World Health Organization

European Region

DRINKING-WATER, SANITATION AND HYGIENE IN THE WHO EUROPEAN REGION: HIGHLIGHTS AND PROGRESS TOWARDS ACHIEVING SUSTAINABLE DEVELOPMENT GOAL 6

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Abstract

Universal and equitable access to safe water, sanitation and hygiene (WASH) services for all in all settings is of vital importance in achieving the aspirations of the Sustainable Development Goals (SDGs) and regional commitments. Despite the progress made in provision of WASH services, geographical, economic and social disparities prevail, and several million people still do not enjoy access to basic services in the WHO European Region. According to current development rates, the Region is not on track to meet the targets of SDG 6 to ensure safely managed water and sanitation services for all by 2030. This report provides an overview of the current situation, progress made to date, and existing gaps and prevailing inequalities in access to safe WASH services for households, schools and health-care facilities in the Region. It highlights further priorities and eight areas for action to accelerate efforts towards achieving universal coverage for such services.

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Introduction

Water, sanitation and hygiene (WASH) are fundamental determinants of health and well-being. Accessible, available, safe, acceptable, equitable and affordable water and sanitation are "essential for the full enjoyment of life"; as such, they are acknowledged as basic human rights *(1)*. Fulfilling these essential rights for all people everywhere remains a priority in the WHO European Region.

Lack of access to safe WASH services can have adverse impacts on health, well-being and dignity; it also affects livelihoods and economic development. Although the true extent of water-related diseases remains uncertain, it was estimated that more than seven people died from WASH-related diarrhoea every day in the WHO European Region in 2016 *(2)*. The highest numbers of reported outbreaks in the Region were of viral gastroenteritis, hepatitis A, *Escherichia coli* diarrhoea and legionellosis *(3)*.

WASH is a key element in achieving the aspirations of the 2030 Agenda for Sustainable Development and its Sustainable Development Goals (SDGs). SDG 6 on ensuring universal and equitable access to safe drinking-water, sanitation and hygiene for all is central to the 2030 Agenda, but other SDGs are also relevant to WASH. These include SDG 4 on ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all and SDG targets 3.3 on combating waterborne diseases and 3.9 on substantially reducing the number of deaths and illnesses from water pollution and contamination *(4, 5)*.

Ensuring universal access means providing services for all in all settings – including schools, health-care facilities, workplaces and public places – and addressing the needs of all population groups. The COVID-19 pandemic re-emphasized the importance of WASH interventions in preventing and controlling the spread of infectious disease *(6)*. World Health Assembly resolutions WHA72.7 on WASH in health-care facilities and WHA73.1 on COVID-19 response emphasize the fundamental role of safe WASH services in strengthening national health systems, ensuring quality of care and attaining universal health coverage *(7, 8)*.

In the regional context, the Protocol on Water and Health to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes provides a unique legal instrument to advance the WASH agenda *(9)*. It is reaffirmed and underpinned by the 2017 Declaration of the Sixth Ministerial Conference on Environment and Health (Ostrava Declaration) and the WHO European Programme of Work, 2020–2025 – "United Action for Better Health in Europe" *(10, 11)*.

Seven years after the adoption of the SDGs, this report aims to provide an overview of the current situation, progress made and prevailing inequalities in access to WASH services for households, schools and health-care facilities in the WHO European Region. It highlights existing gaps and further priorities, formulated as eight areas for action.

Various data sources were used to prepare this regional overview, including the most recent national WASH estimates made available by WHO and the United Nations Children's Fund (UNICEF) Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (JMP) for 2020 *(12)* and information on WASH policies, programmes and financing provided by the UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS) survey of 15 countries in the WHO European Region in 2018/2019 *(13)*. The analysis was complemented by compiling information from other United Nations publications and peer-reviewed literature relevant to this topic and to the Region.

Regional overview of WASH service provision at a glance

The WHO European Region comprises 53 Member States, covering a geographical area stretching from western Europe to western and central Asia, with more than 930 million inhabitants. The countries are highly heterogeneous in their socioeconomic, environmental and health conditions. For a regional overview, countries in the Region were grouped according to the official United Nations Statistics Division classifications *(14)* into the following geographical subregions: central Asia, western Asia, eastern Europe, northern Europe, southern Europe and western Europe (see Table A in Annex 1 for further details).

The WHO/UNICEF JMP defines criteria for basic and safely managed services for households to monitor progress towards achieving SDG 6. These take into consideration the various dimensions of the human right to water and sanitation (Table 1). Additional key settings monitored by the JMP at the international level are WASH service levels in schools and health-care facilities.

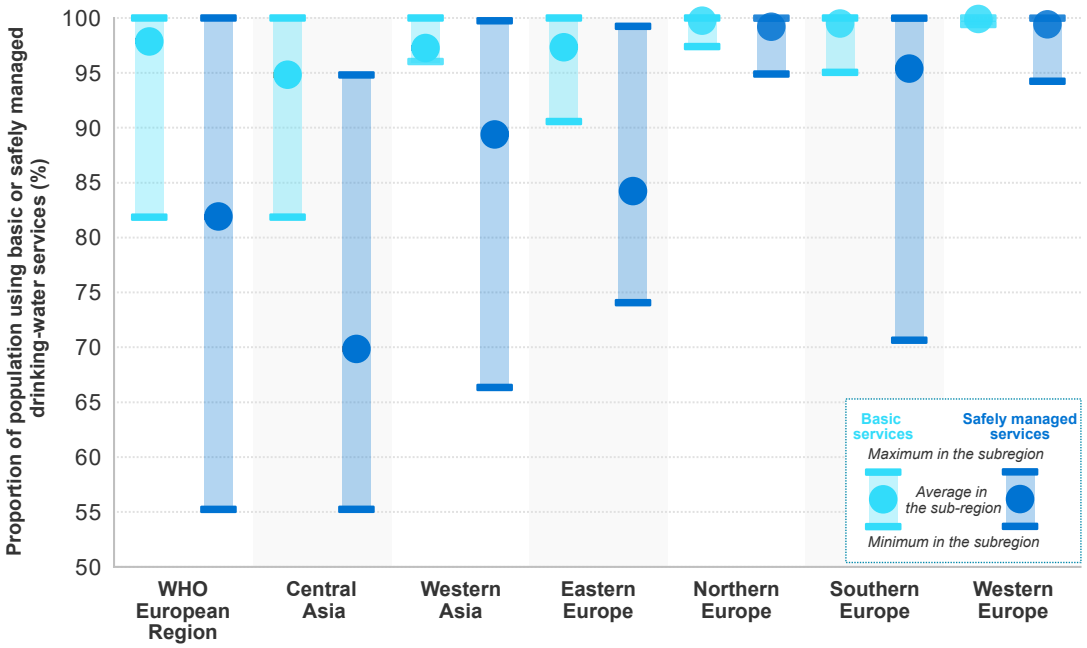
Table 1. Drinking-water, sanitation and hygiene service levels for households and definitions

