	86	2	76	22	78	47	3	97	0	100	22	-	-	-	-	-
Myanmar	-	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Namibia	-	-	13	87	74	-	-	8	92	84	-	-	-	-	-	-	-	-	-	-
Nepal	-	-	9	91	91	-	-	8	92	92	-	-	7	93	93	-	-	12	88	88
Nicaragua	-	-	6	94	-	-	-	28	72	-	-	-	-	-	-	-	-	-	-	-
Niger	-	-	5	95	-	0	73	27	73	32	0	71	29	71	26	-	-	1	99	-
Nigeria	-	-	-	-	-	29	36	36	64	62	28	-	-	-	57	31	-	-	-	71
North Macedonia	100	0	0	100	100	100	0	0	100	100	100	0	0	100	100	100	0	0	100	100
occupied Palestinian territory*	-	-	0	100	-	-	-	0	100	-	-	-	-	-	-	-	-	0	100	-
Papua New Guinea	-	-	-	-	-	-	-	33	67	-	-	-	-	-	-	-	-	-	-	-
Paraguay	-	-	-	-	-	-	-	-	-	-	26	62	12	88	63	-	-	-	-	-
Peru	-	-	-	-	-	5	87	7	93	82	7	83	10	90	83	-	-	-	-	-
Philippines	-	-	-	-	-	-	-	5	95	-	-	-	5	95	-	-	-	-	-	-
Romania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Russian Federation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rwanda	-	-	-	-	-	6	92	2	98	94	6	94	0	100	94	-	-	-	-	-
Saint Kitts and Nevis	-	-	0	100	100	-	-	0	100	100	-	-	-	-	-	-	-	-	-	-

SANITATION COUNTRY, AREA OR TERRITORY	Year	Population (thousands)	% urban	NATIONAL					URBAN					RURAL				
				Basic sanitation services *(improved, usable, dedicated for staff, sex-separated with menstrual hygiene facilities, and adapted for limited mobility)*	**Limited sanitation services** *(improved, not meeting all criteria for basic)*	**No sanitation service** *(no facility or unimproved)*	**Improved**	**Improved and useable**	**Basic sanitation services** *(improved, usable, dedicated for staff, sex-separated with menstrual hygiene facilities, and adapted for limited mobility)*	**Limited sanitation services** *(improved, not meeting all criteria for basic)*	**No sanitation service** *(no facility or unimproved)*	**Improved**	**Improved and useable**	**Basic sanitation services** *(improved, usable, dedicated for staff, sex-separated with menstrual hygiene facilities, and adapted for limited mobility)*	**Limited sanitation services** *(improved, not meeting all criteria for basic)*	**No sanitation service** *(no facility or unimproved)*	**Improved**	**Improved and useable**
Saint Lucia	2019	183	19	-	-	0	100	100	-	-	-	-	-	-	-	-	-	-
Saint Vincent and the Grenadines	2019	111	53	-	-	0	100	100	-	-	-	-	-	-	-	-	-	-
San Marino	2019	34	97	-	-	0	100	100	-	-	0	100	100	-	-	-	-	-
Senegal	2019	16 296	48	-	-	19	81	81	-	-	10	90	90	-	-	20	80	80
Serbia	2019	8 772	56	6	92	2	98	78	9	91	0	100	80	3	93	5	95	76
Seychelles	2019	98	57	-	-	0	100	-	-	-	-	-	-	-	-	-	-	-
Sierra Leone	2019	7 813	42	-	-	11	89	89	-	-	11	89	89	-	-	5	95	83
Somalia	2019	15 443	46	-	-	16	-	76	-	-	6	-	86	-	-	32	-	61
South Africa	2009	50 477	62	-	-	5	96	-	-	-	-	-	-	-	-	-	-	-
South Sudan	2017	10 911	19	-	-	8	92	84	-	-	-	-	-	-	-	-	-	-
Sri Lanka	2019	21 324	19	-	-	7	93	93	-	-	8	92	92	-	-	7	93	93
Sudan	2019	42 813	35	-	-	37	63	-	-	-	-	-	-	-	-	-	-	-
Tajikistan	2012	7 875	27	-	-	6	94	43	-	-	-	-	-	-	-	-	-	-
Thailand	2019	69 626	51	61	-	-	-	96	-	-	-	-	-	-	-	-	-	-
Timor-Leste	2019	1 293	31	-	-	3	97	93	-	-	-	-	-	-	-	-	-	-
Togo	2019	8 082	42	-	-	-	-	77	-	-	-	-	82	-	-	-	-	71
Tokelau	2019	1	0	100	0	0	100	100	NA	NA	NA	NA	NA	100	0	0	100	100
Tonga	2019	104	23	-	-	14	86	82	-	-	0	100	100	-	-	24	76	71
Uganda	2019	44 270	24	-	-	25	75	75	-	-	5	95	94	-	-	10	90	86
United Republic of Tanzania	2019	58 005	35	-	-	52	48	35	-	-	49	51	50	-	-	52	48	43
Vanuatu	2019	300	25	-	-	36	64	-	-	-	2	98	-	-	-	42	58	-
Viet Nam	2018	95 546	36	-	-	4	96	-	-	-	-	-	-	-	-	-	-	-
Zambia	2019	17 861	44	-	-	7	93	91	-	-	3	97	-	1	96	3	97	47
Zimbabwe	2019	14 645	32	17	82	1	99	64	28	67	4	96	88	16	84	0	100	60

SANITATION	HOSPITAL					NON-HOSPITAL					GOVERNMENT					NON-GOVERNMENT				
COUNTRY, AREA OR TERRITORY	**Basic sanitation services** *(improved, usable, dedicated for staff, sex-separated with menstrual hygiene facilities, and adapted for limited mobility)*	**Limited sanitation services** *(improved, not meeting all criteria for basic)*	**No sanitation service** *(no facility or unimproved)*	**Improved**	**Improved and useable**	**Basic sanitation services** *(improved, usable, dedicated for staff, sex-separated with menstrual hygiene facilities, and adapted for limited mobility)*	**Limited sanitation services** *(improved, not meeting all criteria for basic)*	**No sanitation service** *(no facility or unimproved)*	**Improved**	**Improved and useable**	**Basic sanitation services** *(improved, usable, dedicated for staff, sex-separated with menstrual hygiene facilities, and adapted for limited mobility)*	**Limited sanitation services** *(improved, not meeting all criteria for basic)*	**No sanitation service** *(no facility or unimproved)*	**Improved**	**Improved and useable**	**Basic sanitation services** *(improved, usable, dedicated for staff, sex-separated with menstrual hygiene facilities, and adapted for limited mobility)*	**Limited sanitation services** *(improved, not meeting all criteria for basic)*	**No sanitation service** *(no facility or unimproved)*	**Improved**	**Improved and useable**
Saint Lucia	-	-	-	-	-	-	-	-	-	-	-	-	0	100	100	-	-	-	-	-
Saint Vincent and the Grenadines	-	-	-	-	-	-	-	-	-	-	-	-	0	100	100	-	-	-	-	-
San Marino	100	0	0	100	100	-	-	-	-	-	100	0	0	100	100	-	-	0	100	100
Senegal	-	-	18	82	82	-	-	19	81	81	-	-	18	82	82	-	-	21	79	79
Serbia	8	92	0	100	56	6	92	3	97	50	6	92	2	98	78	-	-	-	-	-
Seychelles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sierra Leone	-	-	-	-	-	-	-	6	94	83	-	-	3	97	83	-	-	-	-	-
Somalia	-	-	0	-	90	-	-	18	-	75	-	-	21	-	71	-	-	6	-	88
South Africa	-	-	-	-	-	-	-	5	96	-	-	-	-	-	-	-	-	-	-	-
South Sudan	-	-	6	94	88	-	-	9	91	82	-	-	-	-	-	-	-	-	-	-
Sri Lanka	-	-	1	99	99	-	-	12	88	88	-	-	8	92	92	-	-	0	100	100
Sudan	-	-	-	-	-	-	-	37	63	-	-	-	-	-	-	-	-	-	-	-
Tajikistan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thailand	75	-	-	-	99	45	-	-	-	92	61	-	-	-	96	-	-	-	-	-
Timor-Leste	-	-	0	100	100	-	-	4	96	93	-	-	-	-	-	-	-	-	-	-
Togo	-	-	-	-	81	-	-	-	-	77	-	-	-	-	75	-	-	-	-	-
Tokelau	100	0	0	100	100	-	-	-	-	-	100	0	0	100	100	-	-	-	-	-
Tonga	-	-	0	100	100	-	-	17	83	79	-	-	14	86	82	-	-	-	-	-
Uganda	-	-	-	-	-	-	-	1	99	88	-	-	3	97	86	-	-	6	94	92
United Republic of Tanzania	-	-	43	57	54	-	-	52	48	34	-	-	54	46	28	-	-	46	54	50
Vanuatu	-	-	0	100	-	-	-	37	63	-	-	-	36	64	-	-	-	-	-	-
Viet Nam	-	-	1	99	97	-	-	5	95	-	-	-	-	-	-	-	-	-	-	-
Zambia	-	-	0	100	100	1	92	7	93	65	2	89	9	91	45	-	-	1	99	99
Zimbabwe	38	62	0	100	82	14	85	1	99	61	21	80	0	100	63	15	84	1	99	64

ANNEX 2.3 | NATIONAL HYGIENE ESTIMATES

HYGIENE				NATIONAL					URBAN					RURAL				
COUNTRY, AREA OR TERRITORY	Year	Population (thousands)	% urban	Basic hygiene services (hand hygiene facilities at points of care and water and soap at toilets)	Limited hygiene services (hand hygiene facilities missing at points of care or toilets)	No hygiene service (hand hygiene facilities missing at points of care and toilets)	Hand hygiene facilities at points of care	Handwashing facility near toilets	Basic hygiene services (hand hygiene facilities at points of care and water and soap at toilets)	Limited hygiene services (hand hygiene facilities missing at points of care or toilets)	No hygiene service (hand hygiene facilities missing at points of care and toilets)	Hand hygiene facilities at points of care	Handwashing facility near toilets	Basic hygiene services (hand hygiene facilities at points of care and water and soap at toilets)	Limited hygiene services (hand hygiene facilities missing at points of care or toilets)	No hygiene service (hand hygiene facilities missing at points of care and toilets)	Hand hygiene facilities at points of care	Handwashing facility near toilets
Afghanistan	2019	38 042	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Albania	2019	2 881	61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Antigua and Barbuda	2019	97	25	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-
Armenia	2019	2 958	63	69	-	-	94	69	-	-	-	-	-	-	-	-	-	-
Azerbaijan	2019	10 048	56	100	0	0	100	100	-	-	-	-	-	-	-	-	-	-
Bangladesh	2019	163 046	37	38	59	3	77	44	52	48	0	76	53	33	63	4	69	40
Barbados	2009	281	32	-	-	-	76	-	-	-	-	-	-	-	-	-	-	-
Benin	2019	11 801	48	-	-	-	91	-	-	-	-	96	-	-	-	-	87	-
Bhutan	2019	763	42	73	-	-	88	82	-	-	-	-	-	-	-	-	-	-
Bolivia (Plurinational State of)	2019	11 513	70	-	-	-	66	-	-	-	-	-	-	-	-	-	-	-
Burkina Faso	2019	20 321	30	-	-	1	92	-	-	-	1	82	-	-	-	1	97	-
Burundi	2019	11 531	13	-	-	-	66	-	-	-	-	-	-	-	-	-	-	-
Cambodia	2019	16 487	24	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-
Cameroon	2019	25 876	57	-	-	-	74	-	-	-	-	-	-	-	-	-	-	-
Chad	2019	15 947	23	-	-	-	75	-	-	-	-	92	-	-	-	-	80	-
China	2019	1 457 558	61	36	64	0	36	67	-	-	-	-	-	-	-	-	-	-
Colombia	2019	50 339	81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72
Comoros	2019	851	29	-	-	-	24	-	-	-	-	-	-	-	-	-	-	-
Congo	2018	5 244	67	-	-	-	61	-	-	-	-	61	-	-	-	-	61	-
Cook Islands	2019	18	75	-	-	-	80	-	-	-	-	50	-	-	-	-	100	-
Côte d'Ivoire	2019	25 717	51	-	-	5	75	-	-	-	5	74	-	-	-	-	-	-
Czech Republic	2019	10 689	74	100	0	0	100	100	-	-	-	-	-	-	-	-	-	-
Democratic Republic of the Congo	2019	86 791	45	-	-	-	81	-	-	-	-	89	-	-	-	-	79	-
Djibouti	2019	974	78	-	-	-	35	-	-	-	-	45	-	-	-	-	24	-
Dominican Republic	2019	10 739	82	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54
Egypt	2019	100 388	43	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-
Estonia	2019	1 326	69	100	0	0	100	100	-	-	-	-	-	-	-	-	-	-
Ethiopia	2019	112 079	21	-	-	2	65	-	-	-	1	65	-	24	62	13	42	32
Gabon	2014	1 884	88	-	-	-	93	-	-	-	-	-	-	-	-	-	-	-
Gambia	2019	2 348	62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Georgia	2019	3 997	59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Germany	2019	83 517	77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ghana	2019	30 418	57	-	-	3	93	-	-	-	4	93	-	13	69	17	80	20
Grenada	2019	112	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Guatemala	2019	17 581	51	-	-	-	35	-	-	-	-	-	-	-	-	-	-	-
Guinea	2019	12 771	37	-	-	-	75	-	-	-	-	-	-	-	-	-	-	-
Guinea-Bissau	2019	1 921	44	47	48	4	49	66	-	-	-	-	-	-	-	-	-	-
Guyana	2008	747	27	-	-	-	54	-	-	-	-	-	-	-	-	-	-	-
Haiti	2019	11 263	56	-	-	-	62	-	-	-	-	75	-	-	-	-	63	-
Honduras	2019	9 746	58	-	-	-	26	-	-	-	-	-	-	30	40	30	39	61
Hungary	2019	9 685	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
India	2019	1 366 418	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

HYGIENE COUNTRY, AREA OR TERRITORY	HOSPITAL					NON-HOSPITAL					GOVERNMENT					NON-GOVERNMENT				
	Basic hygiene services *(hand hygiene facilities at points of care and water and soap at toilets)*	**Limited hygiene services** *(hand hygiene facilities missing at points of care or toilets)*	**No hygiene service** *(hand hygiene facilities missing at points of care and toilets)*	**Hand hygiene facilities at points of care**	**Handwashing facility near toilets**	**Basic hygiene services** *(hand hygiene facilities at points of care and water and soap at toilets)*	**Limited hygiene services** *(hand hygiene facilities missing at points of care or toilets)*	**No hygiene service** *(hand hygiene facilities missing at points of care and toilets)*	**Hand hygiene facilities at points of care**	**Handwashing facility near toilets**	**Basic hygiene services** *(hand hygiene facilities at points of care and water and soap at toilets)*	**Limited hygiene services** *(hand hygiene facilities missing at points of care or toilets)*	**No hygiene service** *(hand hygiene facilities missing at points of care and toilets)*	**Hand hygiene facilities at points of care**	**Handwashing facility near toilets**	**Basic hygiene services** *(hand hygiene facilities at points of care and water and soap at toilets)*	**Limited hygiene services** *(hand hygiene facilities missing at points of care or toilets)*	**No hygiene service** *(hand hygiene facilities missing at points of care and toilets)*	**Hand hygiene facilities at points of care**	**Handwashing facility near toilets**
Afghanistan	29	65	6	77	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Albania	98	-	-	100	98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Antigua and Barbuda	-	-	-	100	-	-	-	-	100	-	-	-	-	100	-	-	-	-	100	-
Armenia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Azerbaijan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bangladesh	34	63	2	76	40	41	55	4	78	48	32	65	4	72	38	69	31	0	75	71
Barbados	-	-	-	-	-	-	-	-	-	-	-	-	-	76	-	-	-	-	-	-
Benin	-	-	-	100	-	-	-	-	89	-	-	-	-	90	-	-	-	-	93	-
Bhutan	54	-	-	95	55	76	-	-	88	85	73	-	-	88	82	-	-	-	-	-
Bolivia (Plurinational State of)	-	-	-	75	-	-	-	-	61	-	-	-	-	66	-	-	-	-	-	-
Burkina Faso	-	-	0	100	-	-	-	2	94	-	-	-	1	92	-	-	-	-	89	-
Burundi	-	-	-	-	-	-	-	-	66	-	-	-	-	-	-	-	-	-	-	-
Cambodia	-	-	-	-	-	-	-	-	-	-	-	-	-	100	-	-	-	-	-	-
Cameroon	-	-	-	76	-	-	-	-	73	-	-	-	-	69	-	-	-	-	85	-
Chad	-	-	-	100	-	-	-	-	75	-	-	-	-	82	-	-	-	-	83	-
China	-	-	-	-	-	36	64	0	36	67	36	64	0	36	67	-	-	-	-	-
Colombia	-	-	-	-	-	-	-	-	-	72	-	-	-	-	-	-	-	-	-	-
Comoros	-	-	-	40	-	-	-	-	23	-	-	-	-	-	-	-	-	-	-	-
Congo	-	-	-	63	-	-	-	-	61	-	-	-	-	58	-	-	-	-	65	-
Cook Islands	-	-	-	100	-	-	-	-	67	-	-	-	-	80	-	-	-	-	-	-
Côte d'Ivoire	-	-	-	-	-	-	-	6	69	-	-	-	3	77	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Democratic Republic of the Congo	-	-	-	94	-	-	-	-	69	-	-	-	-	76	-	-	-	-	89	-
Djibouti	-	-	-	64	-	-	-	-	29	-	-	-	-	31	-	-	-	-	61	-
Dominican Republic	-	-	-	-	-	-	-	-	-	54	-	-	-	-	-	-	-	-	-	-
Egypt	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
Estonia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethiopia	-	-	1	85	-	24	63	13	52	32	24	64	13	52	31	-	-	2	68	-
Gabon	-	-	-	-	-	-	-	-	-	-	-	-	-	91	-	-	-	-	-	-
Gambia	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Georgia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	76	-	-	76	91
Germany	-	-	-	97	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ghana	-	-	5	88	-	13	70	17	82	20	12	70	18	80	19	-	-	-	-	-
Grenada	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	-
Guatemala	-	-	-	33	-	-	-	-	36	-	-	-	-	35	-	-	-	-	-	-
Guinea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Guinea-Bissau	100	0	0	100	100	44	51	5	46	65	-	-	-	-	-	-	-	-	-	-
Guyana	-	-	-	76	-	-	-	-	51	-	-	-	-	52	-	-	-	-	-	-
Haiti	-	-	-	78	-	-	-	-	61	-	-	-	-	57	-	-	-	-	64	-
Honduras	-	-	-	-	-	30	40	30	32	61	30	41	29	33	62	-	-	-	-	-
Hungary	90	-	-	95	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
India	78	-	-	99	78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