Drinking-water	Sanitation	Hygiene
Safely managed service	***Safely managed service***	***Not applicable***
Drinking-water from an improved source[a] that is accessible on premises, available when needed and free from faecal and priority chemical contamination	Use of improved facilities[b] that are not shared with other households and where excreta are safely disposed of in situ or removed and treated off site	
Basic service	***Basic service***	***Basic service***
Drinking-water from an improved source, provided collection time is not more than 30 minutes for a round trip, including queuing	Use of improved facilities that are not shared with other households	Availability of a handwashing facility[c] with soap and water at home
Limited service	***Limited service***	***Limited service***
Drinking-water from an improved source, for which collection time exceeds 30 minutes for a round trip, including queuing	Use of improved facilities that are shared with other households	Availability of a handwashing facility lacking soap and/or water at home
Unimproved	***Unimproved***	***No facility***
Drinking-water from an unprotected dug well or unprotected spring	Use of pit latrines without a slab or platform, hanging latrines or bucket latrines	No handwashing facility at home
Surface water	***Open defecation***	***Not applicable***
Drinking-water directly from a river, dam, lake, pond, stream, canal or irrigation canal	Disposal of human faeces in fields, forests, bushes, open bodies of water, beaches or other open places, or with solid waste	

[a] Improved drinking-water sources include: piped water, boreholes or tubewells, protected dug wells, protected springs, rainwater, and packaged or delivered water.
[b] Improved facilities include: flush/pour flush toilets connected to piped sewer systems, septic tanks or pit latrines; pit latrines with slabs (including ventilated pit latrines); and composting toilets.
[c] Handwashing facilities may be located within the dwelling, yard or plot. They may be fixed or mobile and include a sink with tap water, buckets with taps, tippy-taps, and jugs or basins designated for handwashing. Soap includes bar soap, liquid soap, powder detergent and soapy water, but does not include ash, soil, sand or other handwashing agents.
Source: WHO & UNICEF *(12, 15)*.

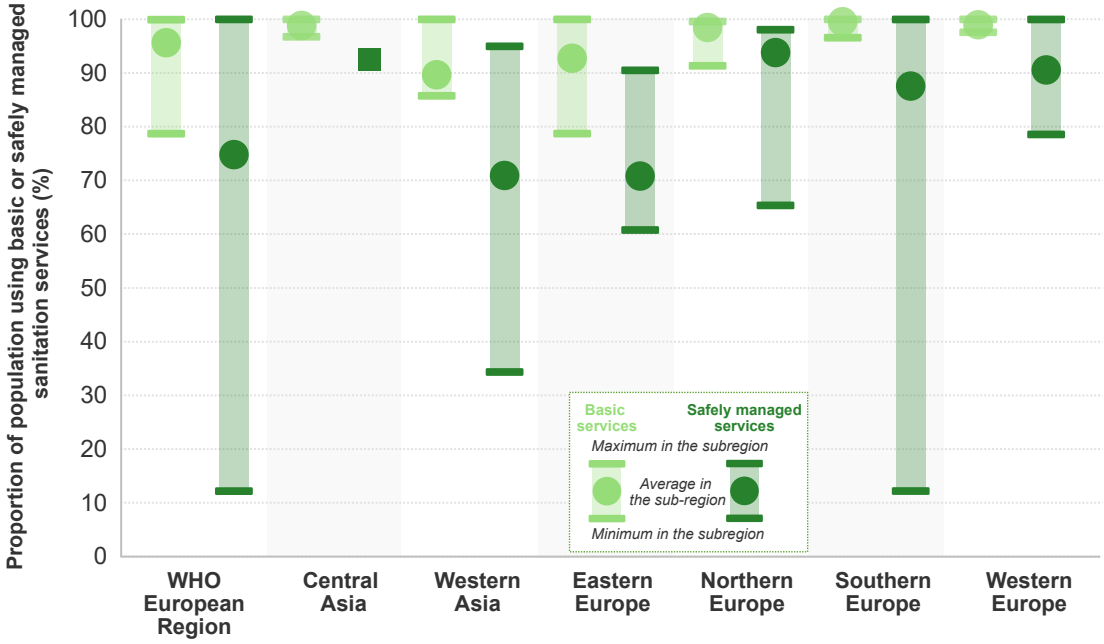
Following the criteria listed in Table 1, Fig. 1 and Fig. 2 depict the population-weighted average coverage rates, as well as minimum and maximum rates reported by countries, of basic and safely managed drinking-water and sanitation services for households across the WHO European Region and divided into the six geographical subregions.

Fig. 1. Population coverage of basic and safely managed drinking-water services, 2020



Note: no data available on basic drinking-water services for Croatia (Southern Europe); no data available on safely managed drinking-water services for Croatia (Southern Europe) and Türkiye (Western Asia).
Source: WHO/UNICEF JMP *(12)*.

Fig. 2. Population coverage of basic and safely managed sanitation services, 2020



Note: no data available on basic sanitation services for Azerbaijan (Western Asia) and Bosnia and Herzegovina (Southern Europe); no data available on safely managed sanitation services for Kazakhstan, Tajikistan, Turkmenistan and Uzbekistan (Central Asia), Azerbaijan (Western Asia), Republic of Moldova (Eastern Europe) and Bosnia and Herzegovina (Southern Europe).
Source: WHO/UNICEF JMP *(12)*.

High population coverage rates of basic and safely managed drinking-water and sanitation services characterize the situation in the Region as a whole, but considerable differences exist between the six geographical subregions. Regional average coverage rates of basic drinking-water services were close to or above 95%, and of basic sanitation services around 90%. In the subregions, however, averages of population coverage with safely managed drinking-water and sanitation services ranged from 70% to 99%, with much greater differences between countries. Projecting current development rates into the future indicates that the Region is not on track to meet SDG targets 6.1 and 6.2 to ensure safely managed sanitation and drinking-water services for all. Efforts to achieve universal coverage for such services by 2030 need to be accelerated.

Despite overall high coverage rates, around 29 million people did not have access to basic sanitation and about 16 million people lacked access to a basic drinking-water supply in 2020 *(12)*. Coverage rates vary significantly between countries due to their diverse contexts, revealing geographical, economic and social disparities *(16)*. Only 11 countries reported data on households with access to hygiene services at home to the WHO/UNICEF JMP for 2020. This indicates a significant data gap, meaning that a comprehensive overview is not possible.

Further details on progress to date, focusing on key priorities to address WASH services in households, schools and health-care facilities and the enabling environment in the context of the WHO European Region are provided in the following eight areas for action.

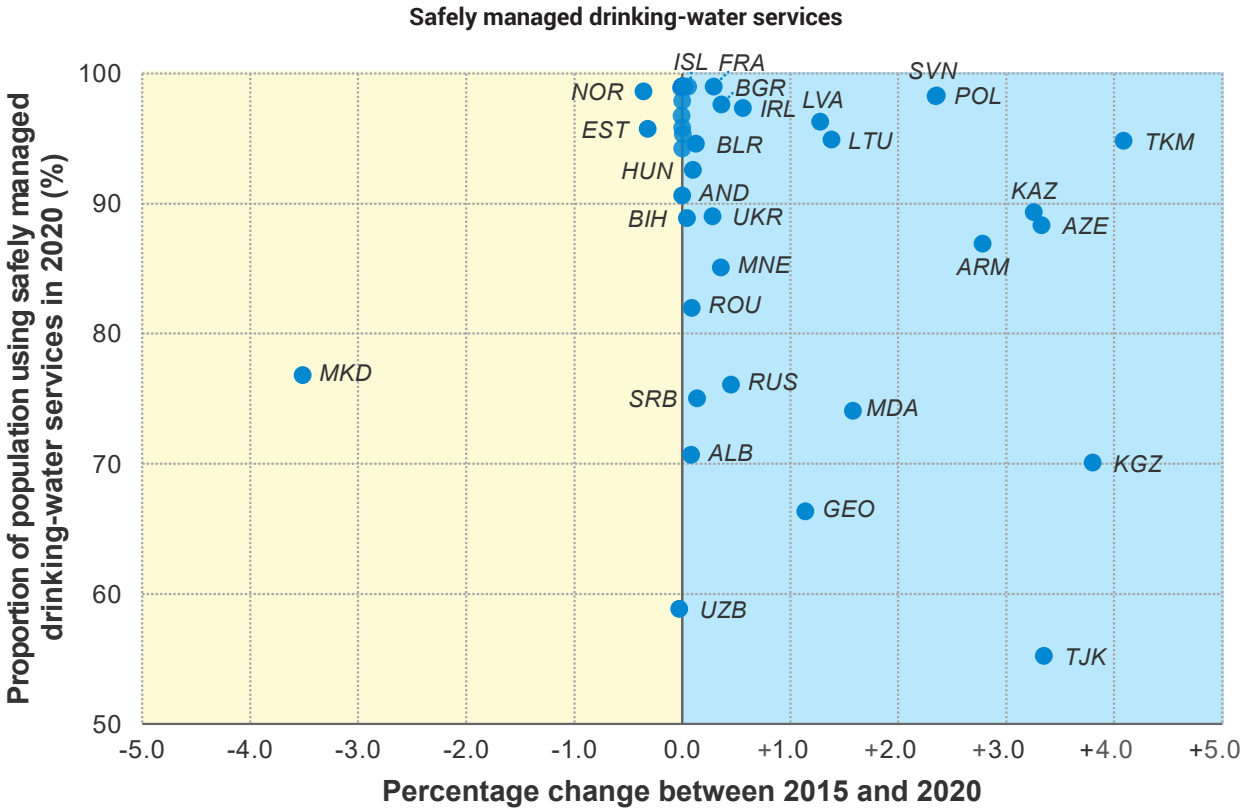
Area for action 1.

Boosting access to safely managed drinking-water and sanitation services

Countries in the WHO European Region need to boost access to safely managed drinking-water and sanitation services. Although the great majority of people living in the Region already relied on at least basic drinking-water (98.3%) and sanitation (96.9%) services in 2020, there is still room for improvement. In accordance with SDG 6, countries should strive progressively to ensure access to safely managed drinking-water and sanitation services for all in all settings, as realization of such services offers the best level of health protection.

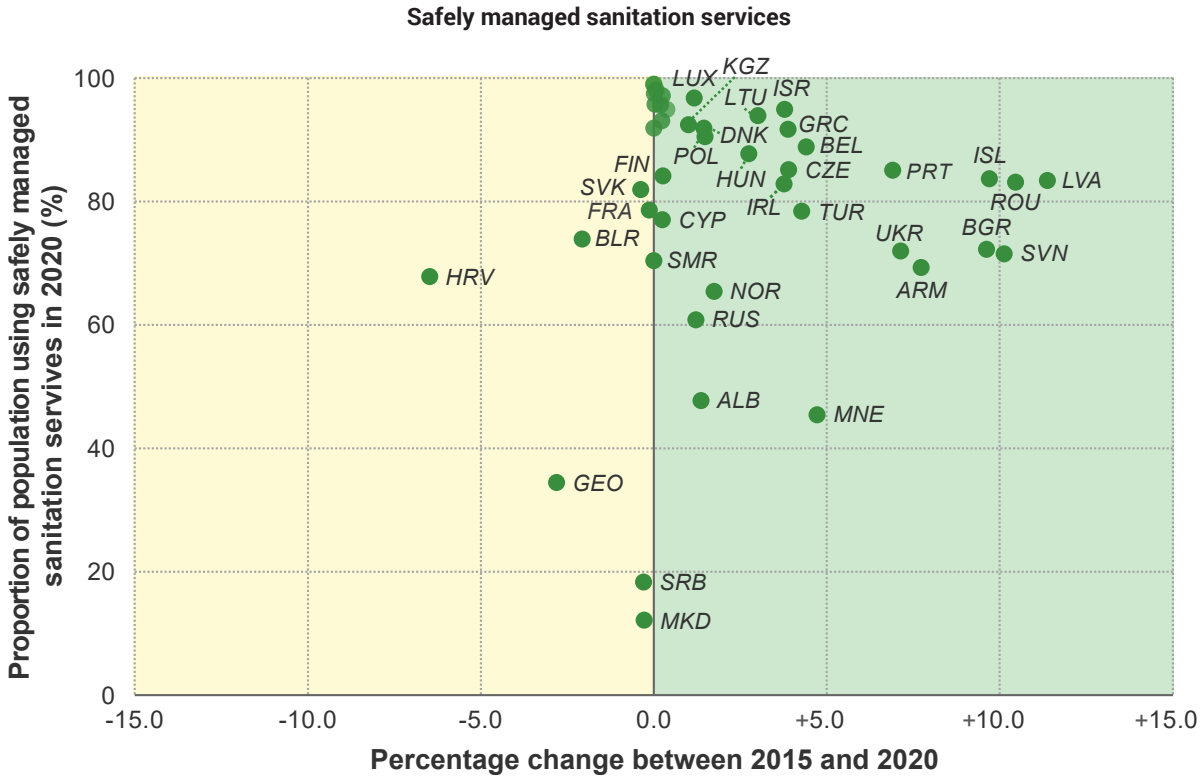
Fig. 3 illustrates the changes in the population using safely managed drinking-water and sanitation services since the introduction of the SDGs, showing the change in rates between 2015 and 2020. The closer the country points are to the top of the chart, the higher the access rates in 2020; the further the country points are to the right (from where the y axis intercepts the zero), the higher the positive percentage change.

Fig. 3. Development of population coverage rates between 2015 and 2020



Notes: the country abbreviations are listed in Table A in Annex 1.
No data available on safely managed drinking-water services for Croatia and Türkiye.
Countries with population coverage rates of safely managed drinking-water services close to or above 95% and below 0.0 percentage change between 2015 and 2020 (not labelled due to space limitations) include Austria, Belgium, Cyprus, Czechia, Germany, Denmark, Finland, Greece, Israel, Italy, Malta, Monaco, the Netherlands, Portugal, San Marino, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

Fig. 3 contd



Notes: the country abbreviations are listed in Table A in Annex 1.
No data available on safely managed sanitation services for Azerbaijan, Bosnia and Herzegovina, Kazakhstan, the Republic of Moldova, Tajikistan, Turkmenistan and Uzbekistan.
Countries with population coverage rates of safely managed sanitation services close to or above 90% and below 0.0 percentage change between 2015 and 2020 (not labelled due to space limitations) include: Andorra, Austria, Germany, Italy, the Netherlands, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.
Source: WHO/UNICEF JMP *(12)*.

It is promising to observe that – across both water and sanitation services – access rates increased between 2015 and 2020, with only a few exceptions. Projecting the current rate of progress linearly into the future, however, shows that many countries in the Region will not be able to meet SDG targets 6.1 and 6.2 on achieving universal and equitable access to safe and affordable drinking-water and adequate and equitable sanitation for all by 2030. This unfortunate situation can also be observed for other global regions *(15)*. Political, sectoral and financial efforts thus need be accelerated to meet global and regional aspirations and targets.