HYGIENE COUNTRY, AREA OR TERRITORY	Year	Population (thousands)	% urban	NATIONAL					URBAN					RURAL				
				Basic hygiene services *(hand hygiene facilities at points of care and water and soap at toilets)*	Limited hygiene services *(hand hygiene facilities missing at points of care or toilets)*	No hygiene service *(hand hygiene facilities missing at points of care and toilets)*	Hand hygiene facilities at points of care	Handwashing facility near toilets	Basic hygiene services *(hand hygiene facilities at points of care and water and soap at toilets)*	Limited hygiene services *(hand hygiene facilities missing at points of care or toilets)*	No hygiene service *(hand hygiene facilities missing at points of care and toilets)*	Hand hygiene facilities at points of care	Handwashing facility near toilets	Basic hygiene services *(hand hygiene facilities at points of care and water and soap at toilets)*	Limited hygiene services *(hand hygiene facilities missing at points of care or toilets)*	No hygiene service *(hand hygiene facilities missing at points of care and toilets)*	Hand hygiene facilities at points of care	Handwashing facility near toilets
Indonesia	2019	270 626	56	-	-	1	96	-	-	-	1	94	-	-	-	1	94	-
Iraq	2019	39 310	71	-	-	-	77	-	-	-	-	78	-	-	-	-	77	-
Kenya	2019	52 574	28	-	-	1	82	-	-	-	2	89	-	42	49	9	87	52
Kiribati	2019	118	55	-	-	-	40	-	-	-	-	71	-	-	-	-	37	-
Kuwait	2019	4 207	100	100	0	0	100	100	100	0	0	100	100	-	-	-	-	-
Kyrgyzstan	2019	6 416	37	-	-	-	-	-	-	-	-	-	-	-	-	-	44	-
Lao People's Democratic Republic	2018	7 061	35	-	-	-	79	-	-	-	-	-	-	-	-	-	-	-
Lebanon	2019	6 856	89	-	-	1	-	93	-	-	-	-	-	-	-	-	-	-
Liberia	2019	4 937	52	-	-	-	84	-	-	-	-	82	-	-	-	-	84	-
Libya	2019	6 777	80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lithuania	2019	2 760	68	99	-	-	99	100	-	-	-	-	-	-	-	-	-	-
Madagascar	2019	26 969	38	-	-	-	33	-	-	-	-	-	-	-	-	-	-	-
Malawi	2019	18 629	17	27	41	32	68	36	-	-	-	-	-	27	41	32	55	36
Maldives	2019	531	40	80	20	0	88	86	75	25	0	100	75	80	20	0	88	86
Mali	2019	19 658	43	-	-	-	79	-	-	-	-	79	-	42	50	8	84	48
Mauritania	2019	4 526	55	-	-	-	89	-	-	-	-	-	-	-	-	-	-	-
Mexico	2019	127 576	80	-	-	-	-	-	-	-	-	72	-	-	-	-	-	-
Mongolia	2016	3 056	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Montenegro	2019	628	67	100	-	-	100	100	-	-	-	-	-	-	-	-	-	-
Mozambique	2019	30 366	37	-	-	-	85	-	-	-	-	94	-	40	40	21	74	55
Myanmar	2019	54 045	31	-	-	-	-	-	-	-	-	100	-	-	-	-	-	-
Namibia	2019	2 495	51	-	-	-	81	-	-	-	-	-	-	-	-	-	-	-
Nepal	2019	28 609	20	-	-	-	46	-	-	-	-	-	-	-	-	-	-	-
Nicaragua	2019	6 546	59	-	-	5	51	-	-	-	2	55	-	25	68	7	50	25
Niger	2019	23 311	17	4	96	0	60	5	-	-	0	80	-	4	96	1	52	5
Nigeria	2019	200 964	51	66	22	12	66	76	70	27	3	75	70	59	38	3	59	86
North Macedonia	2019	2 083	58	100	0	0	100	100	100	0	0	100	100	-	-	-	-	-
Panama	2019	4 246	68	-	-	-	89	-	-	-	-	-	-	-	-	-	-	-
Papua New Guinea	2019	8 776	13	-	-	-	98	-	-	-	-	-	-	-	-	-	-	-
Paraguay	2019	7 045	62	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-
Peru	2019	32 510	78	-	-	-	74	-	-	-	-	-	-	-	-	-	-	-
Romania	2019	19 365	54	-	-	-	-	100	-	-	-	-	-	-	-	-	-	-
Rwanda	2019	12 627	17	65	25	10	70	84	-	-	-	-	-	65	25	10	70	84
Saint Kitts and Nevis	2010	49	31	-	-	-	92	-	-	-	-	-	-	-	-	-	-	-
Saint Lucia	2009	172	19	-	-	-	92	-	-	-	-	-	-	-	-	-	-	-
Saint Vincent and the Grenadines	2019	111	53	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-
San Marino	2019	34	97	100	0	0	100	100	100	0	0	100	100	-	-	-	-	-
Senegal	2019	16 296	48	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-
Serbia	2019	8 772	56	86	14	1	98	87	90	10	0	99	91	81	17	1	98	82
Seychelles	2019	98	57	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-
Sierra Leone	2019	7 813	42	-	-	-	91	-	-	-	-	90	-	-	-	-	85	-
Solomon Islands	2019	670	24	-	-	-	72	-	-	-	-	83	-	-	-	-	70	-
Somalia	2019	15 443	46	-	-	-	58	-	-	-	-	77	-	-	-	-	30	-
South Africa	2007	49 120	61	-	-	-	-	42	-	-	-	-	-	-	-	-	-	-
South Sudan	2017	10 911	19	-	-	-	77	-	-	-	-	-	-	-	-	-	-	-

HYGIENE COUNTRY, AREA OR TERRITORY	HOSPITAL					NON-HOSPITAL					GOVERNMENT					NON-GOVERNMENT				
	Basic hygiene services *(hand hygiene facilities at points of care and water and soap at toilets)*	**Limited hygiene services** *(hand hygiene facilities missing at points of care or toilets)*	**No hygiene service** *(hand hygiene facilities missing at points of care and toilets)*	**Hand hygiene facilities at points of care**	**Handwashing facility near toilets**	**Basic hygiene services** *(hand hygiene facilities at points of care and water and soap at toilets)*	**Limited hygiene services** *(hand hygiene facilities missing at points of care or toilets)*	**No hygiene service** *(hand hygiene facilities missing at points of care and toilets)*	**Hand hygiene facilities at points of care**	**Handwashing facility near toilets**	**Basic hygiene services** *(hand hygiene facilities at points of care and water and soap at toilets)*	**Limited hygiene services** *(hand hygiene facilities missing at points of care or toilets)*	**No hygiene service** *(hand hygiene facilities missing at points of care and toilets)*	**Hand hygiene facilities at points of care**	**Handwashing facility near toilets**	**Basic hygiene services** *(hand hygiene facilities at points of care and water and soap at toilets)*	**Limited hygiene services** *(hand hygiene facilities missing at points of care or toilets)*	**No hygiene service** *(hand hygiene facilities missing at points of care and toilets)*	**Hand hygiene facilities at points of care**	**Handwashing facility near toilets**
Indonesia	-	-	1	88	-	-	-	1	91	-	-	-	1	98	-	-	-	2	70	-
Iraq	-	-	-	-	-	-	-	-	76	-	-	-	-	77	-	-	-	-	-	-
Kenya	-	-	0	79	-	42	49	9	80	52	42	49	9	79	52	-	-	-	-	-
Kiribati	-	-	-	100	-	-	-	-	42	-	-	-	-	43	-	-	-	-	-	-
Kuwait	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kyrgyzstan	-	-	-	-	-	-	-	-	44	-	-	-	-	-	-	-	-	-	-	-
Lao People's Democratic Republic	-	-	-	60	-	-	-	-	89	-	-	-	-	-	-	-	-	-	-	-
Lebanon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Liberia	-	-	-	59	-	-	-	-	69	-	-	-	-	83	-	-	-	-	82	-
Libya	-	-	-	94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lithuania	100	0	0	100	100	99	-	-	99	100	-	-	-	-	-	-	-	-	-	-
Madagascar	-	-	-	-	-	-	-	-	35	-	-	-	-	43	-	-	-	-	-	-
Malawi	-	-	-	90	-	27	41	32	60	36	25	43	32	59	33	-	-	-	-	-
Maldives	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mali	-	-	-	73	-	42	50	8	84	48	42	50	8	84	48	-	-	-	78	-
Mauritania	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mexico	-	-	-	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mongolia	-	-	-	-	-	-	-	-	-	33	-	-	-	-	-	-	-	-	-	-
Montenegro	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mozambique	-	-	-	98	-	40	40	21	74	55	38	40	22	75	52	-	-	-	-	-
Myanmar	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Namibia	-	-	-	85	-	-	-	-	74	-	-	-	-	-	-	-	-	-	-	-
Nepal	-	-	-	70	-	-	-	-	43	-	-	-	-	43	-	-	-	-	73	-
Nicaragua	-	-	2	70	-	25	70	5	49	25	-	-	-	-	-	-	-	-	-	-
Niger	-	-	-	86	-	4	96	0	58	5	4	95	0	59	6	-	-	-	90	-
Nigeria	-	-	0	78	-	62	34	4	62	76	65	32	3	65	72	76	22	2	76	88
North Macedonia	100	0	0	100	100	100	0	0	100	100	100	0	0	100	100	100	0	0	100	100
Panama	-	-	-	100	-	-	-	-	87	-	-	-	-	89	-	-	-	-	-	-
Papua New Guinea	-	-	-	-	-	-	-	-	99	-	-	-	-	-	-	-	-	-	-	-
Paraguay	-	-	-	-	-	-	-	-	-	-	-	-	-	15	-	-	-	-	-	-
Peru	-	-	-	-	-	-	-	-	75	-	-	-	-	74	-	-	-	-	-	-
Romania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rwanda	-	-	-	-	-	65	25	10	71	84	65	25	10	71	84	-	-	-	-	-
Saint Kitts and Nevis	-	-	-	67	-	-	-	-	96	-	-	-	-	95	-	-	-	-	86	-
Saint Lucia	-	-	-	-	-	-	-	-	-	-	-	-	-	92	-	-	-	-	-	-
Saint Vincent and the Grenadines	-	-	-	-	-	-	-	-	-	-	-	-	-	100	-	-	-	-	-	-
San Marino	100	0	0	100	100	100	0	0	100	100	100	0	0	100	100	100	0	0	100	100
Senegal	-	-	-	96	-	-	-	-	100	-	-	-	-	99	-	-	-	-	100	-
Serbia	85	15	0	100	85	85	15	1	99	87	86	14	1	98	87	-	-	-	-	-
Seychelles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sierra Leone	-	-	-	-	-	-	-	-	91	-	-	-	-	84	-	-	-	-	-	-
Solomon Islands	-	-	-	100	-	-	-	-	71	-	-	-	-	72	-	-	-	-	-	-
Somalia	-	-	-	85	-	-	-	-	56	-	-	-	-	52	-	-	-	-	71	-
South Africa	-	-	-	-	-	-	-	-	-	42	-	-	-	-	-	-	-	-	-	-
South Sudan	-	-	-	80	-	-	-	-	76	-	-	-	-	-	-	-	-	-	-	-

HYGIENE COUNTRY, AREA OR TERRITORY	Year	Population (thousands)	% urban	NATIONAL					URBAN					RURAL				
				Basic hygiene services *(hand hygiene facilities at points of care and water and soap at toilets)*	**Limited hygiene services** *(hand hygiene facilities missing at points of care or toilets)*	**No hygiene service** *(hand hygiene facilities missing at points of care and toilets)*	**Hand hygiene facilities at points of care**	**Handwashing facility near toilets**	**Basic hygiene services** *(hand hygiene facilities at points of care and water and soap at toilets)*	**Limited hygiene services** *(hand hygiene facilities missing at points of care or toilets)*	**No hygiene service** *(hand hygiene facilities missing at points of care and toilets)*	**Hand hygiene facilities at points of care**	**Handwashing facility near toilets**	**Basic hygiene services** *(hand hygiene facilities at points of care and water and soap at toilets)*	**Limited hygiene services** *(hand hygiene facilities missing at points of care or toilets)*	**No hygiene service** *(hand hygiene facilities missing at points of care and toilets)*	**Hand hygiene facilities at points of care**	**Handwashing facility near toilets**
Sri Lanka	2019	21 324	19	-	-	-	91	-	-	-	-	98	-	-	-	-	89	-
Thailand	2019	69 626	51	93	-	-	93	98	-	-	-	-	-	-	-	-	-	-
Timor-Leste	2019	1 293	31	-	-	-	46	-	-	-	-	-	-	-	-	-	-	-
Togo	2019	8 082	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tokelau	2019	1	0	-	-	-	100	-	NA	NA	NA	NA	NA	-	-	-	100	-
Tonga	2019	104	23	-	-	-	100	-	-	-	-	100	-	-	-	-	100	-
Trinidad and Tobago	2010	1 328	54	-	-	-	84	-	-	-	-	-	-	-	-	-	-	-
Tunisia	2019	11 695	69	-	-	-	46	-	-	-	-	-	-	-	-	-	-	-
Uganda	2019	44 270	24	-	-	1	75	-	-	-	1	68	-	-	-	1	76	-
United Republic of Tanzania	2019	58 005	35	-	-	-	78	-	-	-	-	87	-	-	-	-	73	-
Vanuatu	2019	300	25	-	-	-	86	-	-	-	-	100	-	-	-	-	84	-
Zambia	2019	17 861	44	-	-	-	83	-	-	-	-	83	-	14	69	17	90	24
Zimbabwe	2019	14 645	32	58	32	10	83	-	70	25	5	83	-	57	33	11	82	-

HYGIENE COUNTRY, AREA OR TERRITORY	HOSPITAL					NON-HOSPITAL					GOVERNMENT					NON-GOVERNMENT				
	Basic hygiene services *(hand hygiene facilities at points of care and water and soap at toilets)*	**Limited hygiene services** *(hand hygiene facilities missing at points of care or toilets)*	**No hygiene service** *(hand hygiene facilities missing at points of care and toilets)*	**Hand hygiene facilities at points of care**	**Handwashing facility near toilets**	**Basic hygiene services** *(hand hygiene facilities at points of care and water and soap at toilets)*	**Limited hygiene services** *(hand hygiene facilities missing at points of care or toilets)*	**No hygiene service** *(hand hygiene facilities missing at points of care and toilets)*	**Hand hygiene facilities at points of care**	**Handwashing facility near toilets**	**Basic hygiene services** *(hand hygiene facilities at points of care and water and soap at toilets)*	**Limited hygiene services** *(hand hygiene facilities missing at points of care or toilets)*	**No hygiene service** *(hand hygiene facilities missing at points of care and toilets)*	**Hand hygiene facilities at points of care**	**Handwashing facility near toilets**	**Basic hygiene services** *(hand hygiene facilities at points of care and water and soap at toilets)*	**Limited hygiene services** *(hand hygiene facilities missing at points of care or toilets)*	**No hygiene service** *(hand hygiene facilities missing at points of care and toilets)*	**Hand hygiene facilities at points of care**	**Handwashing facility near toilets**
Sri Lanka	-	-	-	93	-	-	-	-	90	-	-	-	-	91	-	-	-	-	99	-
Thailand	94	-	-	94	98	92	-	-	92	98	93	-	-	93	98	-	-	-	-	-
Timor-Leste	-	-	-	100	-	-	-	-	46	-	-	-	-	46	-	-	-	-	-	-
Togo	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tokelau	-	-	-	100	-	-	-	-	-	-	-	-	-	100	-	-	-	-	-	-
Tonga	-	-	-	100	-	-	-	-	100	-	-	-	-	100	-	-	-	-	-	-
Trinidad and Tobago	-	-	-	51	-	-	-	-	89	-	-	-	-	85	-	-	-	-	-	-
Tunisia	-	-	-	-	-	-	-	-	46	-	-	-	-	46	-	-	-	-	-	-
Uganda	-	-	0	83	-	-	-	2	72	-	-	-	1	77	-	-	-	8	85	-
United Republic of Tanzania	-	-	-	69	-	-	-	-	97	-	-	-	-	72	-	-	-	-	90	-
Vanuatu	-	-	-	100	-	-	-	-	86	-	-	-	-	86	-	-	-	-	-	-
Zambia	-	-	-	92	-	14	69	17	71	24	13	71	16	85	23	-	-	-	86	-
Zimbabwe	56	35	9	82	-	59	32	10	83	-	53	35	12	78	-	61	31	9	94	-

ANNEX 2.4 | NATIONAL WASTE MANAGEMENT ESTIMATES

WASTE MANAGEMENT COUNTRY, AREA OR TERRITORY	Year	Population (thousands)	% urban	NATIONAL					URBAN					RURAL				
				Basic waste management services (waste segregated and treated and disposed of safely)	Limited waste management services (waste not segregated or treated and disposed of safely)	No waste management service (waste not segregated nor treated and disposed of safely)	Waste segregated	Waste treated	Basic waste management services (waste segregated and treated and disposed of safely)	Limited waste management services (waste not segregated or treated and disposed of safely)	No waste management service (waste not segregated nor treated and disposed of safely)	Waste segregated	Waste treated	Basic waste management services (waste segregated and treated and disposed of safely)	Limited waste management services (waste not segregated or treated and disposed of safely)	No waste management service (waste not segregated nor treated and disposed of safely)	Waste segregated	Waste treated
Afghanistan	2019	38 042	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Albania	2019	2 881	61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Andorra	2019	77	88	100	0	0	100	100	-	-	-	-	-	-	-	-	-	-
Anguilla	2019	15	100	-	-	-	-	-	-	-	-	-	-	NA	NA	NA	NA	NA
Antigua and Barbuda	2013	92	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Armenia	2019	2 958	63	97	-	-	97	97	-	-	-	-	-	-	-	-	-	-
Azerbaijan	2019	10 048	56	-	-	-	-	55	-	-	-	-	-	-	-	-	-	-
Bahrain	2010	1 241	89	43	-	-	43	47	-	-	-	-	-	-	-	-	-	-
Bangladesh	2019	163 046	37	11	76	13	34	11	15	82	4	54	15	9	74	17	26	10
Barbados	2009	281	32	-	-	-	59	-	-	-	-	-	-	-	-	-	-	-
Belize	2019	390	46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benin	2019	11 801	48	64	-	-	64	70	-	-	-	-	-	-	-	0	-	-
Bhutan	2019	763	42	36	-	-	80	50	-	-	-	-	-	-	-	-	-	-
Bolivia (Plurinational State of)	2008	9 721	66	-	-	-	-	47	-	-	-	-	-	-	-	-	-	-
Brazil	2019	211 050	87	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-
British Virgin Islands	2019	30	48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Burkina Faso	2019	20 321	30	25	75	0	25	75	32	-	-	32	85	15	85	0	15	95
Burundi	2019	11 531	13	82	-	-	82	97	-	-	-	-	-	-	-	-	-	-
Cambodia	2019	16 487	24	-	-	-	94	-	-	-	-	-	-	-	-	-	-	-
Cameroon	2019	25 876	57	-	-	-	56	-	-	-	-	-	-	-	-	-	-	-
Chad	2019	15 947	23	75	-	-	78	75	70	-	-	70	75	55	-	-	71	55
China	2019	1 457 558	61	-	-	-	86	-	-	-	-	-	-	-	-	-	-	-
China, Hong Kong SAR	2019	7 436	100	100	-	-	-	-	-	-	-	-	-	NA	NA	NA	NA	NA
Comoros	2019	851	29	-	-	-	21	-	-	-	-	-	-	-	-	-	-	-
Congo	2018	5 244	67	12	27	60	40	26	12	32	55	45	25	12	21	66	34	27
Cook Islands	2019	18	75	-	-	-	80	-	-	-	-	50	-	-	-	-	100	-
Côte d'Ivoire	2019	25 717	51	-	-	-	84	-	-	-	-	83	-	-	-	-	-	-
Croatia	2007	4 362	55	-	-	-	-	66	-	-	-	-	-	-	-	-	-	-
Czech Republic	2019	10 689	74	100	0	0	100	100	-	-	-	-	-	-	-	-	-	-
Democratic Republic of the Congo	2019	86 791	45	0	100	0	0	49	0	97	3	0	53	0	100	0	0	47
Djibouti	2019	974	78	35	-	-	35	41	43	-	-	43	45	26	-	-	26	37
Dominica	2019	72	71	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ecuador	2019	17 374	64	49	-	-	53	65	53	-	-	58	69	42	-	-	45	57
Egypt	2019	100 388	43	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-
El Salvador	2019	6 454	73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Estonia	2019	1 326	69	100	0	0	100	100	-	-	-	-	-	-	-	-	-	-
Ethiopia	2019	112 079	21	64	-	-	92	64	85	-	-	97	85	23	77	0	76	55
Falkland Islands (Malvinas)	2019	3	78	-	-	-	-	100	-	-	-	-	100	-	-	-	-	-
Gabon	2014	1 884	88	-	-	-	-	35	-	-	-	-	-	-	-	-	-	-
Gambia	2016	2 149	60	-	-	-	66	-	-	-	-	-	-	-	-	-	-	-

WASTE MANAGEMENT — COUNTRY, AREA OR TERRITORY	HOSPITAL					NON-HOSPITAL					GOVERNMENT					NON-GOVERNMENT				
	Basic waste management services *(waste segregated and treated and disposed of safely)*	**Limited waste management services** *(waste not segregated or treated and disposed of safely)*	**No waste management service** *(waste not segregated nor treated and disposed of safely)*	**Waste segregated**	**Waste treated**	**Basic waste management services** *(waste segregated and treated and disposed of safely)*	**Limited waste management services** *(waste not segregated or treated and disposed of safely)*	**No waste management service** *(waste not segregated nor treated and disposed of safely)*	**Waste segregated**	**Waste treated**	**Basic waste management services** *(waste segregated and treated and disposed of safely)*	**Limited waste management services** *(waste not segregated or treated and disposed of safely)*	**No waste management service** *(waste not segregated nor treated and disposed of safely)*	**Waste segregated**	**Waste treated**	**Basic waste management services** *(waste segregated and treated and disposed of safely)*	**Limited waste management services** *(waste not segregated or treated and disposed of safely)*	**No waste management service** *(waste not segregated nor treated and disposed of safely)*	**Waste segregated**	**Waste treated**
Afghanistan	23	72	4	43	61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Albania	91	-	-	91	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Andorra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anguilla	100	-	-	100	100	-	-	-	-	-	-	-	-	-	100	-	-	-	-	-
Antigua and Barbuda	-	-	-	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Armenia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Azerbaijan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bahrain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bangladesh	10	78	12	36	10	12	74	14	32	12	11	73	15	30	11	15	82	3	54	15
Barbados	-	-	-	-	-	-	-	-	-	-	-	-	-	59	-	-	-	-	-	-
Belize	-	-	-	-	25	-	-	-	-	52	-	-	-	-	51	-	-	-	-	-
Benin	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-
Bhutan	77	-	-	92	87	31	-	-	79	45	36	-	-	80	50	-	-	-	-	-
Bolivia (Plurinational State of)	-	-	-	-	51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Brazil	-	-	-	-	-	-	-	-	94	-	-	-	-	-	-	-	-	-	-	-
British Virgin Islands	-	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Burkina Faso	74	26	0	74	88	27	73	0	27	69	16	84	0	16	94	37	-	-	37	86
Burundi	-	-	-	-	-	82	-	-	82	97	-	-	-	-	-	-	-	-	-	-
Cambodia	-	-	-	-	-	-	-	-	-	-	-	-	-	94	-	-	-	-	-	-
Cameroon	-	-	-	-	-	-	-	-	56	-	-	-	-	47	-	-	-	-	65	-
Chad	93	-	-	94	93	72	-	-	82	72	60	-	-	73	60	60	-	-	60	73
China	-	-	-	-	-	-	-	-	86	-	-	-	-	86	-	-	-	-	-	-
China, Hong Kong SAR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Comoros	-	-	-	60	-	-	-	-	18	-	-	-	-	-	-	-	-	-	-	-
Congo	16	31	53	47	31	12	27	61	39	25	14	30	57	44	26	10	24	67	33	24
Cook Islands	-	-	-	100	-	-	-	-	67	-	-	-	-	80	-	-	-	-	-	-
Côte d'Ivoire	-	-	-	-	-	-	-	-	78	-	-	-	-	93	-	-	-	-	-	-
Croatia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Democratic Republic of the Congo	0	97	3	0	58	0	100	0	0	38	0	100	0	0	46	0	100	0	0	52
Djibouti	64	-	-	64	65	29	-	-	29	57	31	-	-	31	52	61	-	-	61	92
Dominica	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	-
Ecuador	67	-	-	72	84	48	-	-	52	63	46	-	-	50	62	63	-	-	70	77
Egypt	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
El Salvador	-	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Estonia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethiopia	95	-	-	95	95	23	77	0	74	62	23	77	0	74	66	70	-	-	85	70
Falkland Islands (Malvinas)	-	-	-	-	100	-	-	-	-	-	-	-	-	-	100	-	-	-	-	-
Gabon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	-	-	-	-	-
Gambia	-	-	-	63	-	-	-	-	67	-	-	-	-	-	-	-	-	-	-	-

WASTE MANAGEMENT COUNTRY, AREA OR TERRITORY	Year	Population (thousands)	% urban	NATIONAL					URBAN					RURAL				
				Basic waste management services *(waste segregated and treated and disposed of safely)*	Limited waste management services *(waste not segregated or treated and disposed of safely)*	No waste management service *(waste not segregated nor treated and disposed of safely)*	Waste segregated	Waste treated	Basic waste management services *(waste segregated and treated and disposed of safely)*	Limited waste management services *(waste not segregated or treated and disposed of safely)*	No waste management service *(waste not segregated nor treated and disposed of safely)*	Waste segregated	Waste treated	Basic waste management services *(waste segregated and treated and disposed of safely)*	Limited waste management services *(waste not segregated or treated and disposed of safely)*	No waste management service *(waste not segregated nor treated and disposed of safely)*	Waste segregated	Waste treated
Georgia	2019	3 997	59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Germany	2019	83 517	77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ghana	2019	30 418	57	51	-	-	-	57	53	-	-	99	59	12	88	0	12	38
Gibraltar	2019	34	100	-	-	-	-	-	-	-	-	-	-	NA	NA	NA	NA	NA
Grenada	2019	112	36	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-
Guatemala	2014	15 923	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Guinea	2019	12 771	37	61	-	-	70	61	-	-	-	-	-	-	-	-	-	-
Guinea-Bissau	2019	1 921	44	2	93	5	2	41	-	-	-	-	-	-	-	-	-	-
Guyana	2008	747	27	-	-	24	-	17	-	-	-	-	-	-	-	-	-	-
Haiti	2019	11 263	56	6	84	10	16	36	5	82	12	9	50	6	86	8	20	28
Honduras	2019	9 746	58	-	-	-	-	-	-	-	-	-	-	28	71	1	56	56
Hungary	2019	9 685	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
India	2019	1 366 418	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indonesia	2019	270 626	56	66	-	-	86	66	67	-	-	85	68	64	-	-	87	64
Iraq	2019	39 310	71	-	-	-	83	-	-	-	-	94	-	-	-	-	70	-
Kenya	2019	52 574	28	27	73	0	27	45	-	-	-	-	60	45	55	0	71	62
Kiribati	2019	118	55	17	75	8	92	18	71	21	7	93	75	7	88	5	95	7
Kuwait	2019	4 207	100	100	0	0	100	100	100	0	0	100	100	-	-	-	-	-
Kyrgyzstan	2017	6 190	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lao People's Democratic Republic	2018	7 061	35	33	-	-	33	50	-	-	-	-	-	-	-	-	-	-
Lebanon	2019	6 856	89	64	31	5	95	64	-	-	-	-	-	-	-	-	-	-
Lesotho	2019	2 125	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Liberia	2019	4 937	52	31	-	-	31	37	38	-	-	38	59	21	-	-	21	42
Libya	2019	6 777	80	43	-	-	46	43	-	-	-	-	-	-	-	-	-	-
Lithuania	2019	2 760	68	93	-	-	100	93	-	-	-	-	-	-	-	-	-	-
Madagascar	2019	26 969	38	-	-	-	-	42	-	-	-	-	-	-	-	-	-	-
Malawi	2019	18 629	17	42	57	0	79	62	-	-	-	-	-	42	57	0	74	60
Maldives	2019	531	40	30	-	-	47	59	50	-	-	50	75	29	-	-	47	58
Mali	2019	19 658	43	52	-	-	52	66	48	-	-	48	67	61	39	0	64	70
Marshall Islands	2019	59	77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mauritania	2019	4 526	55	44	-	-	76	44	-	-	-	-	-	-	-	-	-	-
Mexico	2019	127 576	80	-	-	-	-	-	65	35	0	93	71	-	-	-	-	-
Micronesia (Fed. States of)	2019	114	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mongolia	2016	3 056	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Montenegro	2019	628	67	100	0	0	100	100	-	-	-	-	-	-	-	-	-	-
Montserrat	2019	5	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mozambique	2019	30 366	37	-	-	-	-	18	-	-	-	-	37	29	71	0	40	45
Myanmar	2019	54 045	31	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Namibia	2019	2 495	51	-	-	0	77	-	-	-	-	-	-	-	-	-	-	-
Nauru	2019	11	100	-	-	-	-	-	-	-	-	-	-	NA	NA	NA	NA	NA
Nepal	2019	28 609	20	1	62	36	5	21	-	-	-	-	-	-	-	-	-	-
Nicaragua	2019	6 546	59	31	64	6	44	74	40	58	2	53	55	26	67	8	40	70
Niger	2019	23 311	17	36	64	0	52	48	56	-	-	71	70	33	67	0	52	43

WASTE MANAGEMENT COUNTRY, AREA OR TERRITORY	HOSPITAL					NON-HOSPITAL					GOVERNMENT					NON-GOVERNMENT				
	Basic waste management services *(waste segregated and treated and disposed of safely)*	**Limited waste management services** *(waste not segregated or treated and disposed of safely)*	**No waste management service** *(waste not segregated nor treated and disposed of safely)*	**Waste segregated**	**Waste treated**	**Basic waste management services** *(waste segregated and treated and disposed of safely)*	**Limited waste management services** *(waste not segregated or treated and disposed of safely)*	**No waste management service** *(waste not segregated nor treated and disposed of safely)*	**Waste segregated**	**Waste treated**	**Basic waste management services** *(waste segregated and treated and disposed of safely)*	**Limited waste management services** *(waste not segregated or treated and disposed of safely)*	**No waste management service** *(waste not segregated nor treated and disposed of safely)*	**Waste segregated**	**Waste treated**	**Basic waste management services** *(waste segregated and treated and disposed of safely)*	**Limited waste management services** *(waste not segregated or treated and disposed of safely)*	**No waste management service** *(waste not segregated nor treated and disposed of safely)*	**Waste segregated**	**Waste treated**
Georgia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	82	-
Germany	95	-	-	97	95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ghana	86	13	1	97	86	0	100	0	0	32	12	88	0	12	29	-	-	-	-	-
Gibraltar	-	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Grenada	-	-	-	-	-	-	-	-	100	-	-	-	-	100	-	-	-	-	100	-
Guatemala	-	-	-	-	82	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Guinea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Guinea-Bissau	-	-	-	-	-	2	94	5	2	42	-	-	-	-	-	-	-	-	-	-
Guyana	-	-	17	-	27	-	-	25	-	16	-	-	24	-	16	-	-	-	-	-
Haiti	7	82	11	13	60	5	84	10	17	29	5	90	5	21	30	6	81	12	14	40
Honduras	-	-	-	-	-	28	71	1	56	56	28	71	1	56	56	-	-	-	-	-
Hungary	98	-	-	99	98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
India	76	21	3	80	94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indonesia	84	-	-	90	92	58	-	-	82	58	70	-	-	91	70	39	-	-	60	50
Iraq	-	-	-	-	-	-	-	-	81	-	-	-	-	83	-	-	-	-	-	-
Kenya	-	-	0	-	93	51	49	0	84	69	53	47	0	82	72	-	-	0	-	-
Kiribati	58	17	25	75	58	18	77	5	95	18	19	75	5	95	20	-	-	-	-	-
Kuwait	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kyrgyzstan	72	-	-	72	92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lao People's Democratic Republic	18	-	-	18	70	40	-	-	40	40	-	-	-	-	-	-	-	-	-	-
Lebanon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lesotho	-	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Liberia	28	-	-	28	66	25	-	-	25	56	22	-	-	22	43	38	-	-	38	62
Libya	50	-	-	84	50	42	-	-	51	42	-	-	-	-	-	-	-	-	-	-
Lithuania	98	-	-	100	98	93	-	-	100	93	-	-	-	-	-	-	-	-	-	-
Madagascar	-	-	-	-	-	-	-	-	-	44	-	-	-	-	42	-	-	-	-	-
Malawi	-	-	-	88	-	41	58	0	79	60	40	60	0	75	57	-	-	-	-	-
Maldives	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mali	-	-	-	-	-	61	39	0	81	73	61	39	0	65	70	41	-	-	41	65
Marshall Islands	0	-	-	100	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mauritania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mexico	65	35	0	93	71	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Micronesia (Fed. States of)	100	0	0	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mongolia	-	-	-	-	-	-	-	-	-	91	-	-	-	-	-	-	-	-	-	-
Montenegro	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Montserrat	100	-	-	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mozambique	-	-	-	-	55	29	71	0	40	46	32	68	0	41	47	-	-	-	-	-
Myanmar	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Namibia	-	-	0	84	-	-	-	0	74	-	-	-	0	-	-	-	-	-	-	-
Nauru	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nepal	1	35	64	4	43	1	73	26	5	13	1	71	28	4	13	2	32	65	5	44
Nicaragua	70	28	2	85	84	29	65	6	43	73	-	-	-	-	-	-	-	-	-	-
Niger	-	-	-	62	-	37	63	0	52	47	35	65	0	50	44	-	-	-	68	-

WASTE MANAGEMENT COUNTRY, AREA OR TERRITORY	Year	Population (thousands)	% urban	NATIONAL					URBAN					RURAL				
				Basic waste management services *(waste segregated and treated and disposed of safely)*	Limited waste management services *(waste not segregated or treated and disposed of safely)*	No waste management service *(waste not segregated nor treated and disposed of safely)*	Waste segregated	Waste treated	Basic waste management services *(waste segregated and treated and disposed of safely)*	Limited waste management services *(waste not segregated or treated and disposed of safely)*	No waste management service *(waste not segregated nor treated and disposed of safely)*	Waste segregated	Waste treated	Basic waste management services *(waste segregated and treated and disposed of safely)*	Limited waste management services *(waste not segregated or treated and disposed of safely)*	No waste management service *(waste not segregated nor treated and disposed of safely)*	Waste segregated	Waste treated
Nigeria	2019	200 964	51	43	47	9	73	55	51	45	4	77	61	35	52	13	65	38
Niue	2019	2	46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
North Macedonia	2019	2 083	58	100	0	0	100	100	100	0	0	100	100	-	-	-	-	-
Pakistan	2018	212 228	37	49	-	-	84	51	-	-	-	-	-	-	-	-	-	-
Palau	2019	18	80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
occupied Palestinian territory*	2014	4 429	75	-	-	-	17	-	-	-	-	-	-	-	-	-	-	-
Papua New Guinea	2019	8 776	13	10	-	-	97	10	-	-	-	-	-	-	-	-	-	-
Paraguay	2019	7 045	62	6	-	-	80	23	-	-	-	-	-	-	-	-	-	-
Peru	2019	32 510	78	28	-	-	97	28	-	-	-	-	-	-	-	-	-	-
Philippines	2018	106 651	47	-	-	-	-	-	-	-	-	-	-	-	-	-	68	-
Rwanda	2019	12 627	17	52	46	2	52	84	-	-	-	-	-	59	39	2	59	80
Saint Kitts and Nevis	2019	53	31	-	-	-	-	100	-	-	-	-	-	-	-	-	-	-
Saint Lucia	2019	183	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Saint Vincent and the Grenadines	2009	108	49	-	-	-	85	-	-	-	-	-	-	-	-	-	-	-
San Marino	2019	34	97	100	0	0	100	100	100	0	0	100	100	-	-	-	-	-
Senegal	2019	16 296	48	16	82	3	35	45	15	85	1	23	58	17	80	3	38	42
Serbia	2019	8 772	56	85	13	2	90	95	90	10	1	92	98	79	17	4	86	91
Seychelles	2019	98	57	80	-	-	80	80	-	-	-	-	-	-	-	-	-	-
Sierra Leone	2019	7 813	42	19	80	1	87	77	29	71	0	70	43	16	84	1	49	32
Solomon Islands	2019	670	24	12	67	20	78	21	53	30	17	83	54	5	75	20	78	15
Somalia	2019	15 443	46	13	63	24	53	26	20	69	10	69	34	2	54	44	28	13
South Africa	2009	50 477	62	-	-	-	-	78	-	-	-	-	-	-	-	-	-	-
South Sudan	2017	10 911	19	-	-	-	70	-	-	-	-	-	-	-	-	-	-	-
Sri Lanka	2019	21 324	19	27	69	4	51	44	47	51	1	66	69	19	76	5	45	34
Tajikistan	2012	7 875	27	-	-	42	-	-	-	-	-	-	-	-	-	-	-	-
Thailand	2019	69 626	51	98	2	0	-	98	-	-	-	-	-	-	-	-	-	-
Timor-Leste	2019	1 293	31	9	77	14	47	24	-	-	-	-	-	-	-	-	-	-
Togo	2019	8 082	42	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
Tokelau	2019	1	0	67	-	-	100	67	NA	NA	NA	NA	NA	67	-	-	100	67
Tonga	2019	104	23	63	38	0	100	66	82	18	0	100	82	50	50	0	100	56
Trinidad and Tobago	2010	1 328	54	-	-	-	87	-	-	-	-	-	-	-	-	-	-	-
Tunisia	2019	11 695	69	-	-	-	-	18	-	-	-	-	-	-	-	-	-	-
Tuvalu	2019	12	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Uganda	2019	44 270	24	48	-	-	78	48	48	-	-	72	48	40	-	-	79	40
United Republic of Tanzania	2019	58 005	35	28	64	8	64	37	43	49	7	72	55	19	74	8	55	32
Vanuatu	2019	300	25	-	-	-	79	-	-	-	-	67	-	-	-	-	81	-
Viet Nam	2018	95 546	36	-	-	-	-	70	-	-	-	-	-	-	-	-	-	-
Wallis and Futuna Islands	2019	11	0	-	-	-	-	100	NA	NA	NA	NA	NA	-	-	-	-	-
Yemen	2019	29 162	37	13	37	50	36	20	-	-	-	-	-	-	-	-	-	-
Zambia	2019	17 861	44	40	-	-	81	76	76	-	-	81	76	13	87	0	64	54
Zimbabwe	2019	14 645	32	78	22	0	84	78	85	15	0	92	85	53	47	0	64	53

*Occupied Palestinian territory includes east Jerusalem.

WASTE MANAGEMENT	HOSPITAL					NON-HOSPITAL					GOVERNMENT					NON-GOVERNMENT				
COUNTRY, AREA OR TERRITORY	Basic waste management services *(waste segregated and treated and disposed of safely)*	Limited waste management services *(waste not segregated or treated and disposed of safely)*	No waste management service *(waste not segregated nor treated and disposed of safely)*	Waste segregated	Waste treated	Basic waste management services *(waste segregated and treated and disposed of safely)*	Limited waste management services *(waste not segregated or treated and disposed of safely)*	No waste management service *(waste not segregated nor treated and disposed of safely)*	Waste segregated	Waste treated	Basic waste management services *(waste segregated and treated and disposed of safely)*	Limited waste management services *(waste not segregated or treated and disposed of safely)*	No waste management service *(waste not segregated nor treated and disposed of safely)*	Waste segregated	Waste treated	Basic waste management services *(waste segregated and treated and disposed of safely)*	Limited waste management services *(waste not segregated or treated and disposed of safely)*	No waste management service *(waste not segregated nor treated and disposed of safely)*	Waste segregated	Waste treated
Nigeria	48	47	4	74	65	40	49	11	69	45	44	48	8	72	47	24	57	18	48	48
Niue	100	0	0	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
North Macedonia	100	0	0	100	100	100	0	0	100	100	100	0	0	100	100	100	0	0	100	100
Pakistan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Palau	0	-	-	100	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
occupied Palestinian territory*	-	-	-	24	-	-	-	-	16	-	-	-	-	-	-	-	-	-	-	-
Papua New Guinea	-	-	-	-	-	9	-	-	98	9	-	-	-	-	-	-	-	-	-	-
Paraguay	-	-	-	-	-	-	-	-	-	-	6	-	-	80	23	-	-	-	-	-
Peru	-	-	-	-	-	27	-	-	98	27	28	-	-	97	28	-	-	-	-	-
Philippines	-	-	-	-	-	-	-	-	68	-	-	-	-	68	-	-	-	-	-	-
Rwanda	-	-	0	-	-	52	46	2	52	84	52	46	2	52	84	-	-	-	-	-
Saint Kitts and Nevis	-	-	-	-	100	-	-	-	-	100	-	-	-	-	100	-	-	-	100	-
Saint Lucia	100	-	-	100	100	-	-	-	-	-	-	-	-	-	-	100	-	-	100	100
Saint Vincent and the Grenadines	-	-	-	-	-	-	-	-	-	-	-	-	-	85	-	-	-	-	-	-
San Marino	100	0	0	100	100	100	0	0	100	100	100	0	0	100	100	100	0	0	100	100
Senegal	24	75	1	24	79	15	82	3	35	43	14	82	3	35	43	21	79	0	28	58
Serbia	85	15	0	85	96	84	14	3	91	95	85	13	2	90	95	-	-	-	-	-
Seychelles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sierra Leone	-	-	-	-	-	16	84	0	100	87	17	83	0	51	33	-	-	0	-	-
Solomon Islands	48	52	0	100	49	11	70	19	78	20	12	67	20	78	21	-	-	-	-	-
Somalia	34	64	2	93	42	12	63	25	50	24	12	60	28	45	25	15	70	15	71	28
South Africa	-	-	-	-	-	-	-	-	-	78	-	-	-	-	-	-	-	-	-	-
South Sudan	-	-	-	-	-	-	-	-	64	-	-	-	-	-	-	-	-	-	-	-
Sri Lanka	38	60	1	72	52	18	76	6	39	38	23	74	4	47	40	72	25	3	87	84
Tajikistan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thailand	99	1	0	-	98	97	3	0	-	99	98	2	0	-	98	-	-	-	-	-
Timor-Leste	50	50	0	100	50	9	77	14	47	23	9	77	14	47	24	-	-	-	-	-
Togo	-	-	0	-	100	-	-	0	-	-	-	-	0	-	-	-	-	-	-	-
Tokelau	67	-	-	100	67	-	-	-	-	-	67	-	-	100	67	-	-	-	-	-
Tonga	38	63	0	100	38	60	40	0	100	65	63	38	0	100	66	-	-	-	-	-
Trinidad and Tobago	-	-	-	64	-	-	-	-	91	-	-	-	-	88	-	-	-	-	-	-
Tunisia	-	-	-	-	-	-	-	-	-	18	-	-	-	-	18	-	-	-	-	-
Tuvalu	100	0	0	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Uganda	77	-	-	91	77	36	-	-	78	36	45	-	-	91	45	-	-	-	55	-
United Republic of Tanzania	37	58	5	72	37	28	63	8	66	64	19	74	7	61	34	50	39	11	71	64
Vanuatu	0	-	-	100	0	-	-	-	78	-	-	-	-	79	-	-	-	-	-	-
Viet Nam	-	-	-	-	92	-	-	-	-	63	-	-	-	-	-	-	-	-	-	-
Wallis and Futuna Islands	-	-	-	-	100	-	-	-	-	100	-	-	-	-	100	-	-	-	-	-
Yemen	7	44	49	32	19	-	-	-	-	-	14	35	51	36	20	-	-	-	-	-
Zambia	57	-	-	92	88	13	87	0	64	62	10	90	0	62	70	91	-	-	93	91
Zimbabwe	66	33	1	66	73	53	47	0	72	53	53	47	0	67	53	76	24	0	77	78