Improving WASH services at the national level requires an incremental approach. While achievement of universal and equitable access to basic WASH for all those that currently lack such services should be a priority (see also area for action 3), specific action also should be taken to tackle existing geographical disparities (see also area for action 4). Countries already reporting high or full coverage of basic services for their populations should strive to maintain this, while seeking to scale up safely managed service levels. This should include adopting risk-based approaches to management and monitoring (see also area for action 2) *(17)*. Setting and implementing context-specific national WASH targets, including under the Protocol on Water and Health, and development of supporting action plans and roadmaps should guide this process *(9)*.

Area for action 2.

Scaling up implementation of water and sanitation safety planning approaches

Implementation of water and sanitation safety planning approaches should be scaled up across the WHO European Region. Systematic and preventive management of health risks along the drinking-water supply chain and the sanitation service chain is essential for provision of safe WASH services and achievement of SDG 6. WHO's guidelines for drinking-water quality, updated in 2022, recommend use of a risk-based management approach – water safety plans (WSPs) – to ensure the consistent safety of drinking-water *(18)*. Likewise, WHO's guidelines on sanitation and health of 2018 encourage use of sanitation safety plans (SSPs) to manage sanitation services *(19)*. The WSP and SSP approaches are benchmarks for public health protection, and WHO recommends that countries adopt and scale them up *(20, 21)*.

Benefits of implementing WSPs have been reported to include better understanding and prevention of health risks, improved system management, reduced number of water quality incidents, improved water quality and health gains *(22, 23)*. Implementing WSPs can also support managers dealing with emergencies and unforeseen events, including current and future climate threats. While no single database tracks progress in implementing WSPs in the WHO European Region, various reports from 2017–2019 *(22, 24–26)* suggest that:

- at least 29 countries have formally approved WSP policies or regulatory instruments;
- such instruments are under development in at least 6 countries;
- at least 24 countries have already implemented WSPs at different geographical scales, with higher numbers in urban areas (Table 2).

Table 2. Number of countries that have implemented water safety planning approaches, 2017–2019

Implementation status	Number of countries
Countries that have implemented WSPs	**24**
Countries that have implemented WSPs in urban areas	**20**
Countries that have implemented WSPs in rural areas	**15**

Sources: WHO *(22, 26)*; UNECE *(24)*; WHO Regional Office for Europe *(25)*.

Greater uptake of risk-based approaches in policies and practice for drinking-water provision across the Region requires strong political commitment. The 2020 European Union (EU) Directive on the quality of water intended for human consumption – now embracing a mandatory requirement for implementation of the core principles underpinning the WSP approach – provides a "regulatory push" for all EU Member States; this will help to ensure further uptake in practice *(27)*. To scale up WSP efforts at the national level, countries can follow a series of steps tailored to the local context, as outlined in the WSP "road map" *(28, 29)*.

Information on SSP implementation in the Region is largely lacking, possibly because of the relative novelty of the concept. The SSP approach helps to minimize health risks among users, sanitation workers and communities along the entire sanitation chain *(19)*; it therefore plays a pivotal role in incrementally progressing towards ensuring universal access to safely managed sanitation systems. SSP implementation can also support management of threats to drinking-water quality – particularly at the level of source protection.

Area for action 3.

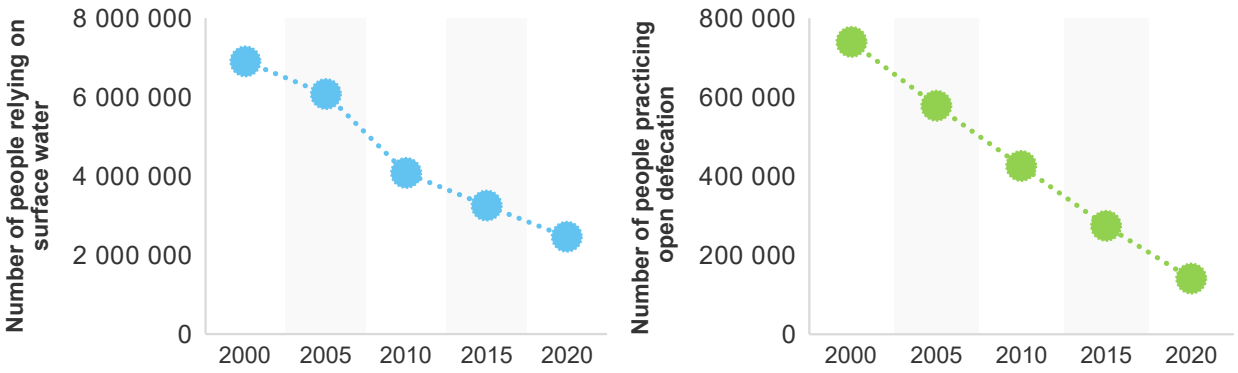
Providing services for those who have none

The WHO European Region needs to ensure provision of WASH services for those who lack them. Discussion of the WASH situation of households in the Region often emphasizes the high overall coverage rates of basic and safely managed drinking-water and sanitation services, but rarely focuses attention specifically on unserved population groups. It is alarming that in 2020 more than 15 million people did not have access to basic drinking-water services and 29 million people had to use less than basic sanitation services. Based on limited data from only 11 countries, more than 4 million people (7.5% of the total population of those countries) did not have access to basic hygiene services. Not enjoying access to any WASH service is still a reality for many people in the Region.

In 2020, around 2.5 million people in 10 countries in central and western Asia and eastern and southern Europe still used surface water – for example, from a river, dam, lake, pond, stream, canal or irrigation canal – as their primary source of drinking-water. About 80% of those lived in rural areas. Equally embarrassingly, in 2020, more than 140 000 people in seven countries in western Asia and eastern and southern Europe practised open defecation. These were almost exclusively rural dwellers (99.8%).

While a consistent decline in people relying on surface water or practising open defecation has been seen since 2000 (Fig. 4), this remains an unacceptable situation.

Fig. 4. Number of people relying on surface water (left) or practising open defecation (right), 2000 to 2020



Note: The numbers presented here are the sum of national estimates available for the relevant years.
Source: WHO/UNICEF JMP *(12)*.

The lack of access to any drinking-water or sanitation service has a severe impact on the health, well-being, dignity and livelihoods of these people. This truly intolerable situation violates the human rights to water and sanitation, and has substantial consequences for full enjoyment of life and realization of other human rights. As duty-bearers, it is a legal obligation for States to ensure that their populations have access to safe water and sanitation services in an equal manner and without discrimination *(30, 31)*.