ANNEX 2.5 | NATIONAL ENVIRONMENTAL CLEANING ESTIMATES

ENVIRONMENTAL CLEANING COUNTRY, AREA OR TERRITORY	Year	Population (thousands)	% urban	NATIONAL					URBAN					RURAL				
				Basic environmental cleaning services *(cleaning protocols and staff trained)*	Limited environmental cleaning services *(cleaning protocols or some staff trained)*	No environmental cleaning service *(no protocols and no staff trained)*	Protocols for cleaning	Training on cleaning	Basic environmental cleaning services *(cleaning protocols and staff trained)*	Limited environmental cleaning services *(cleaning protocols or some staff trained)*	No environmental cleaning service *(no protocols and no staff trained)*	Protocols for cleaning	Training on cleaning	Basic environmental cleaning services *(cleaning protocols and staff trained)*	Limited environmental cleaning services *(cleaning protocols or some staff trained)*	No environmental cleaning service *(no protocols and no staff trained)*	Protocols for cleaning	Training on cleaning
Albania	2019	2 881	61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Azerbaijan	2019	10 048	56	-	-	-	-	100	-	-	-	-	-	-	-	-	-	-
Bangladesh	2019	163 046	37	-	-	-	-	26	-	-	-	-	26	-	-	-	-	26
Bhutan	2019	763	42	5	55	40	20	45	-	-	-	-	-	-	-	-	-	-
China	2019	1 457 558	61	-	-	-	46	-	-	-	-	-	-	-	-	-	-	-
Ethiopia	2019	112 079	21	-	-	-	-	-	-	-	-	-	-	30	53	17	47	34
Germany	2019	83 517	77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ghana	2019	30 418	57	-	-	-	-	-	-	-	-	-	-	41	58	1	64	46
Guinea-Bissau	2019	1 921	44	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-
Honduras	2019	9 746	58	-	-	-	-	-	-	-	-	-	-	43	36	21	61	64
Hungary	2019	9 685	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
India	2019	1 366 418	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kenya	2019	52 574	28	-	-	-	-	-	-	-	-	-	-	49	16	35	84	54
Kuwait	2019	4 207	100	100	0	0	100	100	100	0	0	100	100	-	-	-	-	-
Liberia	2017	4 702	51	-	-	-	-	90	-	-	-	-	-	-	-	-	-	-
Lithuania	2019	2 760	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Malawi	2019	18 629	17	20	41	40	59	30	-	-	-	-	-	20	41	40	59	30
Maldives	2019	531	40	18	38	44	62	19	50	25	25	75	50	17	38	44	62	18
Mali	2019	19 658	43	-	-	-	-	-	-	-	-	-	-	17	66	17	34	33
Montenegro	2019	628	67	80	15	5	80	85	-	-	-	-	-	-	-	-	-	-
Mozambique	2019	30 366	37	-	-	-	-	-	-	-	-	-	-	58	18	24	82	64
Niger	2019	23 311	17	5	81	14	15	19	-	-	-	-	-	5	81	14	15	19
North Macedonia	2019	2 083	58	100	0	0	100	100	100	0	0	100	100	-	-	-	-	-
Rwanda	2019	12 627	17	43	8	49	92	43	-	-	-	-	-	43	8	49	92	43
San Marino	2019	34	97	100	0	0	100	100	100	0	0	100	100	-	-	-	-	-
Serbia	2019	8 772	56	56	38	5	-	82	63	33	4	-	87	49	44	7	-	77
Thailand	2019	69 626	51	87	3	10	97	95	-	-	-	-	-	-	-	-	-	-
Tunisia	2019	11 695	69	43	49	8	51	43	-	-	-	-	-	-	-	-	-	-
Zambia	2019	17 861	44	-	-	-	-	-	-	-	-	-	-	29	31	41	69	37

ENVIRONMENTAL CLEANING COUNTRY, AREA OR TERRITORY	HOSPITAL					NON-HOSPITAL					GOVERNMENT					NON-GOVERNMENT				
	Basic environmental cleaning services *(cleaning protocols and staff trained)*	Limited environmental cleaning services *(cleaning protocols or some staff trained)*	No environmental cleaning service *(no protocols and no staff trained)*	Protocols for cleaning	Training on cleaning	Basic environmental cleaning services *(cleaning protocols and staff trained)*	Limited environmental cleaning services *(cleaning protocols or some staff trained)*	No environmental cleaning service *(no protocols and no staff trained)*	Protocols for cleaning	Training on cleaning	Basic environmental cleaning services *(cleaning protocols and staff trained)*	Limited environmental cleaning services *(cleaning protocols or some staff trained)*	No environmental cleaning service *(no protocols and no staff trained)*	Protocols for cleaning	Training on cleaning	Basic environmental cleaning services *(cleaning protocols and staff trained)*	Limited environmental cleaning services *(cleaning protocols or some staff trained)*	No environmental cleaning service *(no protocols and no staff trained)*	Protocols for cleaning	Training on cleaning
Albania	93	4	4	96	95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Azerbaijan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bangladesh	-	-	-	-	27	-	-	-	-	23	-	-	-	-	32	-	-	-	-	24
Bhutan	0	85	15	15	0	6	53	41	20	47	5	55	40	20	45	-	-	-	-	-
China	-	-	-	-	-	-	-	-	46	-	-	-	-	46	-	-	-	-	-	-
Ethiopia	-	-	-	-	-	30	53	17	47	34	29	54	17	46	33	-	-	-	-	-
Germany	-	-	-	69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ghana	-	-	-	-	-	41	58	1	64	46	39	60	1	64	44	-	-	-	-	-
Guinea-Bissau	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-
Honduras	-	-	-	-	-	43	36	21	61	64	42	37	22	61	63	-	-	-	-	-
Hungary	99	0	1	99	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
India	73	8	19	74	92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kenya	-	-	-	-	-	49	16	35	84	54	50	14	36	86	55	-	-	-	-	-
Kuwait	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Liberia	-	-	-	-	89	-	-	-	-	90	-	-	-	-	-	-	-	-	-	-
Lithuania	-	-	-	100	-	-	-	-	98	-	-	-	-	-	-	-	-	-	-	-
Malawi	-	-	-	-	-	20	41	40	59	30	19	40	40	60	30	-	-	-	-	-
Maldives	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mali	-	-	-	-	-	17	66	17	34	33	17	66	17	34	33	-	-	-	-	-
Montenegro	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mozambique	-	-	-	-	-	58	18	24	82	64	58	19	23	81	64	-	-	-	-	-
Niger	-	-	-	-	-	5	81	14	15	19	6	78	17	15	22	-	-	-	-	-
North Macedonia	100	0	0	100	100	100	0	0	100	100	100	0	0	100	100	100	0	0	100	100
Rwanda	-	-	-	-	-	43	8	49	92	43	43	8	49	92	43	-	-	-	-	-
San Marino	100	0	0	100	100	100	0	0	100	100	100	0	0	100	100	100	0	0	100	100
Serbia	67	31	2	-	90	54	40	6	-	81	56	38	5	-	82	-	-	-	-	-
Thailand	91	0	98	-	-	83	0	97	-	-	87	3	10	97	95	-	-	-	-	-
Tunisia	-	-	-	-	-	43	49	8	51	43	43	49	8	51	43	-	-	-	-	-
Zambia	-	-	-	-	-	29	31	41	69	37	28	30	41	70	36	-	-	-	-	-

ANNEX 3.1 | REGIONAL AND GLOBAL WATER ESTIMATES

WATER REGION	Year	Population (thousands)	% urban	NATIONAL					URBAN					RURAL				
				Basic water services *(improved, available and on premises)*	Limited water services *(improved, not available and/or not on premises)*	No water service *(no facility or unimproved)*	Improved water source	Improved water on premises	Basic water services *(improved, available and on premises)*	Limited water services *(improved, not available and/or not on premises)*	No water service *(no facility or unimproved)*	Improved water source	Improved water on premises	Basic water services *(improved, available and on premises)*	Limited water services *(improved, not available and/or not on premises)*	No water service *(no facility or unimproved)*	Improved water source	Improved water on premises
SDG REGIONS																		
Australia and New Zealand	2019	29 986	8620	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Central and Southern Asia	2019	1 991 423	3665	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eastern and South-Eastern Asia	2019	2 334 623	5975	89	2	9	91	90	-	-	4	96	-	-	-	9	91	-
Europe and Northern America	2019	1 113 784	7720	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Latin America and the Caribbean	2019	648 121	8083	-	-	6	94	89	-	-	-	-	-	-	-	-	-	-
Northern Africa and Western Asia	2019	517 106	6288	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oceania	2019	12 142	2291	71	21	8	92	86	-	-	-	-	-	-	-	-	-	-
Sub-Saharan Africa	2019	1 066 283	4103	46	35	19	81	57	67	27	6	94	74	42	35	23	76	50
OTHER REGIONAL GROUPINGS																		
Least Developed Countries	2019	1 033 389	3410	50	33	17	83	61	73	21	5	95	82	47	36	18	82	55
Landlocked Developing Countries	2019	520 973	3103	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Small Island Developing States	2019	-	-	66	24	11	89	76	-	-	-	-	-	78	9	14	86	78
WORLD	2019	7 713 468	5574	76	15	9	91	77	-	-	2	98	-	-	-	9	91	-

WATER REGION	HOSPITAL					NON-HOSPITAL					GOVERNMENT					NON-GOVERNMENT				
	Basic water services *(improved, available and on premises)*	Limited water services *(improved, not available and/or not on premises)*	No water service *(no facility or unimproved)*	Improved water source	Improved water on premises	Basic water services *(improved, available and on premises)*	Limited water services *(improved, not available and/or not on premises)*	No water service *(no facility or unimproved)*	Improved water source	Improved water on premises	Basic water services *(improved, available and on premises)*	Limited water services *(improved, not available and/or not on premises)*	No water service *(no facility or unimproved)*	Improved water source	Improved water on premises	Basic water services *(improved, available and on premises)*	Limited water services *(improved, not available and/or not on premises)*	No water service *(no facility or unimproved)*	Improved water source	Improved water on premises
SDG REGIONS																				
Australia and New Zealand	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Central and Southern Asia	91	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eastern and South-Eastern Asia	-	-	-	-	-	88	2	9	91	90	90	1	9	91	91	-	-	-	-	-
Europe and Northern America	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Latin America and the Caribbean	76	-	-	-	-	-	-	11	89	84	-	-	6	94	88	-	-	-	-	-
Northern Africa and Western Asia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oceania	-	-	-	-	-	71	21	7	93	86	-	-	-	-	-	-	-	-	-	-
Sub-Saharan Africa	71	22	7	93	72	47	38	15	85	54	44	33	22	77	53	56	37	7	93	60
OTHER REGIONAL GROUPINGS																				
Least Developed Countries	73	22	5	95	75	51	35	15	85	59	50	34	15	84	58	68	26	6	94	76
Landlocked Developing Countries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Small Island Developing States	-	-	-	-	-	71	19	10	90	78	-	-	-	-	-	-	-	-	-	-
WORLD	88	-	-	-	-	75	18	7	93	80	77	16	7	93	82	-	-	-	-	-

ANNEX 3.2 | REGIONAL AND GLOBAL SANITATION ESTIMATES

SANITATION				NATIONAL					URBAN					RURAL				
REGION	Year	Population (thousands)	% urban	Basic sanitation services *(improved, usable, dedicated for staff, sex-separated with menstrual hygiene facilities, and adapted for limited mobility)*	Limited sanitation services *(improved, not meeting all criteria for basic)*	No sanitation service *(no facility or unimproved)*	Improved	Improved and useable	Basic sanitation services *(improved, usable, dedicated for staff, sex-separated with menstrual hygiene facilities, and adapted for limited mobility)*	Limited sanitation services *(improved, not meeting all criteria for basic)*	No sanitation service *(no facility or unimproved)*	Improved	Improved and useable	Basic sanitation services *(improved, usable, dedicated for staff, sex-separated with menstrual hygiene facilities, and adapted for limited mobility)*	Limited sanitation services *(improved, not meeting all criteria for basic)*	No sanitation service *(no facility or unimproved)*	Improved	Improved and useable
SDG REGIONS																		
Australia and New Zealand	2019	29 986	8620	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Central and Southern Asia	2019	1 991 423	3665	-	-	-	-	-	-	-	-	-	-	-	-	11	89	-
Eastern and South-Eastern Asia	2019	2 334 623	5975	-	-	4	96	84	-	-	-	-	-	-	-	-	-	-
Europe and Northern America	2019	1 113 784	7720	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Latin America and the Caribbean	2019	648 121	8083	38	59	3	97	81	-	-	-	-	-	-	-	-	-	-
Northern Africa and Western Asia	2019	517 106	6288	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oceania	2019	12 142	2291	-	-	32	68	-	-	-	-	-	-	-	-	-	-	-
Sub-Saharan Africa	2019	1 066 283	4103	29	42	29	70	62	37	49	14	85	74	11	66	23	78	59
OTHER REGIONAL GROUPINGS																		
Least Developed Countries	2019	1 033 389	3410	37	44	20	80	62	-	-	11	88	67	13	66	21	79	57
Landlocked Developing Countries	2019	520 973	3103	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Small Island Developing States	2019	-	-	-	-	18	82	-	-	-	-	-	-	-	-	-	-	-
WORLD	2019	7 713 468	5574	-	-	10	90	72	-	-	-	-	-	-	-	10	90	-

SANITATION / REGION	HOSPITAL					NON-HOSPITAL					GOVERNMENT					NON-GOVERNMENT				
	Basic sanitation services *(improved, usable, dedicated for staff, sex-separated with menstrual hygiene facilities, and adapted for limited mobility)*	**Limited sanitation services** *(improved, not meeting all criteria for basic)*	**No sanitation service** *(no facility or unimproved)*	**Improved**	**Improved and useable**	**Basic sanitation services** *(improved, usable, dedicated for staff, sex-separated with menstrual hygiene facilities, and adapted for limited mobility)*	**Limited sanitation services** *(improved, not meeting all criteria for basic)*	**No sanitation service** *(no facility or unimproved)*	**Improved**	**Improved and useable**	**Basic sanitation services** *(improved, usable, dedicated for staff, sex-separated with menstrual hygiene facilities, and adapted for limited mobility)*	**Limited sanitation services** *(improved, not meeting all criteria for basic)*	**No sanitation service** *(no facility or unimproved)*	**Improved**	**Improved and useable**	**Basic sanitation services** *(improved, usable, dedicated for staff, sex-separated with menstrual hygiene facilities, and adapted for limited mobility)*	**Limited sanitation services** *(improved, not meeting all criteria for basic)*	**No sanitation service** *(no facility or unimproved)*	**Improved**	**Improved and useable**
SDG REGIONS																				
Australia and New Zealand	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Central and Southern Asia	-	-	-	-	81	-	-	28	72	-	-	-	-	-	-	-	-	-	-	-
Eastern and South-Eastern Asia	-	-	-	-	-	-	-	5	95	83	-	-	3	97	84	-	-	-	-	-
Europe and Northern America	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Latin America and the Caribbean	-	-	-	-	-	28	64	9	91	79	-	-	-	-	-	-	-	-	-	-
Northern Africa and Western Asia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oceania	-	-	-	-	-	-	-	33	67	-	-	-	-	-	-	-	-	-	-	-
Sub-Saharan Africa	-	-	12	86	84	14	61	25	75	62	13	66	21	79	58	49	34	17	83	77
OTHER REGIONAL GROUPINGS																				
Least Developed Countries	-	-	11	88	65	11	68	20	79	53	9	72	18	82	51	-	-	13	87	68
Landlocked Developing Countries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Small Island Developing States	-	-	-	-	-	-	-	16	84	-	-	-	-	-	-	-	-	-	-	-
WORLD	-	-	-	-	91	-	-	15	85	63	-	-	7	93	67	-	-	-	-	-

ANNEX 3.3 | REGIONAL AND GLOBAL HYGIENE ESTIMATES

HYGIENE				NATIONAL					URBAN					RURAL				
REGION	Year	Population (thousands)	% urban	**Basic hygiene services** *(hand hygiene facilities at points of care and water and soap at toilets)*	**Limited hygiene services** *(hand hygiene facilities missing at points of care or toilets)*	**No hygiene service** *(hand hygiene facilities missing at points of care and toilets)*	Hand hygiene facilities at points of care	Handwashing facility near toilets	**Basic hygiene services** *(hand hygiene facilities at points of care and water and soap at toilets)*	**Limited hygiene services** *(hand hygiene facilities missing at points of care or toilets)*	**No hygiene service** *(hand hygiene facilities missing at points of care and toilets)*	Hand hygiene facilities at points of care	Handwashing facility near toilets	**Basic hygiene services** *(hand hygiene facilities at points of care and water and soap at toilets)*	**Limited hygiene services** *(hand hygiene facilities missing at points of care or toilets)*	**No hygiene service** *(hand hygiene facilities missing at points of care and toilets)*	Hand hygiene facilities at points of care	Handwashing facility near toilets
SDG REGIONS																		
Australia and New Zealand	2019	29 986	8620	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Central and Southern Asia	2019	1 991 423	3665	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eastern and South-Eastern Asia	2019	2 334 623	5975	38	61	0	47	69	-	-	-	-	-	-	-	-	-	-
Europe and Northern America	2019	1 113 784	7720	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Latin America and the Caribbean	2019	648 121	8083	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Northern Africa and Western Asia	2019	517 106	6288	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oceania	2019	12 142	2291	-	-	-	95	-	-	-	-	-	-	-	-	-	-	-
Sub-Saharan Africa	2019	1 066 283	4103	-	-	7	73	-	-	-	3	80	-	39	52	9	67	52
OTHER REGIONAL GROUPINGS																		
Least Developed Countries	2019	1 033 389	3410	-	-	4	74	-	-	-	-	81	-	29	62	9	66	37
Landlocked Developing Countries	2019	520 973	3103	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Small Island Developing States	2019	-	-	-	-	-	72	-	-	-	-	-	-	-	-	-	-	-
WORLD	2019	7 713 468	5574	-	-	2	68	-	-	-	-	-	-	-	-	-	-	-

HYGIENE REGION	HOSPITAL					NON-HOSPITAL					GOVERNMENT					NON-GOVERNMENT				
	Basic hygiene services *(hand hygiene facilities at points of care and water and soap at toilets)*	**Limited hygiene services** *(hand hygiene facilities missing at points of care or toilets)*	**No hygiene service** *(hand hygiene facilities missing at points of care and toilets)*	**Hand hygiene facilities at points of care**	**Handwashing facility near toilets**	**Basic hygiene services** *(hand hygiene facilities at points of care and water and soap at toilets)*	**Limited hygiene services** *(hand hygiene facilities missing at points of care or toilets)*	**No hygiene service** *(hand hygiene facilities missing at points of care and toilets)*	**Hand hygiene facilities at points of care**	**Handwashing facility near toilets**	**Basic hygiene services** *(hand hygiene facilities at points of care and water and soap at toilets)*	**Limited hygiene services** *(hand hygiene facilities missing at points of care or toilets)*	**No hygiene service** *(hand hygiene facilities missing at points of care and toilets)*	**Hand hygiene facilities at points of care**	**Handwashing facility near toilets**	**Basic hygiene services** *(hand hygiene facilities at points of care and water and soap at toilets)*	**Limited hygiene services** *(hand hygiene facilities missing at points of care or toilets)*	**No hygiene service** *(hand hygiene facilities missing at points of care and toilets)*	**Hand hygiene facilities at points of care**	**Handwashing facility near toilets**
SDG REGIONS																				
Australia and New Zealand	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Central and Southern Asia	72	-	-	96	73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eastern and South-Eastern Asia	-	-	-	-	-	38	61	0	46	69	38	61	0	48	69	-	-	-	-	-
Europe and Northern America	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Latin America and the Caribbean	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Northern Africa and Western Asia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oceania	-	-	-	-	-	-	-	-	96	-	-	-	-	-	-	-	-	-	-	-
Sub-Saharan Africa	-	-	1	84	-	42	49	9	69	52	42	49	8	70	50	-	-	3	81	-
OTHER REGIONAL GROUPINGS																				
Least Developed Countries	-	-	2	85	-	33	58	9	70	41	29	63	8	69	37	-	-	2	80	-
Landlocked Developing Countries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Small Island Developing States	-	-	-	-	-	-	-	-	72	-	-	-	-	-	-	-	-	-	-	-
WORLD	-	-	-	91	-	-	-	4	67	-	-	-	5	66	-	-	-	-	-	-