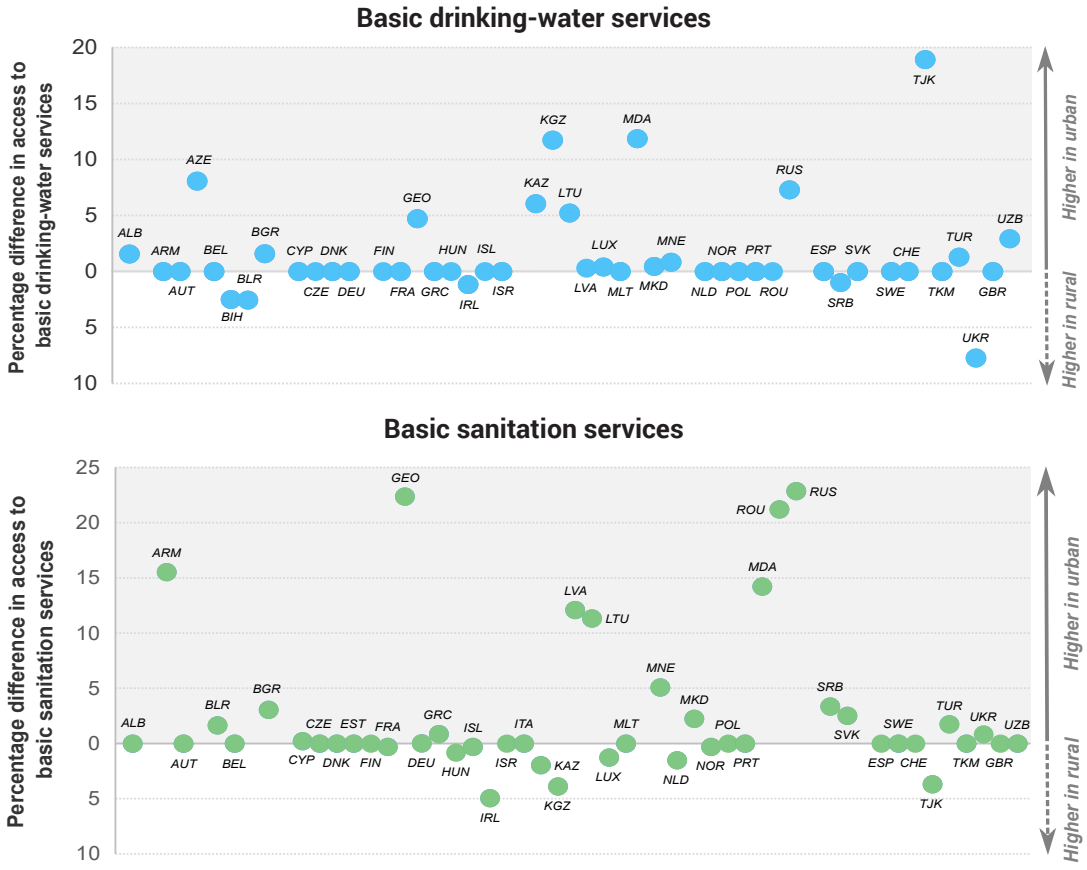
Area for action 4.

Closing inequality gaps and making universal access to WASH services a reality for all

Significant work is required to close inequality gaps and make universal access to WASH services a reality for all. WASH data at the national level may mask intra-country differences. Inequalities in access to WASH services in countries in the WHO European Region exist in three key dimensions: geographical, economic and social *(16, 32)*.

Geographically, equitable access to at least basic WASH services is not a reality in several countries. Differences between urban and rural populations persist, and urban areas often have more favourable conditions (Fig. 5).

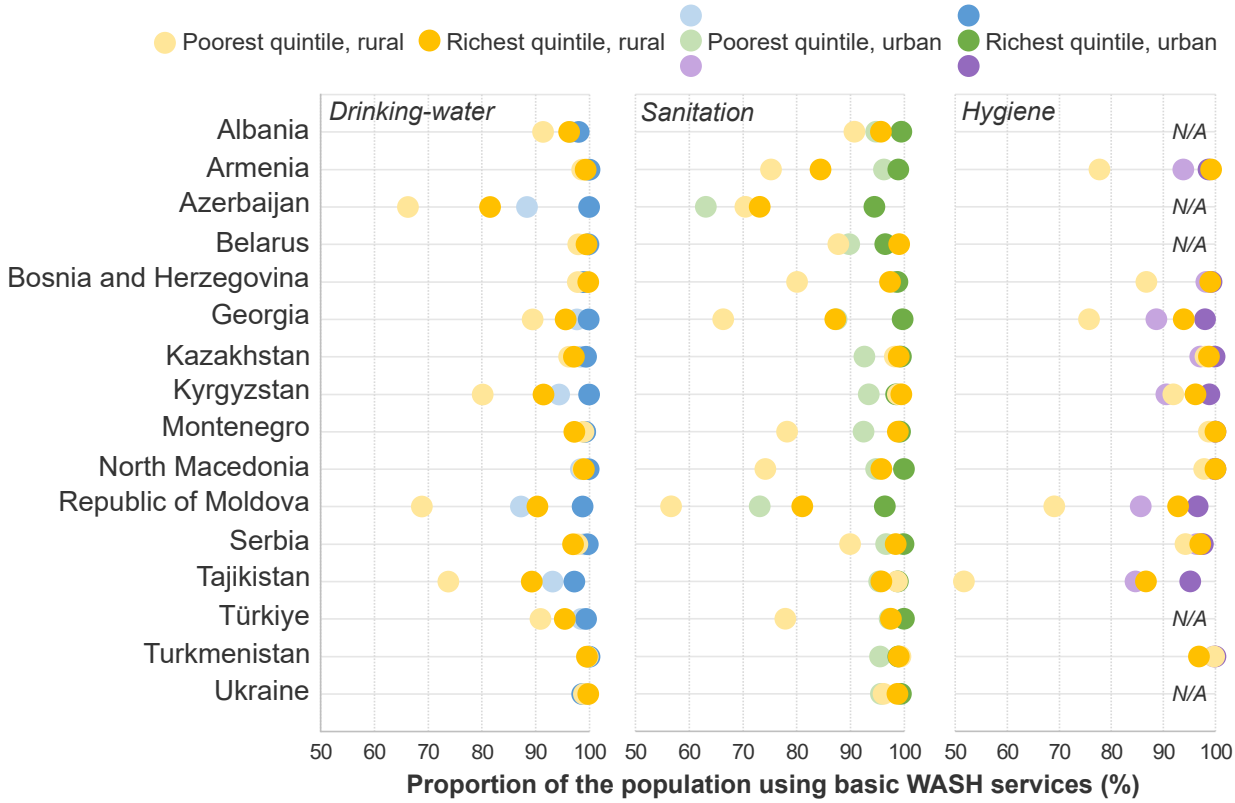
Fig. 5. Differences in urban and rural coverage rates of basic drinking-water and sanitation services, 2020



Notes: the country abbreviations are listed in Table A in Annex 1.
For drinking-water, no percentage differences were available for Andorra, Croatia, Estonia, Italy, Monaco, San Marino and Slovenia; for sanitation, no percentage differences were available for Andorra, Azerbaijan, Bosnia and Herzegovina, Croatia, Monaco, San Marino and Slovenia.
Source: WHO/UNICEF JMP *(12)*.

Access rates to at least basic drinking-water and sanitation services also varied profoundly in 2020 between households within a country based on economic indicators – i.e. for different asset-based wealth groups. Available data for 15 European countries showed that access rates can be up to 28% (drinking-water) and 36% (sanitation) higher in the richest than the poorest quintile in a country *(12)*. An integrated analysis of geographical and economic disparities for 16 countries in the Region revealed that the poorest people – in the majority of cases in rural areas – are always the most disadvantaged in access to basic WASH services (Fig. 6).

Fig. 6. Proportion of urban and rural populations with access to basic drinking-water (left), sanitation (middle) and hygiene (right) services, by wealth quintile (last year of reporting)

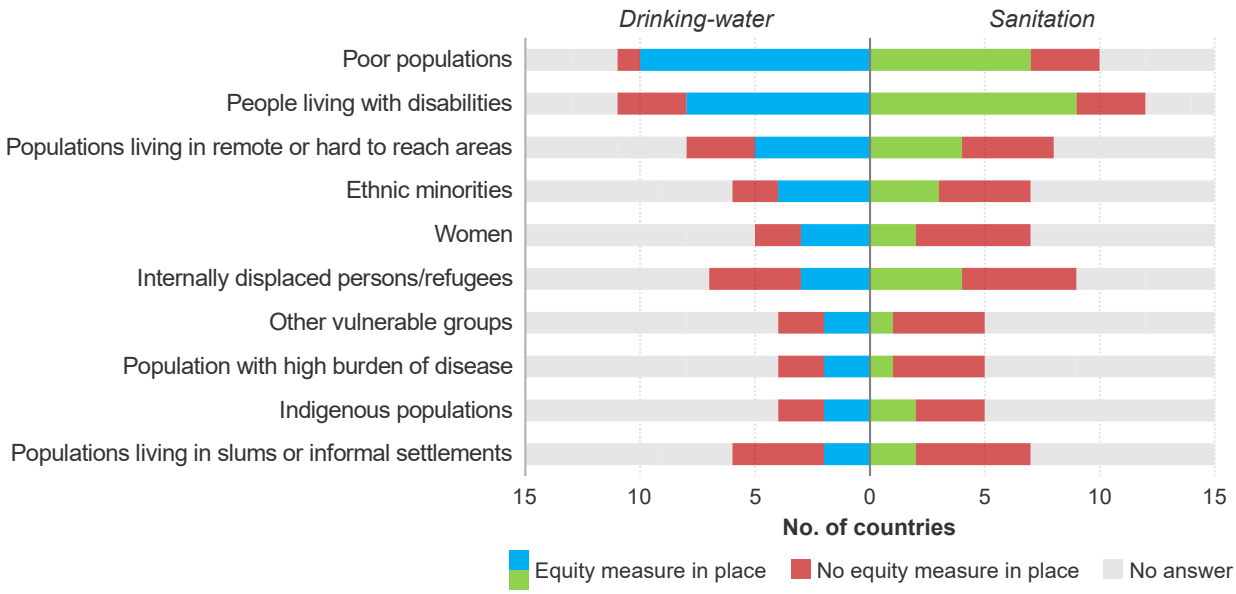


Source: WHO/UNICEF JMP *(12)*.

Social disparities in access to basic WASH services refer to the status of service provision to vulnerable and marginalized population groups – including, for example, women and girls, ethnic minority populations, people with special physical needs, people without private facilities or living in insanitary conditions and homeless people *(31)*. Unfortunately, beyond individual scientific studies, comprehensive and systematic data on the social dimension are largely lacking. Evidence suggests that, for instance, European Roma populations face more challenges regarding access to WASH services, including limited access, affordability and quality of WASH services *(33)*. Preventing the discrimination or exclusion of vulnerable and marginalized population groups in provision of WASH services should be a priority to achieve universal and equitable access to drinking-water and sanitation for all *(32)*.

Systematic national WASH sector analysis helps to reveal weaknesses and gaps that require attention and improvement, particularly in the context of vulnerable and marginalized population groups. The majority of countries that participated in the 2018/2019 GLAAS reporting cycle[1] had formally approved national WASH policies, but implementation measures to extend and ensure services for vulnerable population groups were lagging behind (Fig. 7).

Fig. 7. Number of countries reporting equity measures in place for specific vulnerable groups



Source: GLAAS data portal *(26)*.

Low-income populations and people living with disabilities are two vulnerable population groups for which several countries have implemented equity measures for both drinking-water and sanitation services. Although equity measures for poor populations and people living with disabilities are in place in some countries that participated in the 2018/19 GLAAS reporting cycle, few of those surveyed monitor progress or apply measures consistently to target financial resources for drinking-water and sanitation service provision for this vulnerable group *(26)*.

This analysis, based on the available data, reveals shortcomings in national efforts to make "leaving no one behind" a reality by extending WASH services to all people in countries in the WHO European Region. Conducting a national WASH sector analysis with a focus on equity aspects helps to identify gaps and to inform policy decisions and priority interventions targeting vulnerable groups. The Equitable Access Score-card *(34)*, established under the Protocol on Water and Health, and the GLAAS methodology can support countries to undertake such an analysis of their situation and inform evidence-based policy-making and action.

[1] The following countries in the WHO European Region provided data in the 2018/19 GLAAS reporting cycle: Albania, Austria, Azerbaijan, Bosnia and Herzegovina, Belarus, Georgia, Hungary, Kyrgyzstan, Lithuania, Montenegro, the Netherlands, Serbia, Tajikistan, Ukraine and Uzbekistan.

Area for action 5.

Moving towards provision of higher WASH service levels in schools

Stakeholders should boost efforts to provide higher WASH service levels in schools. Improving WASH in schools is a policy priority in the WHO European Region. Appropriate WASH services in schools promote healthy development and learning, while respecting the dignity and well-being of pupils. They are fundamental to fulfilment of the child's right to education and the achievement of SDG 4 on ensuring inclusive and equitable quality education, anchored in SDG target 4a on building and upgrading education facilities that are child-, disability- and gender-sensitive and provide safe, inclusive and effective learning environments for all. The WHO and United Nations Educational, Scientific and Cultural Organization (UNESCO) standards for making every school a health-promoting school *(35)* recommend that schools ensure a safe, inclusive and effective learning environment for all school members by providing a clean water supply, safe and adapted sanitation, proper drainage, adequate lighting, temperature control and proper waste and refuse disposal, among others. Providing WASH services in schools is thus an integral part of ensuring universal access for all in all settings, as stipulated by SDG 6.

The WHO/UNICEF JMP monitors WASH in schools by tracking basic service levels (Table 3), which are considered an absolute minimum essential environmental health condition. Criteria for higher service levels need to be defined at the national level. They could include, for instance, normative elements such as water quality and/or quantity, and water point accessibility for all users.