ANNEX 3.4 | REGIONAL AND GLOBAL WASTE MANAGEMENT ESTIMATE

WASTE MANAGEMENT / REGION	Year	Population (thousands)	% urban	NATIONAL					URBAN					RURAL				
				Basic waste management services (waste segregated and treated and disposed of safely)	Limited waste management services (waste not segregated or treated and disposed of safely)	No waste management service (waste not segregated nor treated and disposed of safely)	Waste segregated	Waste treated	Basic waste management services (waste segregated and treated and disposed of safely)	Limited waste management services (waste not segregated or treated and disposed of safely)	No waste management service (waste not segregated nor treated and disposed of safely)	Waste segregated	Waste treated	Basic waste management services (waste segregated and treated and disposed of safely)	Limited waste management services (waste not segregated or treated and disposed of safely)	No waste management service (waste not segregated nor treated and disposed of safely)	Waste segregated	Waste treated
SDG REGIONS																		
Australia and New Zealand	2019	29 986	8620	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Central and Southern Asia	2019	1 991 423	3665	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eastern and South-Eastern Asia	2019	2 334 623	5975	-	-	-	86	-	-	-	-	-	-	-	-	-	-	-
Europe and Northern America	2019	1 113 784	7720	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Latin America and the Caribbean	2019	648 121	8083	-	-	-	92	-	-	-	-	-	-	-	-	-	-	-
Northern Africa and Western Asia	2019	517 106	6288	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oceania	2019	12 142	2291	11	-	-	95	12	-	-	-	-	-	-	-	-	-	-
Sub-Saharan Africa	2019	1 066 283	4103	40	54	5	61	54	45	51	4	65	61	29	67	4	56	48
OTHER REGIONAL GROUPINGS																		
Least Developed Countries	2019	1 033 389	3410	30	59	11	50	43	30	66	4	50	47	21	73	6	47	41
Landlocked Developing Countries	2019	520 973	3103	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Small Island Developing States	2019	-	-	8	-	-	48	27	-	-	-	-	-	-	-	-	-	-
WORLD	2019	7 713 468	5574	-	-	-	69	-	-	-	-	-	-	-	-	-	-	-

WASTE MANAGEMENT / REGION	HOSPITAL					NON-HOSPITAL					GOVERNMENT					NON-GOVERNMENT				
	Basic waste management services *(waste segregated and treated and disposed of safely)*	**Limited waste management services** *(waste not segregated or treated and disposed of safely)*	**No waste management service** *(waste not segregated nor treated and disposed of safely)*	**Waste segregated**	**Waste treated**	**Basic waste management services** *(waste segregated and treated and disposed of safely)*	**Limited waste management services** *(waste not segregated or treated and disposed of safely)*	**No waste management service** *(waste not segregated nor treated and disposed of safely)*	**Waste segregated**	**Waste treated**	**Basic waste management services** *(waste segregated and treated and disposed of safely)*	**Limited waste management services** *(waste not segregated or treated and disposed of safely)*	**No waste management service** *(waste not segregated nor treated and disposed of safely)*	**Waste segregated**	**Waste treated**	**Basic waste management services** *(waste segregated and treated and disposed of safely)*	**Limited waste management services** *(waste not segregated or treated and disposed of safely)*	**No waste management service** *(waste not segregated nor treated and disposed of safely)*	**Waste segregated**	**Waste treated**
SDG REGIONS																				
Australia and New Zealand	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Central and Southern Asia	67	29	5	73	83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eastern and South-Eastern Asia	-	-	-	-	-	-	-	-	85	-	-	-	-	87	-	-	-	-	-	-
Europe and Northern America	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Latin America and the Caribbean	-	-	-	-	-	-	-	-	86	-	-	-	-	-	-	-	-	-	-	-
Northern Africa and Western Asia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oceania	-	-	-	-	-	9	-	-	96	10	-	-	-	-	-	-	-	-	-	-
Sub-Saharan Africa	54	43	3	70	72	31	65	4	58	52	31	65	4	58	52	37	53	10	53	59
OTHER REGIONAL GROUPINGS																				
Least Developed Countries	36	51	12	53	53	22	72	6	46	43	20	72	9	45	41	32	59	9	51	49
Landlocked Developing Countries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Small Island Developing States	-	-	-	-	-	7	-	-	49	23	-	-	-	-	-	-	-	-	-	-
WORLD	71	27	2	80	82	-	-	-	68	-	-	-	-	65	-	-	-	-	-	-

ANNEX 3.5 | REGIONAL AND GLOBAL ENVIRONMENTAL CLEANING EST

ENVIRONMENTAL CLEANING REGION	Year	Population (thousands)	% urban	NATIONAL					URBAN					RURAL				
				Basic environmental cleaning services *(cleaning protocols and staff trained)*	Limited environmental cleaning services *(cleaning protocols or some staff trained)*	No environmental cleaning service *(no protocols and no staff trained)*	Protocols for cleaning	Training on cleaning	Basic environmental cleaning services *(cleaning protocols and staff trained)*	Limited environmental cleaning services *(cleaning protocols or some staff trained)*	No environmental cleaning service *(no protocols and no staff trained)*	Protocols for cleaning	Training on cleaning	Basic environmental cleaning services *(cleaning protocols and staff trained)*	Limited environmental cleaning services *(cleaning protocols or some staff trained)*	No environmental cleaning service *(no protocols and no staff trained)*	Protocols for cleaning	Training on cleaning
SDG REGIONS																		
Australia and New Zealand	2019	29 986	8620	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Central and Southern Asia	2019	1 991 423	3665	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eastern and South-Eastern Asia	2019	2 334 623	5975	-	-	-	48	-	-	-	-	-	-	-	-	-	-	-
Europe and Northern America	2019	1 113 784	7720	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Latin America and the Caribbean	2019	648 121	8083	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Northern Africa and Western Asia	2019	517 106	6288	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oceania	2019	12 142	2291	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-Saharan Africa	2019	1 066 283	4103	-	-	-	-	-	-	-	-	-	-	33	43	24	58	39
OTHER REGIONAL GROUPINGS																		
Least Developed Countries	2019	1 033 389	3410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32
Landlocked Developing Countries	2019	520 973	3103	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Small Island Developing States	2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WORLD	2019	7 713 468	5574	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

ENVIRONMENTAL CLEANING / REGION	HOSPITAL					NON-HOSPITAL					GOVERNMENT					NON-GOVERNMENT				
	Basic environmental cleaning services *(cleaning protocols and staff trained)*	**Limited environmental cleaning services** *(cleaning protocols or some staff trained)*	**No environmental cleaning service** *(no protocols and no staff trained)*	**Protocols for cleaning**	**Training on cleaning**	**Basic environmental cleaning services** *(cleaning protocols and staff trained)*	**Limited environmental cleaning services** *(cleaning protocols or some staff trained)*	**No environmental cleaning service** *(no protocols and no staff trained)*	**Protocols for cleaning**	**Training on cleaning**	**Basic environmental cleaning services** *(cleaning protocols and staff trained)*	**Limited environmental cleaning services** *(cleaning protocols or some staff trained)*	**No environmental cleaning service** *(no protocols and no staff trained)*	**Protocols for cleaning**	**Training on cleaning**	**Basic environmental cleaning services** *(cleaning protocols and staff trained)*	**Limited environmental cleaning services** *(cleaning protocols or some staff trained)*	**No environmental cleaning service** *(no protocols and no staff trained)*	**Protocols for cleaning**	**Training on cleaning**
SDG REGIONS																				
Australia and New Zealand																				
Central and Southern Asia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eastern and South-Eastern Asia	73	8	19	74	85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Europe and Northern America	-	-	-	-	-	-	-	-	46	-	-	-	-	48	-	-	-	-	-	-
Latin America and the Caribbean	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Northern Africa and Western Asia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oceania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-Saharan Africa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OTHER REGIONAL GROUPINGS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Least Developed Countries	-	-	-	-	-	-	-	-	-	31	-	-	-	-	35	-	-	-	-	-
Landlocked Developing Countries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Small Island Developing States	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WORLD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

ANNEX 4. METHODOLOGY USED FOR TRACKING COUNTRY PROGRESS

Selection of countries

The forty-seven countries presented in the tracker are a snapshot of the many countries known to be working to improve WASH in health care facilities. It is not intended to be an exhaustive list – there are many other countries that are addressing this issue that are not included here. The countries shown were selected as 'early adopters', to show a range of geographical diversity and in some cases, due to ease of data collection. The COVID-19 pandemic, ongoing at the time of data collection, unfortunately prevented some countries from being able to report progress. There are notable gaps from the tracker from Small Island States and North Africa and the Middle East. Future updates and reports will seek to address these gaps by including additional countries (as well as an update of progress of these forty-seven countries).[a]

Data collection and validation

Data were collected through four main ways: a questionnaire distributed to countries through WHO and UNICEF regional offices between September 2019 and April 2020; review of resources posted on **www.washinhcf.org** and presentations and information shared at regional and country events and conferences; information shared by implementing partners; and follow up phone interviews with WHO and UNICEF country offices and government counterparts. Following data extraction, the tracker was sent to WHO and UNICEF country offices for validation by respective government counterparts. Where available, corresponding documents (e.g. copies of national standards, training reports) have been uploaded to **www.washinhcf.org/resources** and can be found by searching by country.

Criteria for scoring

The criteria listed in Table A4-1 were used to assess country status systematically, in order to allow broad country comparisons. In general, activities must be government-led, systematically implemented and funded efforts in order to achieve 'green' status, while 'orange' status refers to sub-national efforts that are only partially implemented or are partner driven. The distinction between government-led versus partner-driven is not always clear and some assumptions have been made.

While every effort has been taken to verify reporting and score countries fairly, there will inevitably be some discrepancies: The criteria provide a relatively crude way of assessing and indicating progress. Where possible, additional data sources have been used to verify scores. For example, baseline assessment was cross-referenced with the WHO/UNICEF JMP baseline data. Where there was uncertainty between two status assessments, countries were given the benefit of the doubt and 'marked up'.

TABLE A4-1. CRITERIA FOR TRACKING PROGRESS OF SELECTED PRACTICAL STEPS

	GREEN	ORANGE	YELLOW	RED
1.1. SITUATIONAL ANALYSIS	Comprehensive national situational analysis conducted, published and disseminated. Analysis takes into account policies, existing data and stakeholder analyses.	An analysis is underway, or has been conducted but not yet validated, published or disseminated.	Need has been identified to conduct an analysis and is planned within the next 12 months.	No analysis and currently no plans to conduct analysis.
1.2. BASELINE ASSESSMENT OR DATA	National level, government-led survey; data harmonized with SDGs. Assessment data informs priority-setting and resource mobilization	Data exists but from small, localized assessments e.g. from projects and programmes. Limited evidence data are used to inform priorities/resource mobilization.	The need has been identified to undertake a survey and is planned within the next 12 months.	No data available and currently no plans to collect data.
2. NATIONAL COORDINATION	Intersectoral national team (e.g. technical working group, taskforce or similar) meets regularly with an agreed mandate and terms of reference (TORs), including areas of intervention, responsibilities, budgets). Current national roadmap and targets developed.	Intersectoral team exists but does not have a mandate or TORs and has not yet developed a roadmap and targets.	The need to form an intersectoral team and develop roadmap or targets identified and planned within the next 12 months.	No intersectoral team, roadmap or targets exist and no plans yet made to address this.
3. NATIONAL STANDARDS	National standards have been developed, are up to date and are used for design, costing etc.	National standards exist but are not comprehensive, insufficiently implemented or are out of date	The process to develop national standards is planned within the next 12 months or has been started but standards not yet finalised	No national standards exist and no plans yet to develop them
4. IMPROVE AND MAINTAIN INFRASTRUCTURE	WASH FIT, or other national improvement programme, is implemented nationally with accompanying policies, resources and strategies for sustainability and with consistent follow up, helping facilities to meet national standards.	WASH FIT, or similar improvement programme, piloted or implemented in a small number of facilities but not yet scaled up, not adapted to national context or not in line with national standards.	Plans exist to implement WASH FIT, or similar improvement programme, within the next 12 months	Neither WASH FIT nor any other improvement programme, has been implemented and no plans to do so.
5. MONITOR AND REVIEW DATA	WASH indicators (aligned with global indicators) are integrated into national routine monitoring and data collection systems, systematically analysed and data shared across all levels (facility, district, national).	WASH indicators are integrated but are either not systematically assessed and/or analysed at national level, or indicators not comprehensive and/or do not align with SDG monitoring.	Plans exist to integrate WASH indicators within the next 12 months.	Indicators not integrated into any routine monitoring mechanisms and no data available.

ANNEX 5. CASE STUDIES

The following 28 case studies were selected base on evidence of national leadership, documented change since the WHA 2019 resolution, and coordinated partner support. Longer summaries are included for countries which have institutionalized WASH in health care facilities over several years.

COUNTRY	TITLE	RELEVANT PRACTICAL STEPS
Bangladesh*	Bridging the gap between emergency and development efforts through leadership and collaboration	
Bhutan	Local, high-quality technologies support local businesses and sustainable services	
Cambodia**	Integrating WASH in quality policies, financing and monitoring enables progress	
Democratic Republic of Congo**	Step-by-step certification process of Healthy Healthcare Facility Programme improved WASH services in 336 health care facilities	
Ethiopia	Rapid assessment of services in response to COVID-19 linked to political commitment to improvement	
The Gambia	Developing national guidelines to harmonize efforts	
Ghana**	Driving action on WASH through integration with quality, IPC and a costed, national strategy	
Guinea-Bissau	Electronic monitoring systems improve data collection. improving the ability to respond to COVID-19	
Hungary*	A national situational analysis highlights gaps in regulation of services and provides the basis for future monitoring	
Indonesia	Integrating WASH into national health planning, informed by regular data collection	
Lao People's Democratic Republic**	Building back better using a climate-smart approach	
Liberia**	Sustaining efforts after the Ebola outbreak through supportive supervision and mentoring and a strong focus on quality	
Madagascar*	Using creative solutions for installation of waste management infrastructure during COVID-19	
Malawi	Improving quality and equity through access to energy	
Malaysia	Better data collection systems and hand hygiene training help staff respond to COVID-19 pandemic	
Mali	Government leadership and active community involvement can sustain progress, even in times of conflict and insecurity	
Mozambique	An effective national coordination mechanism substantially improves emergency preparedness	
Myanmar	Contextualized and targeted training leads to improved cleaning and IPC practices	
Nigeria	Adherence to waste management guidelines tied to funding across one state	
Papua New Guinea	Using regular monitoring to inform district level decision making	
Philippines**	Development of 'Green and Safe' standards to help Filippino health care facilities adapt and respond to climate change	
Serbia**	Developing an 'advanced' service level of indicators following a national situational analysis and assessment	
Tajikistan	Situational analysis is an essential step to understand the enabling environment and determine the most appropriate interventions	
Timor-Leste**	A twinning partnership with Macao SAR improves WASH and IPC in tertiary facilities	
Uganda	Local alcohol hand rub production and IPC mentorship in Western Uganda as part of Ebola preparedness	
United Republic of Tanzania	Using data to drive targeted investment of pooled resources	
Zambia	Focused collaboration to achieve progress on the World Health Assembly resolution	
Zimbabwe	Using WASH FIT to assess, prepare and strengthen services	

(* Case studies that also appear in the main text of the present report; ** Longer case studies).

Conduct situation analysis and assessment

Set targets and define roadmap

Establish national standards and accountability mechanisms

Improve and maintain infrastructure

Monitor and review data

Develop health workforce

Engage communities

Conduct operational research and share learning

BANGLADESH

Bridging the gap between emergency and development efforts through leadership and collaboration

Practical steps:

An authoritative and empowered National Technical Committee (led by the Directorate of Health with four ministries and multiple partners taking part, including WHO, UNICEF and WaterAid), meets on a quarterly basis and is mandated to provide governance oversight. Establishment of the committee sparked the development and subsequent implementation of a *National Strategy for WASH in HCF (2019-2023) (5)*. The strategy provides an important bridge between development and emergency efforts, leading to more targeted, coordinated action and funding. It articulates a pathway that will enable all health care facilities in Bangladesh to deliver standardized IPC services and bring about a new era of quality health care. Over 100 community clinics in climate-related disaster-prone areas of southwest Bangladesh have been renovated with support from partners according to a newly developed set of WASH guidelines for community clinics. Finally, the collaboration of emergency and development sectors has been instrumental in the national roll-out of WASH FIT. First piloted in Cox's Bazar, it has led to assessment and improvements in 184 health care facilities with a further 104 health care workers trained in and around the Rohingya refugee camps.

BHUTAN

Local, high-quality technologies support local businesses and sustainable services

Practical steps:

In the wake of a COVID-19 outbreak in a district hospital in Bhutan, the Ministry of Health worked with local engineers and innovators to develop a low-cost device that dispensed filtered, safe water and allowed for hand washing. Five models were installed in key points including the emergency department and an influenza clinic with the aim of increasing access to hand hygiene, providing a co-benefit of drinking water. The installation was combined with a behaviour change strategy as well as plans to continually operate and maintain the devices. In the long term, such facilities are expected to facilitate disease prevention and the healthy behaviours needed to reduce infectious and waterborne diseases. The Ministry of Health has plans to provide similar facilities to all the hospitals and basic health units in Bhutan.

CAMBODIA

Integrating WASH in quality policies, financing and monitoring enables progress

Practical steps:

Insights

1. Routine situational analyses are important to support continued reform and ensure WASH remains a priority among policy-makers.
2. WASH standards and indicators must align across all health policies and processes.
3. Leadership and coaching are required to support sustained and quality routine risk-based assessments and improvements.
4. Understanding determinants and drivers of behaviour is critical to inform long-term behaviour change: education alone is not sufficient.

Context and triggers

Cambodia has a long history of health reform and ambition to support quality health care services for all. From the 1990s to 2000s, health reform saw the extension of basic health care services across the country and health financing reforms that reduced financial barriers to accessing care. These health reforms have resulted in greater utilization of services with almost all women delivering in health care facilities (89.0% in 2014). As service uptake has increased and financial barriers (e.g. out-of-pocket costs) are easing, attention has shifted to improving the quality of health care services. The *National Health Strategic Plan 3 (HSP3) 2016–2020* clearly outlines a plan for improving the quality of health care in Cambodian public health care facilities. WASH is recognized within quality, with targets set for water and sanitation in all health care facilities.

A joint government–donor pooled funding project, the Health Equity and Quality Improvement Programme (H-EQIP), has been implemented under the HSP2. H-EQIP includes three main components: (i) strengthening health service delivery through service delivery grants; (ii) improving financial protection and equity through health equity funds (HEFs); and (iii) ensuring sustainable and responsive health systems. While HEFs mainly seek to increase health service utilization by the poor, the redesigned service delivery grants focus on improving the quality of health service delivery. WASH in health care facilities is embedded within the national quality monitoring mechanism linked to service delivery grants, accounting for 30% of the infrastructure and management score within these quarterly assessments. These quality assessments are rolled out nationally in all public health care facilities. Incentives for improvements result from higher quality scores being rewarded as part of performance-based financing schemes.

Conduct situation analysis and assessment

In 2015 and 2016, two studies were conducted to assess the situation of WASH in health care facilities. The first, a scoping review led by the National Institute of Public Health (NIPH), focused on: (i) policies and planning, including standards and coverage targets related to WASH in health care facilities *(6)*; (ii) monitoring and evaluation mechanisms, tools and data, in particular the routine facility data collected through the HMIS; and (iii) key actors involved in or working on WASH in health care facilities and their related role and responsibilities. The review provided a number of policy recommendations, including developing national WASH indicators to be incorporated into the HSP3, development of national standard tools for assessment of WASH in health care facilities and to conduct a national assessment of WASH in health care facilities.

Responding to the recommendation made by the 2015 situation analysis, a first assessment of WASH in 117 health care facilities (101 health centres and 16 referral hospitals) in five provinces using the newly developed national standard tools was conducted in late 2016 by the NIPH in collaboration with the MoH. The assessment provided useful information and evidence for improving WASH in health care facilities in Cambodia in the five study provinces, and led to further improvement of the national standard tools for WASH in health care facilities. An additional situation analysis was conducted by the NIPH and WHO in 2018 to further understand how WASH was addressed within the national quality mechanism. WASH indicators are now being amended to better align with national guidelines on WASH in health care facilities.

Establish national standards and accountability mechanisms

Following the inclusion of WASH within the HSP3, it was recognized that there was an absence of WASH guidelines to complement the national guidelines on infection prevention and control and health care waste management. A set of guidelines were developed and endorsed in late 2018 *(7)*. The guidelines covering health centres and hospitals are now being rolled out nationally through dissemination and capacity-building activities. WASH is also recognized within the minimum package of activities, a set of guidelines designed to provide operational guidance to health centres, enabling health centres to effectively and efficiently provide safe services.