Table 3. Drinking-water, sanitation and hygiene basic service levels for schools and their definitions

Drinking-water	Sanitation	Hygiene
Drinking-water from an improved source[a] is available at the school	Improved facilities[b], which are single-sex and usable at the school	Handwashing facilities[c], which have water and soap available

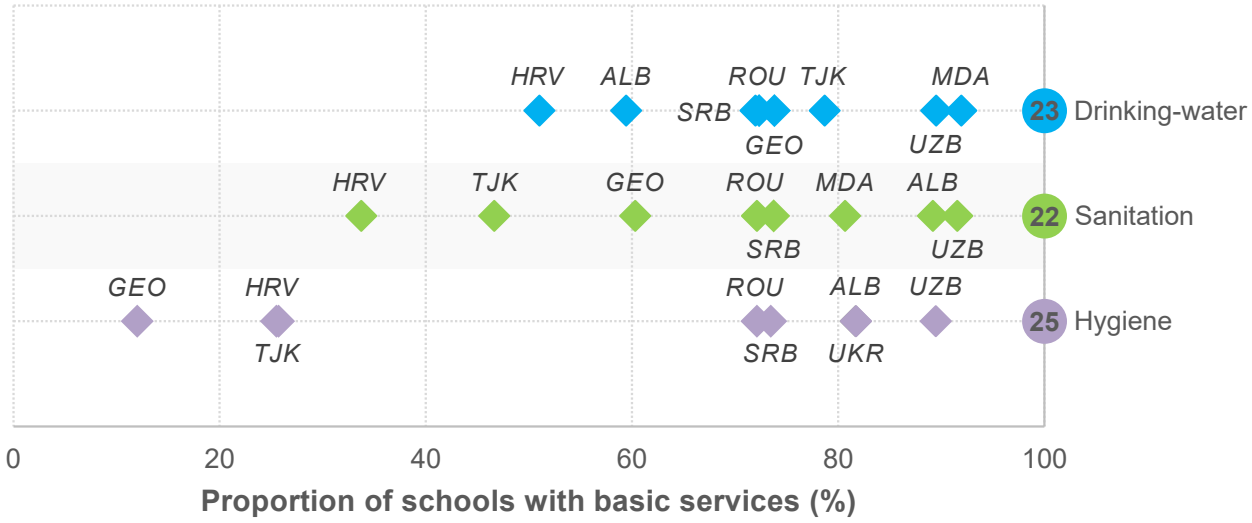
[a] Improved drinking-water sources include: piped water, boreholes or tubewells, protected dug wells, protected springs, rainwater, and packaged or delivered water.
[b] Improved facilities include: flush/pour flush to piped sewer system, septic tanks or pit latrines; ventilated improved pit latrines, composting toilets or pit latrines with slabs.
[c] Handwashing facilities may be fixed or mobile and include a sink with tap water, buckets with taps, tippy-taps, and jugs or basins designated for handwashing. Soap includes bar soap, liquid soap, powder detergent and soapy water, but does not include ash, soil, sand or other handwashing agents.
Source: WHO/UNICEF JMP *(12)*.

Over 30 countries in the Region reported national data on WASH services in schools for SDG monitoring purposes, showing the recent increased interest in this setting, and reflecting the efforts to improve the situation and reporting. Not all countries reported data inclusive of all WASH dimensions (drinking-water, sanitation and hygiene) or for different educational settings, however, so it is not possible to obtain an accurate Regionwide overview of the situation in these settings. Information gaps and lack of disaggregated data remain, hindering analysis of

differences between urban and rural areas, and of conditions in pre-primary schools. This lack of data also hinders identification of gaps and prioritization of appropriate interventions to ensure progress towards achieving the SDGs.

Examining the proportion of schools with access to basic services at the national level revealed differences in coverage between the three WASH dimensions (Fig. 8).

Fig. 8. Proportion of schools with basic services reported by countries in the 2020/2021 JMP reporting cycle



Notes: the country abbreviations are listed in Table A in Annex 1.
The numbers in the dots provide the number of countries reporting 100% coverage of basic services.
Source: WHO/UNICEF JMP *(12)*.

Over 75% of the countries reporting data showed universal coverage (100%) to basic WASH services in schools at the national level. While differences may still be present on the methodology and coverage of monitoring systems, such high coverage should motivate countries in the Region to go beyond basic service provision, and to define national criteria and indicators for advanced service level provision.

Establishing and/or strengthening effective national monitoring and surveillance systems for WASH conditions in schools and other educational facilities – in line with WHO recommendations *(35)* and JMP indicators – is important to identify possible shortcomings and track progress of implementation of minimum provisions critical for pupils' health and learning. National evaluation and reporting of disaggregated data are also useful to identify opportunities for improvement interventions at the national, subnational and school levels. Systematic data collection and analysis at the country level is critical for effective policy development, realistic target setting and resource allocation towards achieving universal access to safe and sustainable WASH services in schools.

The WHO Regional Office for Europe, among others, has made available useful instruments and tools to support countries and schools planning WASH improvements to safeguard the health of students and to achieve better educational outcomes *(36–39)*. These also support monitoring and evaluation of WASH conditions in schools in an integrated fashion, considering equitability and acceptability aspects and engaging with pupils and the school community (Box 1).

Box 1. Resources for WASH in schools

Surveillance of water, sanitation and hygiene in schools: a practical tool *(36)*
This publication provides a practical tool featuring various elements, including observations and inspections, as well as interviews with school staff and pupils, to support countries in strengthening surveillance of WASH in schools. The findings will inform the development of supportive regulations and improvement planning.

Improving health and learning through better water, sanitation and hygiene in schools: an information package for school staff (including a poster series on WASH in schools for pupils) *(37)*
This information package offers practical support for school staff on how to address common WASH problems and deliver improvements at the school level, alongside pupils and the entire school community. It helps schools strengthen health education and implement whole-school policies that promote the health, well-being and dignity of pupils and school staff, making every school a health-promoting school.

The situation of water, sanitation and hygiene in schools in the pan-European region *(38)*
This publication summarizes the status of WASH in schools in the pan-European region and provides comprehensive insight into the progress made and challenges concerning WASH in schools.

Prioritizing pupils' education, health and well-being: water, sanitation and hygiene in schools in the pan-European region *(39)*
By underlining how inadequate WASH in schools compromises pupils' education, health and well-being, this publication recommends that policy-makers in all involved sectors prioritize strong coordination and cooperation, incrementally realizing the aspirations of the 2030 Agenda for Sustainable Development and the regional WASH-related priorities.

Area for action 6.

Assessing the situation of WASH in health-care facilities and striving for provision of higher service levels

The requirements to assess the WASH situation in health-care facilities (HCFs) and to strive for provision of higher service levels are critical. Adequate WASH services in HCFs are essential prerequisites for provision of high-quality health care, safe maternal and childcare services, prevention and control of infectious diseases, combating the spread of antimicrobial resistance (AMR) and improving the environmental sustainability of health systems. Ensuring universal access to safe WASH services and attaining universal health coverage are policy priorities in the WHO European Region, underpinned by SDG 3 and SDG 6.

In accordance with WHO's minimum standards for environmental health in HCFs *(40)*, a "basic" level of WASH service is achieved when minimum acceptable set of requirements are met for water, sanitation, hygiene, health-care waste management and environmental cleaning. Table 4 sets out the WHO/UNICEF JMP definitions of basic service levels.