As the WASH guidelines were endorsed after the roll out of the national quality monitoring mechanism, efforts are underway to ensure better alignment of the guidelines with the quality indicators and to explore how additional coaching and risk-based approaches such as WASH FIT can support accountability and adherence to the guidelines.

Contextualization and evaluation of WASH FIT

WHO, UNICEF and WaterAid, along with respective provincial health departments, have tested WASH FIT across several provinces in Cambodia at both the

health centre and hospital levels. While WASH FIT has not yet been rolled out at scale, the following is known: Firstly, the WASH FIT assessment needs to be contextualized to national guidelines and level of care and aligned with quality indicators. Secondly, facilities are already improving quality through the H-EQIP programme, and as this is directly linked to financing, training support and accountability, it is a strong motivator to improve WASH services: synergy between approaches is important. Lastly, leadership from facility managers is also essential: to do this, they require training and coaching.

Greater collaboration is underway with disabled people's organizations to ensure WASH facilities are accessible and usable by all. Tools are available to undertake WASH facility audits to assess usability alongside processes to better engage diverse users in design processes for facilities. Standard designs for accessible infrastructure have been developed and are being implemented in selected health centres. Further work is underway to develop similar audits and designs for hospital-level services. Moreover, the accessible latrine and bathroom infrastructure questions are being integrated in the upcoming standard assessment tool for the national competition programme for model public services.

Conduct operational research and share learning

As WASH services have been improving through H-EQIP mechanisms, attention has been drawn to addressing hygiene behaviours to improve infection prevention, with a focus on labour, delivery and the early postnatal period. With leadership and technical input from the MoH, the London School of Hygiene and Tropical Medicine and support from the Australian Government's Water for Women Fund, the NIPH and WaterAid are conducting research to understand determinants of hand hygiene behaviour during these critical times. This research project – Changing Hygiene Around Maternal Priorities (CHAMP) *(8)* – follows the innovative behaviour-centred design approach to intervention development and evaluation. Following a period of in-depth formative research, structured observation and participatory intervention development, the resulting multimodal intervention targets the context-specific determinant of hand hygiene during childbirth and postnatal care while complementing national IPC standards and policies through environmental nudges, motivational drivers and supportive supervision models. Results from the intervention pilot are expected in early 2021.

DEMOCRATIC REPUBLIC OF THE CONGO

> *Step-by-step certification process of Healthy Healthcare Facility Programme improved WASH services in 336 health care facilities*

Practical steps:

Insights

- Effective harmonization and monitoring of WASH activities require active communication between all levels of governance (national, provincial, health zone and health area) and numerous groups (implementing nongovernmental organizations, technical and financial partners and government staff).
- Provincial health offices need regular support from the national level (e.g. weekly exchanges, regular facility visits).
- Having a set of up-to-date standards in place was invaluable in the response to the recent Ebola outbreaks.

Context and triggers

In 2014, a national survey carried out in nearly 1500 health care facilities revealed that the vast majority could not safely provide quality health care services to patients due to a lack of WASH facilities – almost half of these facilities had neither water nor soap available on premises.

Actions

In 2018, the MoH, in collaboration with UNICEF, designed and launched the Healthy Healthcare Facility Programme (Programme Centre de Santé Assaini or CSA). The programme, based on the WASH FIT methodology *(9)*, uses a nine-step process for facilities to increase access to WASH services (measured by seven standards) in order to improve the quality of health care services and achieve certification. Facilities must continuously evaluate their performance, even after certification. The programme places a strong emphasis on community engagement and participation and aims to change WASH-related behaviours of health care staff, patients and visitors, while simultaneously improving environmental conditions.

Public health centres, which meet a set of criteria (accessibility, facility attendance, catchment size and level of existing WASH services) are selected by the health zone[a] to join the programme and sign a formal agreement with the provincial health department committing to the programme. The basis of CSA, similar to WASH FIT, is a comprehensive assessment of the facility, which serves as the reference for developing and implementing an improvement plan. A facility health and safety committee (three to seven members) carries out regular assessments, oversees construction and rehabilitation of infrastructure and encourages behaviour change. Assessments are validated by the chief medical doctor of the zone, shared with the provincial health department and the National Directorate of Hygiene (MoH) to increase accountability. The health zone management team also provides support to the committee during regular facility visits.

A financial contribution from the health care facility – either local in-kind resources (labour) or basic construction materials – is required for simple construction and repair of infrastructure and consumables. More complex works such as manual or mechanical drilling, gravity or pumping adductions, rainwater harvesting, dug wells equipped with human-powered pumps or latrines made of more durable materials require external resources and expertise provided by the Government. Where local expertise is scarce, specialized nongovernmental organizations may be contracted.

The health zone management team carries out a 'final'[b] survey to assess WASH conditions and, provided a satisfactory level of improvements has been made, certification is granted at a formal ceremony to recognize progress made.

Results

As a result of the CSA programme, a total of 336 facilities attained basic WASH services and were certified accordingly. As of September 2020, an additional 159 facilities were undergoing the certification process. 2500 health care workers were also trained in IPC practices. Communities welcomed the CSA approach and facility staff were quick to embrace the programme with the understanding that it would increase the quality of health care services. In 2019 the MoH expanded the regulatory foundation set by the seven standards to establish national standards and guidelines for WASH in health care facilities, which now serve as the main reference for implementation. These standards were particularly timely in responding to the tenth Ebola outbreak in the DRC and the ongoing COVID-19 pandemic.

ETHIOPIA

> *Rapid assessment of services in response to COVID-19 linked to political commitment to improvement*

Practical steps:

When COVID-19 hit Addis Ababa, a targeted survey was conducted at the major hospitals that revealed that hand hygiene and availability of water was crucially lacking, particularly in COVID-isolation and treatment centres. The Ministries of Health and Water worked together to rapidly install water supply systems at those health care facilities selected for quarantine, isolation and treatment. Three hospitals received upgrades to their water supply systems with a storage capacity of 700 000 litres. The Federal Ministry of Health also mobilized US$ 5 million to support IPC and WASH activities in 74 high-load hospitals: WASH supplies were distributed to health

[a] Geographically delineated areas at the sub-provincial level of health administration.

[b] There is no official 'end' as improvements should continue even after the survey.

facilities through regional offices and additional IPC training for health workers was provided. An independent team was established to document practices and to work on the sustainability concept for scale up after the pandemic. Political commitment of leaders from the Ministries of Health and Water have played a key role in the COVID-19 response.

THE GAMBIA

Developing national guidelines to harmonize efforts

Practical steps:

Prior to 2019, there were no nationally recognized guidelines for the provision of WASH services in health care facilities in the Gambia leading to a lack of uniformity in WASH interventions, especially for planning and budgeting, technical design and construction, operation and maintenance, quality control and monitoring such interventions. In response to this, the MoH, with UNICEF support, developed comprehensive guidelines for WASH in health care facilities following WHO standards. This also prompted the government to review the national sanitation and hygiene policy and the national WASH strategic plan. At the regional level, regional health directorates have been entrusted with ensuring a standardized approach to initiatives contributing to the design and implementation of WASH in health facilities within their respective administrative areas.

GHANA

Driving action on WASH through streamlining with national quality IPC efforts and a costed, national strategy

Practical steps:

- National roadmaps for universal health coverage should account for quality of care, acknowledging that access means little without attention to the quality of health services delivered.
- A national, costed strategy provides the blueprint for all activities and allows progress to be monitored over time.
- Greater alignment efforts and collaboration across health programmes/actors is a key success factor towards reinforcing standards and training approaches.
- Multimodal interventions can increase sustainability of incremental improvements in WASH services and IPC behaviours, including training for the health workforce.
- Including WASH and IPC indicators in regular health systems monitoring and facility regulation and accreditation strengthens accountability and understanding of needs.


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Context and triggers

The establishment of a national joint IPC and WASH Taskforce in 2016 drove greater leadership and clearer strategic direction on WASH in health care facilities. The taskforce has led the development of a technical guide with standards, operation and maintenance procedures and cleaning protocols, worked to adapt and implement WASH FIT and led efforts to integrate WASH and IPC indicators into the national health systems monitoring framework. These efforts resulted in WASH standards being included in the *National Healthcare Quality Strategy* (2017-2021), the national AMR strategy, the national guidelines on supportive supervision, IPC policy guidelines, waste management policy, health facility regulator policy and the occupational health and safety policy. Furthermore, the employer requirement policy for hospital construction and infrastructure development explicitly outlines that health facilities under construction must have a waste management systems/equipment and a main and back-up supply

of water including possibly a reservoir, borehole, rain gutter system to harvest rainfall and piped water supply from Ghana Water company.

More recently, the COVID-19 pandemic sparked the need to rapidly understand gaps and better target resources. A cross-sectional assessment (including WASH/IPC indicators) of facility preparedness for COVID-19 was conducted in April 2020. This identified priority facilities with poor WASH/IPC services and where rapid installation of hand hygiene facilities and WASH/IPC training was needed.

BOX A5-1. INSTITUTING A NATIONAL QUALITY POLICY AND STRATEGY AT THE LOCAL LEVEL TO DRIVE WASH IMPROVEMENTS

The Ghanaian *National Health Care Quality Strategy* (2017–2022) forms the basis for improving delivery of quality health services. Many of the health issues outlined in the strategy – maternal and child health, child nutrition, infectious diseases – require WASH infrastructure and services. Achieving minimum WASH standards for national health facility licensing and accreditation systems is a priority.

At the national level, greater attention and action to WASH and IPC has been furthered by including this as a key theme of World Patient Safety Day. In 2019, the National Quality and Patient Safety Conference focused largely on WASH and IPC and brought together government, researchers, health and WASH actors and civil society to review data and develop joint strategies and messages. In 2020, the conference focused on health worker safety, which includes availability of basic infrastructure and logistics for WASH and IPC. The Decade of Action on Patient Safety (2020–2030) *(10)* can continue to be a driver in reducing harm and improving the safety of all health users.

Set targets and define roadmap

The Ghana *National Healthcare Quality Strategy* calls for having the fundamentals (i.e. WASH) in place in order to improve the health and well-being of Ghanaians through the development of a better-coordinated health system that places patients and communities at the centre. To support these efforts, a national, costed strategy on WASH in health care facilities, with a comprehensive blueprint for coordination and implementation, was published in 2020 and is currently being disseminated across districts and regions. It lays out the legal and regulatory framework that includes quality, IPC, WASH and health care waste standards. It also links WASH in health care facilities to national activities to reduce maternal mortality, and specifically, the work of the Quality of Care Network, which aims to improve quality of care for mothers and newborns in selected learning districts. Finally, costs for WASH infrastructure and recurrent operation and maintenance are set out in the strategy, with 80% of the projected costs financed from domestic resources. At the district level, partners have supported the development of long-term WASH plans, making budget commitments to address shortfalls.

Establish standards and develop health workforce

Standards on WASH, IPC, and health care waste management have recently been updated to include climate-resilient considerations and reflect latest evidence. WASH and IPC standards have been included in regular health systems monitoring (DHIS-2), health facility regulation and accreditation. Compliance is overseen by the infrastructure unit of the MoH. Pre-service curricula have been reviewed to include WASH/IPC in order to create and develop a culture and institutionalize issues regarding WASH/IPC. Regular in-service training for facility staff on WASH, IPC, health care waste management, safe burial practices and contact tracing and surveillance also helps implementation of standards. Additionally, regular supportive supervision and annual peer review systems have strengthened prioritization and the implementation of standards including environmental or climate-smart WASH solutions. The existence of IPC focal persons in all regions and facilities has contributed to continued implementation of WASH/IPC programmes and quality improvement.

Engage communities

The community serves a unique and influential role in Ghana's journey to improve quality, uphold health users' respect and dignity and improve WASH and IPC. Developed in 2018, the community scorecard is an innovative accountability tool that engages and empowers community members to regularly give feedback and propose solutions for addressing quality areas, including WASH. The semi-quantitative community feedback is linked to the electronic DHIS-2 system and can be immediately reviewed at the facility, district and national level. Community members also propose ideas for improvements. Simple but important contributions that community members have made include building a fence around the health care waste area to protect children and keep out animals, planting flowers and beautifying the outdoor space of health care facilities and working with other community members to help them understand their rights for, and demand access to, better WASH and IPC services and practices. Ghana Health Services is now planning for a national rollout of the community scorecard and engagement.

Furthermore, WASH is a key component of several engagement and advocacy efforts. It is included in the annual patient safety campaign, the celebration of Global Handwashing Day and focused efforts to improve quality of care for mothers and newborns. These include a public and community engagement component to increase awareness and understanding of possible actions.

Ongoing challenges and gaps

- Ghana (as with many countries) has a high turnover of health care workers and thus there is a continual need to update skill sets and empower staff.
- The supportive supervision tool is an effective way to bring together quality, WASH and IPC but needs more frequent use as it is currently limited to twice a year. Information gained during such visits needs more rapid follow up at every level.

GUINEA-BISSAU

Electronic monitoring systems improve data collection, improving the ability to respond to COVID-19

Practical steps:

Since the 2014 Ebola outbreak, there has been greater interest in health sector strengthening, particularly in monitoring WASH in health care facilities and health care worker capacity-building. This led to development of a national electronic monitoring system hosted by the Ministry of Water. Initially, the scope of WASH indicators was limited but they were expanded over time to align with Joint Monitoring Programme global indicators. The development of a national monitoring system that includes WASH in health care facilities has allowed the Government to track the status of WASH in health care facilities across the country, which was particularly useful during the ongoing COVID-19 outbreak to keep track of stocks and supplies in health care facilities. More recently, 75 health care workers across four regions have been trained as WASH FIT trainers and will subsequently be cascading training to a wider network of health care workers nationally.

HUNGARY

A national situational analysis highlights gaps in regulation of services and provides the basis for future monitoring

Practical steps:

In 2019, the Hungarian Government conducted a situational assessment comprising: i) An analysis of the regulatory environment and review of national standards and guidance; ii) a systematic review of published scientific and grey literature; and iii) a self-reporting survey of WASH and environmental conditions (adapted from JMP indicators to high-income settings). Responses were received from 206 health care facilities. The results indicated that while regulation covers most aspects of WASH (e.g. infrastructure, legal requirements and operational guidelines), some elements are overlooked, including menstrual hygiene, environmental aspects of IPC, wastewater management and monitoring. The findings are helping to define advanced service levels in Hungary. The survey revealed existing inequities in access to WASH services including for people with limited mobility and lack of menstrual hygiene management (MHM) facilities. The persistence of opportunistic pathogens in water, such as Legionella, remains a challenge, as does the growing environmental impact of waste and wastewater from health care facilities.

INDONESIA

Integrating WASH into national health planning, informed by regular data collection

Practical steps:

At the virtual 2020 World Health Assembly, Indonesia committed to increase investments in infrastructure and capacity building across all levels. WASH in health care facilities is now monitored regularly through an electronic health monitoring system. Recent data has shown significant improvements in 24-hour availability of water in hospitals and primary health care facilities and has also highlighted major gaps in hand hygiene and environmental cleaning practices. To address these gaps, WASH has become a regular agenda item in national health planning and has been included in the national accreditation system and health equity programme. In 2020, the Government committed to integrate WASH into efforts to reduce maternal and infant mortality rates, to establish a national taskforce and develop a roadmap for sustained action.

LAO PEOPLE'S DEMOCRATIC REPUBLIC

Building back better using a climate-smart approach

Practical steps:

1. Invest in operation and maintenance to ensure WASH services are sustained; this includes budgets for repairs and training.
2. Inexpensive but important climate-smart interventions (e.g. LED light bulbs, heat reflective paint) are needed as the threat of climate change becomes more severe.
3. Supportive supervision will ensure improvements are sustained, staff remain motivated and that MoH officials continue to be informed about progress.
4. Within the scope of the COVID response plan, MoH has succeeded, with support from WHO, in mobilising over US$ 1.8 million from government and donor sources to boost the national Safe, Clean and Green/Climate Resilient Hospital Initiative and improve WASH services in 54 health care facilities in six provinces.

Context and triggers

A 2014 Service Availability and Readiness Assessment in Lao PDR showed that less than half of health centres and district hospitals had improved water and sanitation services. In July 2018, heavy rains and the collapse of a major hydropower dam in the southern part of the country led to the largest flood in ten years, destroying communal infrastructure, educational facilities and water sewage systems. An assessment found that 37 public health facilities had been affected and five health facilities had been completely damaged or needed to be relocated because of recurrent flooding. The assessment valued the total effect of the floods on the economy at an estimated US$ 371.5 million. Changes in climate patterns have led to longer dry periods and shorter and more intense periods of rain, increasing the likelihood of droughts and flash floods. These changing weather patterns, gaps in service provision and the 2019 Resolution have all triggered the Government of Lao PDR to scale up efforts to create climate-resilient health facilities.

Development of standards and implementation

The MoH has prioritized the development of guidelines, policies and strategies over the past five years including *Essential Environmental Health Standards for Health Facilities* (2017), health care waste regulations (2018) and a *National Plan of Action for 2018-2030*, with a target of reaching 85% of facilities having WASH services by 2025 and 100% by 2030. In doing so, the need to establish a nationwide monitoring system, provide systematic operational funding, enhance staff capacity to manage WASH operation and maintenance in facilities and develop more "climate-smart" standards became clear.

Use of WASH FIT for infrastructure and climate-smart improvements

The MoH adopted the WASH FIT tool *(9)* in 2017 as the principle method to support implementation of national standards. Following adaptation of the tool to the local context, it was piloted at a district hospital in one of the three provinces most affected by climate change. The pilot was considered a success: the tool was well accepted by hospital management and notable improvements were made to waste management (e.g. better segregation, more frequent waste collection and waste infrastructure rehabilitated), toilets and handwashing facilities (taps repaired) and cleanliness improved in key areas.

The MoH has succeeded in mobilizing over 2 million US$ from government and donor sources under the COVID-19 response plan to boost the national 'Safe, clean and climate-resilient green hospital' initiative for improving WASH services. The four types of interventions – tools, technologies, supplies and equipment – include providing green technologies (e.g. autoclaves), replacing broken lamps with LEDs, rehabilitating handwashing stations, providing cleaning and disinfection materials and PPE for cleaners and waste handlers, and making water quality testing equipment available. Facilities undertake assessments, improvements and develop monitoring plans with support from the district health office to ensure these plans are followed. Hospitals are then evaluated using 'Safe, clean and climate-resilient green hospital' indicators. This package has so far been implemented in four provincial and 46 districts hospitals in six provinces. The MoH plans to scale up the initiative to a further three central hospitals, nine district hospitals and over twenty health centers in 2021.

How does a facility achieve 'Safe, Clean and Green' status?

Safe:
- Safe water for drinking
- Safe water for health practice
- Safe waste separation
- Safe personal protective equipment

Green:
- Green environment
- Energy efficient lights (LED)
- Mercury-free thermometers

Clean:
- Clean hands
- Clean handwashing stations and toilets
- Clean bathroom
- Clean rooms/hospital

Climate-resilient:
- Water available 24/7
- Clean technology (autoclave)
- Computers, records protected from flood

Source: Lao PDR MoH

Throughout its use, WASH FIT has been periodically reviewed and revised based on feedback. New technical modules on health care waste management, cleaning and disinfection, relevant standard operating procedures (SOPs) and posters have all been developed in response to COVID-19. Two versions of WASH FIT now exist, one for central, provincial and district hospitals and one for primary care centres. At the heart of both is the ambition to make facilities safer and more climate resilient.

Monitoring: building WASH indicators into DHIS-2

In 2018, WASH, health care waste and climate-resilience indicators for hospitals were integrated into an existing DHIS-2 platform. The update required engagement of two main departments, the Department of Hygiene and Health Promotion and the Department of Planning and International Cooperation, MoH. Baseline data will be collected by the MoH from all central, provincial and district hospitals between Q4 2020 and Q2 2021. Data collection from health centres is already underway, in collaboration with Plan International, SNV and other international nongovernmental organizations.

Ongoing challenges and gaps

1. Climate change threats are increasing, further stretching facility resilience and resources.
2. Coordination between the Ministry of Public Works and Transport (responsible for urban WASH) and Ministry of Health (responsible for rural WASH) and sub-national level capacity building (district and health centre levels) needs to be strengthened to enable implementation of the national roadmap and targets and increase domestic funding.
3. Sustained technical support to sub-national health offices, district hospitals and health centres will be needed until tools and approaches are sufficiently institutionalized.

LIBERIA

Sustaining efforts after the Ebola outbreak through supportive supervision and mentoring and a focus on quality

Practical steps:

"Integration of quality, WASH and IPC efforts is not only advantageous but essential for making use of limited people and funds. Together we have a stronger voice and from a patient perspective it just makes sense. We are slowly convincing disease-specific health programmes they cannot achieve their aims without quality. And there is no quality without WASH and IPC."

Liberia Ministry of Health

Insights

- Regular mentorship and supportive supervision by district health teams provides important hands-on support to develop clear, actionable recommendations at the facility level. It also improves ownership and local skills to incrementally improve and maintain WASH services.
- Climate-smart WASH solutions delivered to health care facilities and local communities in tandem save costs.
- Integrating WASH and waste standards into accreditation standards increases accountability.
- Embedding WASH in national and facility-based quality efforts can jump-start wider quality improvement changes.

Context and triggers

When the Ebola outbreak struck Liberia (2014–2016), WASH services were lacking or absent in most health care facilities. National drinking-water standards did not exist and health care waste was mismanaged. Ebola patients at times had to leave health care facilities to return home to use their own toilets. Emergency funds that were available to improve WASH and IPC decreased after the outbreak ended. In terms of resources and infrastructure, Liberia was close to where it started before the outbreak but with one big difference: strong leadership on quality, new and strengthened national standards and guidelines exist as well as a regular monitoring and mentorship programme on quality (with a focus on WASH and IPC). Post-Ebola, a new *National Health Care Quality Strategy* was launched that aims to improve the health of the population by 2021 by increasing universal access to, and utilization of, quality health services that are patient-centred, equitable, and responsive to community needs. The recent rollout of this strategy to twelve of the fifteen counties has provided the basis for sub-national quality management efforts through enhanced local involvement.

The COVID-19 pandemic has renewed the sense of urgency to improve WASH and IPC, particularly safe health care waste management in health care facilities. Some facilities are now "drowning in waste", due to increased use of personal protective equipment such as gowns and masks.

Set national direction on quality

The development of the *Liberia National Health Care Quality Strategy* and the establishment of the Liberia Quality Management Unit (QMU) is indicative of the national-level commitment to accelerate improvements in health outcomes. One of the seven aims of the strategy is to ensure all facilities, clinics and health posts have adequate, reliable and safe water, sanitation and health care waste services. The *National Water, Sanitation and Hygiene Commission* created by the Government (under an act of legislation in 2018) plays a lead role in achieving these aims and ensuring WASH services and standards are consistently promoted across all fifteen counties. While the Commission has a budget for staff, its effectiveness is unfortunately limited as there are few or no funds for activities and implementation.

Development and implementation of national standards

New standards for WASH in health care facilities (adopted in 2016) triggered the development of additional standards for drinking-water and health care waste management (2019). Rollout will begin with the most populated counties. Implementation of standards is monitored through the Joint Integrated Supportive Supervision (JISS), a quality assurance mechanism implemented at district, county and national levels. This also helps identify where to prioritize (limited) resources. Districts are required to conduct monthly supervision visits to all health care facilities, counties visit 75% of facilities on a quarterly basis and national level visits 25% of facilities annually, providing supportive supervision for seven programme areas, including IPC/WASH, malaria/TB/HIV and maternal child health services. WASH standards will also be included in the national accreditation standards currently being finalized by the Liberia Medical and Dental Council, the regulatory body responsible for health care facility accreditation.

Monitor and review data and develop the health workforce

Since 2016, the National Public Health Institute of Liberia (MoH), the Liberian Water and Sewer Corporation, WHO, and recently, the Commission also routinely conduct supportive supervision, mentorship and coaching for health care workers. These visits highlight ongoing challenges (e.g. those related to water supply and waste management) but also serve to build staff capacity to improve WASH and IPC practices. Limited funds restrict the frequency of visits to some facilities.

Engage communities

The supportive supervision activities in health care facilities have been expanded to communities, with education on water quality surveillance, water point chlorination and household water treatment and safe storage. This combined approach confers considerable cost savings in transport and is also more holistic, since water points are often shared between facilities and communities. These efforts are part of climate-resilient water safety planning, which introduces control measures (e.g. bigger, elevated water storage tanks) to mitigate climate-related events (e.g. floods and droughts).

BOX A5-2. JAPAN–LIBERIA TWINNING PARTNERSHIP ON QUALITY TO DEVELOP MODEL FACILITIES AND SPARK INNOVATION

A partnership between Nagasaki University Hospital (NUH) (Japan) and Tellewoyan Hospital (Lofa County, Liberia) was established in August 2016 to exchange approaches, technical skills and mentorship to enable sustainable quality improvement, particularly in WASH and IPC, as part of the Liberian national vision on quality. Improving the water supply, waste management practices and functionality of toilets at Tellewoyan Hospital provided a catalyst for continued quality improvements across the hospital and in sister hospitals across Lofa County. Specific interventions involved:

- Providing sinks with soap, water and soap holders. Sink faucets and soap holders, with elbow activated levels, helped to maintain hygiene and the integrity of soap.
- Installation of large containers for water collection and reconditioning and fencing of the external hand pump area.
- Educating patients on appropriate water use (e.g. not drinking from dirty water bins, not rinsing clothes in sinks).
- Acquiring wheelbarrows for waste transport.
- Upgrading infectious and non-infectious waste pits (changing from zinc to concrete slab).
- Changing to a picture-based labelling system for waste disposal.

Key challenges and opportunities

- Many health efforts are supported by designated, external funding and it has been extremely difficult to use programme-specific funds (e.g. for TB, HIV/AIDS, vaccines) for fundamental, cross-cutting services like WASH and IPC. The Liberia Government has made the case for WASH/IPC as a fundamental for any quality health programme and hopes to be able to use some portion of designated funds in the near future.
- There are limited funds for more frequent supervision support and follow up monitoring. Integrating WASH and IPC mentoring within broader quality support saves costs, pools technical resources, and ensures such issues are not addressed in isolation, including the lack of budgetary allocation for WASH in clinics and health centres.
- Repairing and installing infrastructure (especially water supply and waste treatment) is expensive. In order to save costs, the MoH is addressing WASH in health care facilities with communities,

thus preventing the spread of diarrhoeal and other WASH-related diseases, contributing to further cost savings.

- There are many private health care facilities that do not comply with minimum standards. Ongoing advocacy, leadership and engagement with patients and their families are needed to improve the quality of both private and public facilities. Introducing mandatory accreditation standards for all health care facilities will help strengthen compliance.
- The WASH Commission needs sufficient authority to execute its statutory duty effectively across the county.

MADAGASCAR

Using creative solutions for installation of waste management infrastructure during COVID-19

Practical steps: 

Over the past four years, Madagascar, with support from a number of partners, has been focusing attention on improving health care waste management, with regular assessments and improvements through WASH FIT. In 2018, Madagascar published a national policy on waste management: all referral hospitals are expected to use this guidance. Supportive supervision, awareness-raising activities and a new waste management reporting system have been used to ensure adherence to guidelines. Of primary concern, however, is the availability of functional waste management infrastructure, particularly in district hospitals and PHC centres. In one hospital in a COVID-19 'hotspot' in eastern Madagascar, an autoclave had to be installed remotely when travel to the facility by engineers was not possible. With a good internet connection, some creativity to ensure social distancing by the local team during installation and remote expertise from the technicians, the autoclave was successfully installed, making the hospital the first in the region to benefit from the technology. Regular WASH FIT assessments help identify any problems that arise with the infrastructure to ensure regular and ongoing operation and maintenance.

MALAWI

Improving quality and equity through access to energy

Practical steps: 

While energy services in health care facilities have historically received limited attention, Malawi has realized its potential to improve equity and quality of health care. The MoH, with support from UNICEF, UNDP and other ministries and government agencies, conducted an assessment of the energy needs of 40 health care facilities in 2020 to establish data on energy demand, targets, availability and cost savings. The result lays the foundation for an investment case to expand solarization of health care facilities, to serve as a potential conduit for expanding energy access to nearby communities while addressing equity and efficiency. Such energy is important for pumping water, lighting rooms, powering medical devices and information technology, as well as for some types of water treatment.

MALAYSIA

Better data collection systems and hand hygiene training help staff respond to COVID-19 pandemic

Practical steps: 

In early 2020, a series of health care facility IPC audits incorporating WASH were conducted, just before the COVID-19 pandemic hit. In response to this, access to reliable, functional handwashing facilities (or alcohol-based hand rub) at points of care were established. Hand hygiene reminders (with posters translated into local dialects) were also made available. All new staff now undergo mandatory orientation training on aspects of IPC and WASH. These are followed up by quarterly hand hygiene audits. How has change been possible? Since last year, a non-punitive, 'nudging' approach, with the use of role models as walking reminders, has helped sustain progress. Additionally, in support of sustainable culture change and improvements in practices across sectors, the Malaysian *National action plan on AMR* now includes WASH and IPC to reduce infections and thus the need for antibiotics.

Access to WASH in health care facilities varies markedly across rural and remote areas in Malaysia. To better understand service coverage in government health facilities, the MoH developed a set of national WASH indicators (incorporating the JMP core questions) and will undertake a survey across the country in early 2021. An integrated monitoring system called MyWASH will be initiated under the five-year *12th Malaysian Plan* which will provide data for future global JMP estimates. WASH FIT is also being adapted to the Malaysian context, with accompanying guidance documents and standards for operational monitoring of WASH services.

MALI

Government leadership and active community involvement can sustain progress, even in times of conflict and insecurity

Practical steps: 

While declining security through central and northern Mali continues to make it difficult for both government focal points and partners to access certain health care facilities, the Government has made progress in a number of areas. A national taskforce, led by the MoH with ten different WASH partners, meets regularly to coordinate activities across different regions. A five-year communication plan (2020–2024) and a curriculum of materials for WASH in health care facilities have been developed and integrated into the national health promotion guidelines. The materials emphasize the importance of WASH and IPC and especially emphasize the role of facility and community leaders. Better coordination has led to WASH being integrated into two new major strategies in 2020: the plan for mothers, children and adolescent health and the national multisectoral nutrition plan.

The inability to access facilities further emphasizes the role of the community, especially women's groups, community health workers, and community facility management associations (or *ASACOs*). ASACOs hold facilities accountable for better services and ensure that resources are allocated efficiently to best serve the interests of the various sub-groups of the population, including those traditionally excluded from more formalized discussions.

In 2015, Mali started using the District Health Information Software (DHIS-2) monitoring platform to ensure the health information system captured data from all health programmes in a more integrated way. Recent annual reporting and reviews have identified gaps in hygiene indicators leading to a review of the platform by MoH and partners and integration of global WASH in health care facility indicators in 2020. Additionally, assessments are ongoing in the southern part of the country (data available at the end of 2020) as part of the COVID-19 response and COVID-19-relevant indicators have been integrated into WASH FIT. Having access to more comprehensive data will be a major shift in terms of prioritizing and funding from the Government of Mali.

MOZAMBIQUE

An effective national coordination mechanism substantially improves emergency preparedness

Practical steps: 

In 2019, Mozambique was hit hard by two major natural disasters which destroyed 93 health facilities and critical WASH infrastructure. Previously, the Government of Mozambique had begun strengthening its national coordination efforts for WASH in health care facilities, establishing a multisectoral platform of health and water sector partners, UN agencies and donors, who came together to develop standards and norms. This national coordination enabled a quick and more effective emergency response from the WASH sector, not only to the devastation caused by the cyclones, but also when COVID-19 hit, allowing for a harmonized approach to WASH service delivery in the national COVID isolation centres.

MYANMAR

Contextualized and targeted training leads to improved cleaning and IPC practices

Practical steps: 

As part of efforts to improve the quality and safety of maternal and newborn care in health care facilities, the Training in Environmental Hygiene and Cleaning in Healthcare (TEACH-CLEAN) *(11)* approach to improving environmental cleaning practices for frontline cleaners and health care workers has been

introduced in a selected number of township-level hospitals. The training was developed by the Ministry of Health and Sports, the London School of hygiene and Tropical Medicine and WaterAid, to improve environmental cleaning services in health facilities by focusing on the front-line workforce, specifically cleaners and those with cleaning responsibilities. The training covers gender-responsive, socially-inclusive patient care systems and WASH infrastructure for patients (and their attendants). The TEACH-CLEAN approach will be made available nationwide with capacity development programmes for front-line health care workers. The national and regional government have also contextualized WASH FIT for application in one of the fastest growing peri-urban townships in Myanmar.

NIGERIA

Adherence to waste management guidelines tied to funding across one state

Practical steps:

Bauchi State Primary Health Care Development Agency led a training on waste management guidelines for 28 health care workers from thirteen health care centres and one general hospital across the state. Adherence to waste management behaviours is now being monitored by the agency and adherence determines allocation of funds to the facility from the World Bank – Nigeria State Health Investment Project. Bauchi State also adopted and harmonized a model design for health care facilities. The upgraded institutional facility designs include accessibility features, handwashing and menstrual health support facilities. The design has been adopted in the state and is being rolled out through the World Bank project implemented in selected areas of the state.

PAPUA NEW GUINEA

Using regular monitoring to inform district level decision making

Practical steps:

The *Papua New Guinea national WASH policy* has set an ambitious target of 100% health care facilities having safe, convenient and sustainable WASH by 2030. The policy provides a costed five-year plan with evidence-based targets to achieve their 2030 goal. Recognizing that data were scarce, the Department of National Planning and Monitoring established a national-level technical working group to agree a set of indicators for WASH in health care facilities. Standard data collection forms were developed, linked to the national WASH management information system, and deployed to district level partners. Sub-national data are being used to progressively build a strong evidence base for WASH in health care facilities across twelve districts; drive planning at district level; leverage financial investment; and strengthen coordination between sector stakeholders.

PHILIPPINES

Development of 'Green and Safe' standards to help health care facilities adapt and respond to climate change

Practical steps:

Insights

- Climate change provides a catalyst for taking action and making WASH improvements that save costs and contribute to wider resilience and national carbon emission reduction goals.

Recognition of the many actors who have a role to play and a strong policy framework is helping the Philippines respond to climate change.

- The COVID-19 pandemic became a driver for accelerating WASH FIT initiatives as facilities realized the importance of WASH in preventing spread of COVID-19.

Context and triggers

Primary health care (PHC) is considered an important innovation in the Philippine's health care delivery system following the adoption of a PHC approach in 1979. More than 30 years later, the health status of the Filipino population has improved but major challenges remain *(12)*. According to a 2016 World Bank study, three in ten hospitals in the Philippines lack access to clean toilets, and 4% have no toilets at all.

Rapid urbanization, high population density and climate change have begun to influence the emergence and re-emergence of infectious diseases. In the summer of 2019, water shortages in Metro Manila affected five major hospitals, which were forced to reduce the admission of patients in some specialty wards, including the operating room and emergency room, to prevent outbreaks. The lack of water prompted the Department of Health (DoH) to coordinate with water utilities to prioritize water supply to the affected hospitals and limit the number of visitors to one per patient. The Philippines is frequently hit by adverse weather events and natural disasters, and these are becoming more common and more severe as a result of climate change. In 2017, the DoH began its Green Healthcare Facilities initiative committing to adopt safe, green standards with dedicated financing in the annual health budget to implement them.

National coordination and development of roadmap

Two months after the Resolution was passed, the DoH hosted a national-level roundtable to review progress against the Resolution and the eight practical steps to rapidly identify where efforts were most needed. Development of a national roadmap, additional implementation of WASH FIT and establishing routine monitoring of WASH in health care facilities were considered the main priorities, in addition to finalizing the existing draft set of climate-friendly national standards begun the previous year. To support this work, major agencies and partners come together under a series of technical working groups that help support specific WASH-related activities.

National standards and guidelines: a focus on climate change

In 2020, the Philippines finalized it *Green and Safe Health Care Facilities Manual* in response to a global call to minimize the climate footprint of the health sector while continuing to improve quality health services *(13)*. The manual sets minimum green and safe standards for all hospitals and other health care facilities and covers WASH as well as energy efficiency, siting and material sustainability, hospital safety and indoor environmental quality. The manual complements the Philippine Green Building Code and other DoH initiatives such as Safe Hospitals in Emergencies and Disasters, the *Health Care Waste Management Manual*, the *Manual of Standards for Primary Care Facilities* and WASH FIT. It also supports the implementation of the Universal Health Care and Climate Change Acts. The DoH is working to promote awareness and compliance to the minimum requirements through web-based orientation and training for hospital chiefs and key facility staff (namely pollution control officers and administrative officers) and local government. To ensure the standards are implemented, a self-assessment checklist will have to be completed by all facilities to determine their level of compliance and to serve as a basis for improvement.

Improve infrastructure: adaptation of WASH FIT to the Philippines context

Through a period of stakeholder consultations, WASH FIT was adapted to the Philippines context in 2019. Indicators were altered to align with existing national policies and guidelines, new indicators added and some terminology simplified for application in *barangay* (primary health) level. Piloting of the tool is ongoing and is being carried out as part of a four-year project funded by the Australian Government. In 2020, the tool was further adapted in response to COVID-19, namely to cover quarantine facilities and include indicators assessing surge capacity.

A WASH FIT operations manual to guide local government implementers and health care facility staff is also being prepared and will be tested in project areas. Further adaptations for use in hospitals are planned. Feedback from pilot facilities show that WASH FIT has been well-received and inspires positive change.

"Before the assessment of the facility, I accepted many of the WASH inadequacies and thought there was nothing I could do. But after going through the assessment, I found out that we have many things that need improvement and as staff members we can make changes. Simple things like de-clogging drains, increasing ventilation and staff training for waste management can all be done with few outside resources. Those things have to be changed for our benefit and for the clientele we are serving. The time will come for me to be transferred to another facility, I can hand over the facility to the next health worker together with the WASH FIT document with the overall rating, that he/she can use as a guide for further improvement."

Nurse, WASH FIT pilot health centre, 2019

Key challenges and opportunities

- While the Philippines has many relevant policies and standards related to WASH and waste, many facility managers and health staff are still not aware of them and thus they are not being adequately implemented.
- WASH indicators for health care facilities are not yet included in the existing health systems monitoring structure, which means WASH status is not regularly reported or reviewed. A shortlist of WASH FIT indicators will be selected and integrated into routine monitoring within the next year.
- Few facilities have written standard operating procedures (SOPs) on waste management, water quality testing and environmental cleaning. Sanitation safety planning (SSP) has been used to manage sanitation systems and in 2020, will be integrated into the DoH Sanitation Code guidelines.

SERBIA

Developing the national 'advanced' service level following a national situational analysis and assessment

Practical steps:

Insights

- A comprehensive national situational analysis and assessment are the basis for setting national targets with a roadmap (action plan) and for strengthening and enforcing surveillance, regulation and standards.
- Developing national advanced WASH standards and indicators is important for ensuring, in particular, rural facilities continue to incrementally improve and sustain services and for addressing AMR.
- Funding for WASH improvements are not always sufficiently allocated and IPC teams do not always monitor nor advocate forWASH improvements. Sensitization along with concrete, simple actions that IPC and AMR stakeholders can take to improve WASH is important.


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Context and triggers

Serbia has been a Party to the *European Protocol on Water and Health* since 2013. According to the Law on Ratification of the Protocol, ministries responsible for health, water management and environmental protection are jointly responsible for its implementation. To this end, an agreement to establish a national working group to undertake joint measures and activities of the protocol was signed by the Serbian Ministry of Health; Ministry of Energy, Development and Environmental Protection; and Ministry of Agriculture, Forestry and Water Management. This provides a mandate for the national working group to undertake activities, monitor and analyse implementation and report on progress under the protocol to prevent, control and reduce water-related diseases. Serbia set national targets for WASH under the protocol in 2015 and is currently revising these targets to include dedicated targets addressing health care facilities.

Situational analysis and assessment

In 2019, Serbia conducted a nationally representative survey of WASH conditions in 320 health care facilities using onsite observations, structured interviews and water quality testing for microbiological and chemical parameters. To complement this, a qualitative evaluation of the enabling environment, led by experts at the NIPH and MoH, was also conducted. This involved a desk review of policies and implementation mechanisms and semi-structured interviews with a limited number of stakeholders at different levels *(14)*.

Significant disparities were observed between regions, with urban areas having better services. While there is a very high coverage in provision of drinking-water, basic WASH services – in particular, sanitation and environmental cleaning – are not yet universally available in health care facilities. Qualitative analysis revealed WASH conditions are not widely acknowledged as a risk for disease transmission, HCAI or the spread of AMR. While almost all health care facilities had a person or team in charge of IPC, necessary routine operation and maintenance procedures for ensuring adequate WASH services were often not conducted because of a lack of supporting staff, ambiguous responsibilities and a lack of written plans.

Establishing standards

The importance of water, sanitation and hygiene and infection prevention is increasingly recognized at the policy level. Several national strategies and a regulatory framework related to WASH in health care facilities already exist. Following the needs defined by the situation analysis, the Government set up a working group tasked to revise by-laws (rulebook) on IPC. The updated regulation (adopted in January 2020) integrated critical elements related to WASH service provision, such as hygiene plans, drinking-water quality and monitoring. Most recently, a new national waste management strategy was developed and currently in the stage of adoption by the Ministry of Environmental Protection.

Monitor and review data: developing advanced indicators

For countries in the WHO European Region, including Serbia, national targets and plans should aspire beyond the provision of basic services towards an 'advanced level' of WASH. These should include questions to address aspects such as cleaning practice, water continuity and water quality, wastewater conveyance, storage and treatment; which may or may not be included in routine assessments but are useful for in-depth surveys.

Based on the survey findings, a team of experts at the Network of Institutes of Public Health suggested a set of indicators and definitions. The advanced level is not meant to be static; nor is it comprehensive of all critical aspects for provision of quality services. The suggested definitions and indicators (Fig. A5-1) were selected because they are considered immediate priorities. The indicators will be reviewed and updated every five years.

An advanced level indicator for sanitation was not developed because of the complex and multidimensional definition of basic service provision and the efforts still needed to achieve universal access to basic sanitation services in health care facilities.

FIGURE A5-1. PROPOSED ADVANCED SERVICES LEVELS IN SERBIA

Water	Drinking-water is chemically and microbiologically compliant with national regulations; a hygiene plan, including water operation and maintenance, is in place; and an IPC team is responsible for regular monitoring of water services.
Sanitation	No advanced indicator.
Hygiene	Hand hygiene facilities are provided with both soap and disinfectant; all health care staff have received training on IPC; and hand hygiene facilities at critical points are provided with reminders or instructions for promotion of good hand hygiene practice.
Waste management	A health care waste management protocol is in place, and infectious waste is picked up daily or safely stored for a maximum of three days before treatment and/or disposal.
Environmental cleaning	Cleaning of toilets and critical surfaces is performed at least twice per day and whenever soiled, and linen or disposable bed sheets are used and replaced between patients and whenever soiled.

An analysis using the advanced indicators shows that WASH provisions in Serbia are already beyond the minimum recommended standard in about one third of facilities in the country for three out of five WASH dimensions. These figures set the baseline for monitoring progress in line with national requirements and aspirations in future years and the basis for target-setting.

Financing

Health care facility operating and staff costs in Serbia are predominantly financed by the government and the health insurance fund. Priorities for financing are disease- and treatment-specific but they also relate to reconstruction and rehabilitation, including of WASH facilities. Financial needs are based on patient waiting lists and facility needs relating to equipment and infrastructure but do not take into account recurrent costs of WASH (routine hygiene practices, operation and maintenance of infrastructure). Funds for these must be taken from multiple, undefined budget lines.

Opportunities and challenges

- Stronger collaboration between ministries that share responsibility for WASH is needed, such as the Ministry of Agriculture, Forestry and Water Management and the Ministry of Construction, Transport and Infrastructure. Collaboration between the Ministry and Health and the Ministry of Environmental Protection on wastewater from health care facilities to develop joint regulations and programmes is also needed.
- An opportunity exists to integrate WASH-related objectives into the national AMR strategy when it is revised in 2021, particularly addressing safe water and sanitation in health care facilities and reducing the discharge of untreated wastewater from hospital effluent.

TAJIKISTAN

> *Situational analysis and stakeholder engagement are essential to understand the enabling environment and determine the most appropriate interventions*

Practical steps:

A detailed situational analysis of WASH in health care facilities revealed critical shortcomings in the regulatory framework and WASH service provision and a major lack of data on WASH conditions in health care facilities. Outcomes of the analysis informed ongoing revision of the *National Health Strategy 2020–2030*, particularly strategies and priority actions for WASH in health care facilities. A roundtable discussion involving the key departments of the Ministry of Health and Social Protection of the Population (MoHSPP) as well as other ministries and partners at the onset of the analysis resulted in improved collaboration during and after the survey. One concrete example of follow up action is mobilization of resources to conduct a comprehensive baseline assessment of WASH conditions in health care facilities led by the MoHSPP and WHO, and funded by the Japanese Government (JICA) from the COVID-19 emergency response fund. The assessment will inform both short- and long-term national road map to improve WASH in health care facilities and quality of health care services, as well as future national capacity building for COVID-19 surveillance, preparedness and response.

TIMOR-LESTE

> *A twinning partnership with Macao SAR improves WASH and IPC in tertiary facilities*

Practical steps:


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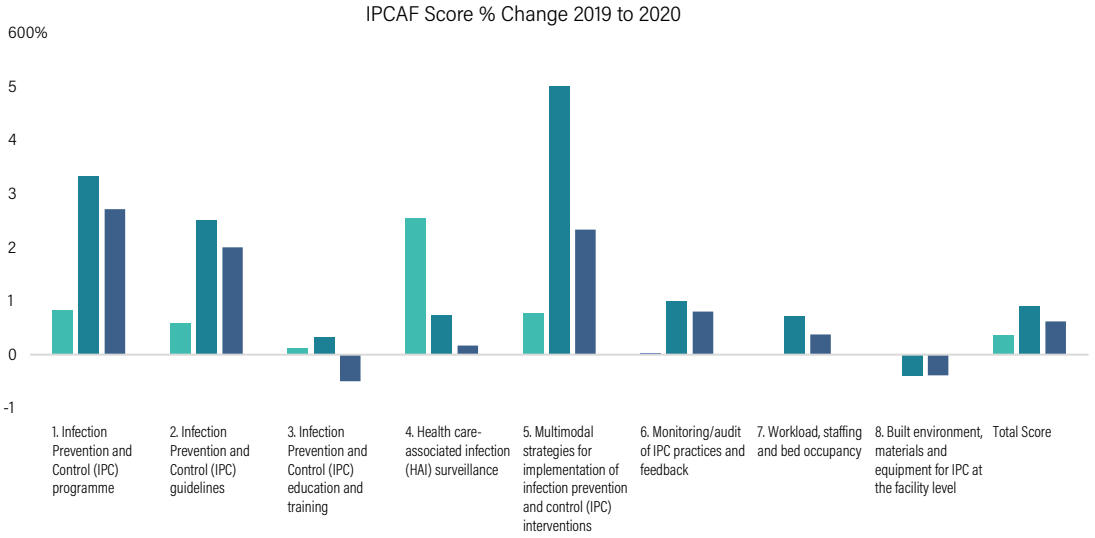
FIGURE A5-2. MOST INFECTION PREVENTION AND CONTROL AREAS IMPROVED OVER TIME WHILE INFRASTRUCTURE SERVICES WORSENED



Insights

- Gathering data using proven assessment tools works – improvements cannot be made without sound monitoring and feedback.
- An empowered health workforce has helped make change happen.
- Coordinated and complementary WASH, IPC and health systems activities, particularly at different levels of health service delivery will contribute to success.
- Knowledge sharing catalyses new ideas and innovation.

Background

Twinning partnerships between health institutions are an innovative approach that can be utilized for improving different aspects of health service delivery. WHO Twinning Partnerships for Improvement (TPI), in this instance between the Timor-Leste Cabinet of Quality Assurance in Health and Macao SAR's Health Bureau, support long-term efforts on quality of care through a systematic process to set areas for improvement, develop an action plan and then evaluate the activities conducted. The TPI in Timor-Leste focuses on IPC and WASH improvements at the national, municipal and facility levels.

Conduct a situational analysis and assessment and monitor and review data

In late 2018, the Quality Cabinet conducted a situational analysis of quality efforts from national to facility levels. This was complemented, in 2019, by assessments in three facilities (the national hospital, a municipal referral hospital and a community health centre) to understand the major roadblocks of building an effective IPC programme and determine what the TPI would focus on. Priorities were to build IPC teams, improve WASH and IPC infrastructure, provide training in WASH and IPC practices and implement and execute a hand hygiene campaign. In September 2020, a repeat assessment was completed at three facilities by TPI members and hospital leadership to evaluate progress made from the TPI and the impacts of COVID-19 to see how future plans needed to be changed. Results of the change are shown in Fig. A5-2. Some areas showed considerable improvement (e.g. multimodal strategies) while others – notably the built environment and WASH services – regressed. In September 2020, further assessments of WASH and IPC services in relation to COVID-19 were conducted across two municipalities. These assessments have been invaluable to highlight gaps and make and monitor progress.

National level information systems for WASH in communities have been inactive since 2017. Despite this, monitoring teams in select municipalities routinely collect data on WASH services in communities, schools and health facilities. This routine data collection is being used to track progress in line with JMP and national indicators. Future efforts will focus on stronger multisectoral engagement and action between health, WASH and education ministries at the municipal level.

Set targets and define a roadmap and develop standards

The national basic sanitation strategy highlights an aspirational shift from achieving open defecation free status to achieving 'foul water free' status with a step-wise approach that includes 'hygienic suco status', striving to see basic WASH services in all settings, including health care facilities. National guidelines have yet to be developed to provide facilities with the necessary information to achieve this status.

Improve and maintain infrastructure and engage communities

One of the four main objectives of the twinning partnership is infrastructure improvements. These include repairing sinks and taps, waste management and laundry facilities and ensuring adequate electricity to allow water to be supplied at all times. In rural areas, community water user groups play a role in operation and maintenance of water services and thus are being engaged in improvement planning, with oversight and engagement of district chiefs, and coordination from village, district and municipality levels.

Develop the health workforce

The TPI includes training of health workers in areas of IPC and waste management. Training was adapted to include hand hygiene in the context COVID-19, the WHO IPC Core Components and IPC skills. The WHO World Hand Hygiene Day, which Timor-Leste actively participated in (and which reached nine out of 13 municipalities), also provided an opportunity to strengthen hand hygiene knowledge and skills. Commitments were made by the MoH and celebrities, hand hygiene promotional materials developed in local languages, a training programme and video rolled out and promotion of hand hygiene auditing. As a result of the campaign, midwifery training now features hand hygiene and posters and signage are in supply, checked and refreshed. These efforts were supported by the maternal and child health team – an example of health programmes driving WASH and IPC improvements.

Hand hygiene campaign objectives:

- Educate health facility staff, ministry colleagues, families, patients and communities on hand hygiene.
- Reinforce the role of nurses and midwives in improving and maintaining good hand hygiene practice in health facilities.
- Seek commitment from individual health facilities to improve and monitor hand hygiene practice.

Challenges and opportunities

- A common result from all the assessments were gaps in infrastructure, particularly running water and waste management. Improving water access is now a priority for action with availability of seed funds and support from partners such as WaterAid. Community water user groups also play a role in operating and maintaining shared water supplies.
- Limited national investment (including long delays in agreeing annual budgets preventing spending of the limited budgets that are available) is a barrier to seeing change at scale.
- Sustaining rural water supplies that are managed by rural communities with limited management, financial and engineering skills. Further efforts are underway to better clarify these responsibilities, improving Grupu Maneja Fasilidade (GMF) support, and support coordination between GMFs, government and health care facilities.

UGANDA

Local alcohol-hand rub production and IPC mentorship in Western Uganda as part of Ebola preparedness

Practical steps:

In 2017 and 2018, comprehensive district-wide WASH assessments took place in two districts of Western Uganda to enable district health officials and implementing partners to set targets and define a roadmap for work. Partners worked closely with district health officials to establish a local alcohol-based hand rub (ABHR) production unit in one district. Since 2019, health care professionals in all 30 public health care facilities from that district have access to ABHR at all patient care areas. This programme was

later expanded as part of Ebola preparedness efforts and a further 110 health care facilities reached in 2020. During 2018–2019, handwashing stations were distributed and a twelve-week IPC mentorship programme was implemented in several districts. In 2020, the programme was adapted to COVID-19 to include measures to detect, isolate and manage COVID-19 cases and conduct safer environmental cleaning and waste management, and a national IPC facility assessment tool was developed. As of October 2020, approximately 2900 health care facilities have participated across the country.

In 2020, the MoH initiated the process of a national assessment of WASH in health care facilities. The assessment will form the basis for planning, partnership building and resource mobilization to improve coverage and quality of WASH in health care facilities across Uganda. Three other practical steps have also begun: development of a costed roadmap for improving services and WASH guidelines and a mapping of partners engaged in WASH activities. WASH partners are working closely with the MoH to support distribution of WASH supplies and information, education and communication materials for handwashing to 372 health facilities, 444 schools and 33 border points as part of COVID-19 support. Finally, the MoH is also developing an integrated monitoring system to track progress on WASH in health care facilities, schools and communities to improve accountability for investment. WASH activities are coordinated by existing platforms such as the National Sanitation Working Group and the WASH and IPC subcommittees.

UNITED REPUBLIC OF TANZANIA

Using data to drive targeted investment of pooled resources

Practical steps:

The number of women delivering in health care facilities in Tanzania has increased significantly in the past 10 years. However, overcrowding, an increase in obstetric interventions at the time of delivery and overstretched staff are also increasing the risk of infections. Training and supervision needs had previously been identified by the MoH, which then prioritized prevention and reduction of HCAI in the national IPC programme. A set of national guidelines on WASH have also been developed. The Government has adopted a system of 'basket funding': partners contribute funds to a central pool, allowing the government to allocate resources according to their priorities, preventing duplication and ensuring efficient use of funds. Basket funds will be dispersed in phases, starting with a selection of facilities from 100 districts. The experiences of managing and responding to communicable diseases such as cholera and COVID-19 have emphasised the importance of a trained health workforce.

ZAMBIA

Focused collaboration to achieve progress on the World Health Assembly Resolution

Practical steps:

In September 2019, the MoH co-hosted the global meeting 'WASH in health care facilities: From Resolution to Revolution' during which the Government reiterated its commitment to speed up implementation of WASH and IPC *(15)*. Zambia's response to the Resolution focuses on four areas: Setting up a technical working group (the National Water, Sanitation and Hygiene in Health Coordination Committee) to strengthen national and sub-national coordination; conducting assessments (using a new assessment tool that integrates WASH FIT indicators); developing WASH standards; and strengthening resource mobilization efforts. Measures have also been intensified to ensure the improvement and continued monitoring of critical WASH and IPC infrastructure and additional IPC training is being rolled out to support the COVID-19 response. Zambia has also embarked on an ambitious project to establish 650 rural health posts across the country.

ZIMBABWE

Using WASH FIT to assess, prepare and strengthen services

Practical steps:

As a follow-up to the Resolution, in February 2020, the Government of Zimbabwe established a national taskforce on WASH in health care facilities to coordinate programme activities and accelerate efforts to develop a national roadmap and set of standards and targets. Although the COVID-19 pandemic delayed the process, assessments were

conducted in fifty COVID-19 isolation facilities using WASH FIT indicators. The findings helped structure national operations and maintenance efforts to inform WASH service delivery. The Zimbabwean WASH and health sectors also joined forces to conduct rapid WASH assessments in an additional 59 facilities and provided IPC training for health care workers in the two districts worst hit by the 2019 Cyclone Idai.

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ANNEX 6. GLOBAL HEALTH AND CLIMATE CAMPAIGNS AND INITIATIVES:

OPPORTUNITIES FOR IMPACT

Name	Focus	Previous efforts related to WASH	Future opportunities
World Neglected Tropical Diseases (NTD) Day: 30 January https://worldntdday.org/	To push for greater multisectoral action and investments	WASH is a key component of the WHO NTD 2030 Roadmap and should be implemented alongside other treatment and prevention efforts.	Advocate for monitoring and use of WASH improvement tools in health care facilities in high-prevalence NTD areas. Promote hand hygiene as one of the key practices for preventing and treating those with NTDs.
World Immunization Week: last week of April https://www.who.int/news-room/events/detail/2020/04/24/default-calendar/world-immunization-week-2020	Promotes the use of vaccines to protect people of all ages from disease	Not explicitly.	Joint conversations to ensure a feature on both hygiene and waste for safe, quality immunization services across the life course that do not result in waste that poses a threat to the community.
Save Lives: Clean Your Hands campaign: 5 May https://www.who.int/infection-prevention/campaigns/clean-hands/en/	Hand hygiene in health care	In 2020, COVID-19 campaign messages included aspects of WASH.	All campaign messages to more strongly specify WASH actions and investments. A specific year campaign could be dedicated to aspects of WASH as critical to achieving hand hygiene.
World Sepsis Day: 13 September https://www.worldsepsisday.org/	To provide global leadership to reduce the burden of sepsis	Has highlighted the need for IPC to prevent infections and sepsis, which includes WASH.	Provide key WASH messages to this community and explore options for including these in future global days.
World Patient Safety Day: 17 September https://www.who.int/campaigns/world-patient-safety-day/2020	Patient safety	The *Global patient safety action plan 2020–30* includes WASH in health care facilities as an enabler of safe clinical processes.	Collaboration to ensure messages to support dissemination of the plan explicitly include WASH in order to reach patient safety stakeholders not already aware of its critical nature, and to influence implementation of the health worker charter to include aspects of WASH for a safe and dignified workspace.
World Antibiotic Awareness Week: 3rd week of Nov https://www.who.int/campaigns/world-antimicrobial-awareness-week	Handle antibiotics with care	Hand hygiene messages have been included. In 2020, messages in support of improving WASH included.	A dedicated year to WASH in health care facility calls to action, consistent with WHO and UNICEF recommendations.
Universal Health Coverage (UHC) Day and initiative: 12 December https://universalhealthcoverageday.org/	To ensure all people, everywhere can get quality health services	Not explicitly.	Building on the 2020 theme of Protecting Everyone, start a dialogue with leaders' part of UHC2030 to explore specifically addressing WASH as critical for the achievement of strong, equitable health systems.

Name	Focus	Previous efforts related to WASH	Future opportunities
Partnership for maternal, newborn and child health (PMNCH) initiative https://www.who.int/pmnch/en/	To advocate for urgent action for these communities	Includes calling for government commitment and funding to ensure functioning and safe WASH in all sectors.	Active collaboration (through the task forces) to ensure ongoing high-profile WASH messages that are consistent with WHO and UNICEF messaging including JMP data presentation and monitoring efforts.
Year of the Nurse and Midwife (2020–2021)	To strengthen the nursing and midwifery workforce	The State of the World's Nursing report emphasized that good nursing practices include WASH.	One key message on the critical nature of WASH in health care facilities to ensure a safe and dignified workplace be included in all advocacy messaging through 2021. Explore collaborations for the forthcoming decade of midwives.
Every Woman Every Child https://protect.everywomaneverychild.org/	Mobilizes and intensifies action to end all preventable deaths of women, children and adolescents	Has featured the % of the population that has at least basic sanitation services.	Joint conversations about the potential to address the lack of WASH issues in health care facilities, which has an effect on women, children and adolescents' lives.
Global initiative on climate change and health https://www.who.int/globalchange/sids-initiative/about/en/	Transforming services	Building, retro-fitting and maintaining WASH services to be climate-resilient and environmentally sustainable is one of the key elements.	Efforts to share learning and outcomes for others to follow the example, including posting on the WASH in health care facilities web platform.

ANNEX 7. SUGGESTED ACTIONS TO ACHIEVE THE FOUR RECOMMENDATIONS

Achieving the four recommendations on implementing roadmaps, monitoring progress, developing the health workforce and integrating WASH into health sector planning, bugeting and programme will require significant, collaborative effort from a number of stakeholders. Specific actions for each of the main stakeholder groups are listed below.

Global health leaders, programmes and partners	• Amplify message about gaps in services and call for greater attention and investments and implement plans. • Integrate elements of the Resolution and practical steps into health programming and activities. • Monitor and report on WASH as part of health activities.
Global WASH, energy and climate partners	• Identify countries and activities that need further support at national and regional levels. • Work to align targets, investments and reporting on WASH, energy and climate.
National health policy and quality health systems decision-makers, district health managers, health facility administrators and staff	• Engage and provide updates on implementation of the Resolution and practical steps to support the global learning agenda and track progress. • Monitor and report on WASH as part of health activities. • Include WASH within national directions on quality, the development and implementation of national quality policy and strategy and the prioritization of quality interventions. • Mobilize and build community demand for WASH in health care facilities.
Communities	• Demand rights to WASH and create awareness and accountability for upholding these rights among those with the responsibility for providing WASH services in health care facilities.
Health partners	• Integrate WASH standards, monitoring and funding into health efforts. • Promote the messages that reduced morbidity and mortality linked to infections and less AMR is possible through improved WASH. • Support WASH-related behaviours and accountability through health programme delivery.
Planning and finance decision-makers/ donors	• Finance large-scale improvements in climate-resilient WASH infrastructure, and cost and budget recurrent WASH costs and regular training, mentoring, and monitoring into health budgets, ensure budgets are delivered and used where needs are greatest.
National WASH, infrastructure, energy, and finance sectors and actors	• Facilitate the development of climate-resilient WASH guidelines and standards. • Prioritize investments in climate-resilient services with health care facilities. • Report on implementation activities, results and contribute to national roadmaps.
Research communities	• Monitor WASH services within all health research studies that take place in health care facilities. Use WASH data to inform analyses and discussion of results. • Generate evidence of WASH impact and successful implementation and hygiene behaviour change strategies in health care facilities for decision-making. • Integrate WASH into health professional training curriculum including pre- and post-service education. • Advance and document innovation for WASH infrastructure, including technologies that are climate-smart, safe and lower cost.

Find out more and get involved

WHO/UNICEF WASH in health care facilities knowledge portal: www.washinhcf.org
WHO/UNICEF Joint Monitoring Programme: www.washdata.org

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https://www.who.int/water_sanitation_health/en/
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