Table 4. Water, sanitation, hygiene, health-care waste management and environmental cleaning basic service levels for HCFs and their definitions

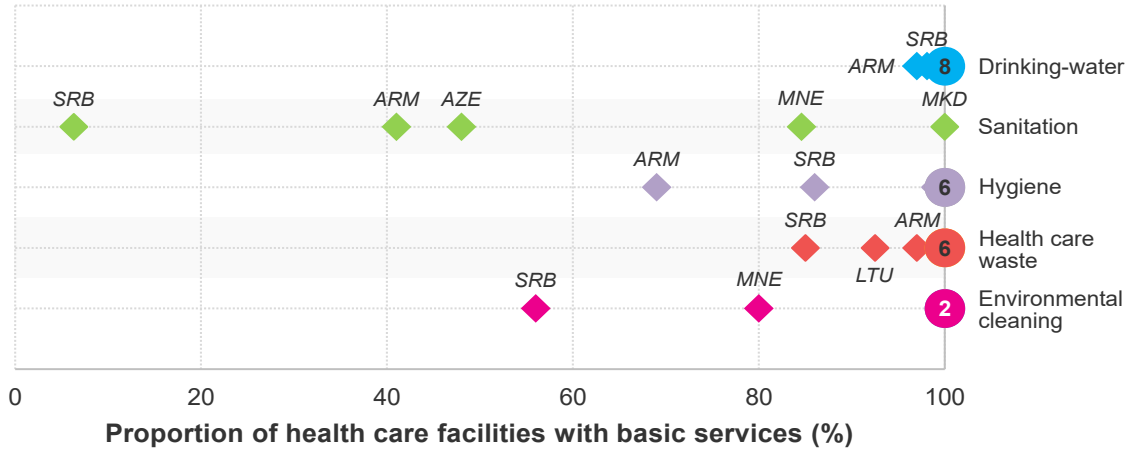
Water	Sanitation	Hygiene	Health-care waste management	Environmental cleaning
Water is available from an improved source on the premises.	Improved sanitation facilities are usable with at least one toilet dedicated for staff, at least one sex-separated toilet with menstrual hygiene facilities, and at least one toilet accessible for people with limited mobility.	Functional hand hygiene facilities (with water and soap and/or alcohol-based hand rub) are available at points of care, and within 5 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.

Source: WHO/UNICEF JMP *(12)*.

No Regionwide overview is currently available on WASH in HCFs. In 2020, estimates for basic drinking-water services at the national level were available only for 10 countries. This substantial data gap hinders any representative analysis of the situation across the Region.

The available data reveal differences in coverage rates of basic services for the five WASH dimensions (Fig. 9). While most countries for which data were available showed high coverage rates for basic drinking-water services in HCFs, intercountry variation was higher for the remaining WASH dimensions.

Fig. 9. Proportion of HCFs with basic services reported by countries in the 2020/2021 JMP reporting cycle



Note: the country abbreviations are listed in Table A in Annex 1.
Source: WHO/UNICEF JMP *(12)*.

Recognizing the fundamental role WASH services play in ensuring patient safety and quality-assured health care and the need to accelerate realization of SDGs 3 and 6, the World Health Assembly in resolution WHA72.7 *(7)* urged countries to:

- conduct comprehensive assessments according to their national contexts;
- develop and implement national roadmaps;
- set minimum standards and integrate them into regulation systems; and
- improve budgeting for safe WASH services in HCFs.

Through national assessments, countries can establish baselines and examine the status of WASH services in HCFs (see the case studies in Box 2 and Box 3). This may help to identify gaps in implementation of national standards and financing needs to establish, operate and maintain appropriate WASH services. Data from national routine monitoring systems and targeted snapshot assessments can serve as the evidence base in setting or updating national targets, policies and standards, and to track the progress of their implementation.

Box 2. Improving regulations informed by a national assessment of WASH in HCFs in Hungary

In most high-income countries in the WHO European Region, basic WASH services (in accordance with the JMP criteria) are generally available in every HCF. This does not mean that there is no room for improvement, however. Combating AMR, reducing the environmental impacts of medical waste and wastewater, and ensuring effective infection prevention and control (IPC) programmes are prevailing issues.

In the light of such challenges and in the context of SDGs 3 and 6, as well as resolution WHA72.7, the Hungarian Public Health Centre carried out a situational analysis of WASH in HCFs *(41)*. The assessment included three elements: an assessment of the regulatory environment, a review of available scientific evidence and direct data collection from inpatient facilities via a questionnaire.

The national analysis revealed well covered areas, shortcomings and data gaps for all WASH dimensions. Based on the outcomes, recommendations and improvement actions were defined, guidance on environmental health aspects (including WASH) in HCFs is being updated, and national criteria for the advanced service level will be developed.

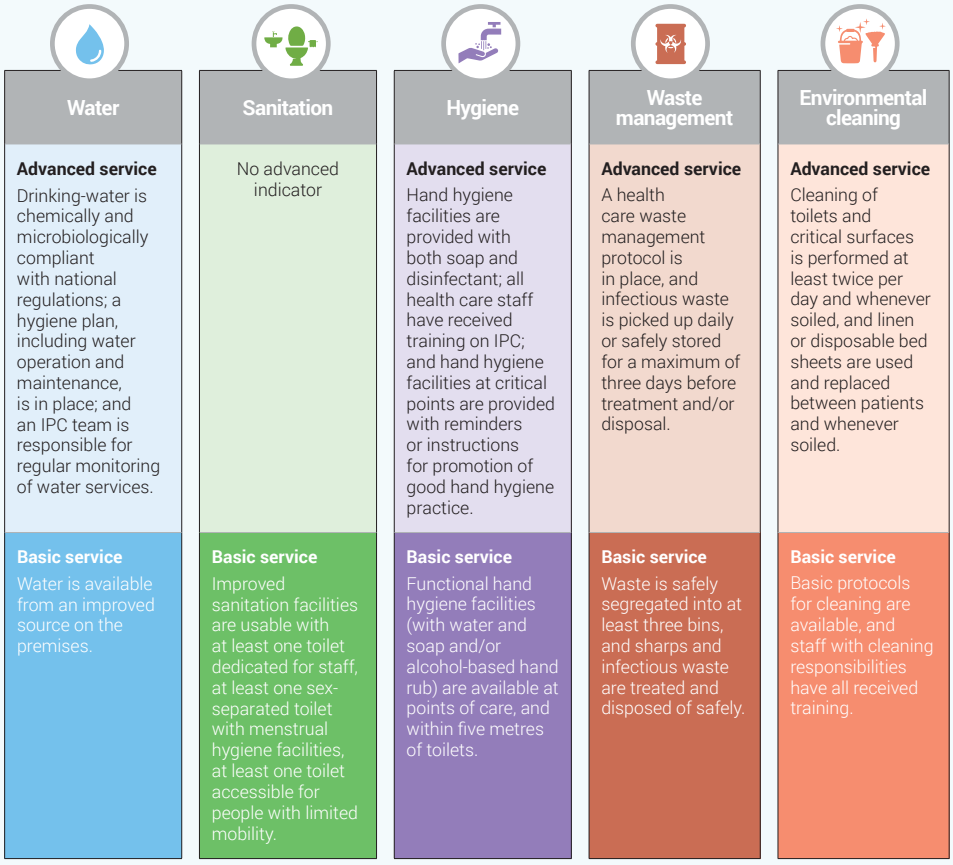
It is vital to deepen understanding of the WASH situation in HCFs through such comprehensive assessments. Ensuring universal provision of basic services should be considered the minimum acceptable level, and countries in the WHO European Region are encouraged to take incremental measures towards achieving higher service levels by defining nationally tailored criteria and targets for such services.

Box 3. National situational analysis and defining indicators for advanced WASH services in HCFs in Serbia

In moving beyond basic service levels in HCFs and defining targets and indicators for advanced service levels, countries need to assess their specific national context.

Serbia, for instance, defined indicators and criteria for advanced service levels for WASH in HCFs on the basis of the findings and outcomes of a comprehensive national situation assessment *(42)*. The country plans to integrate these as benchmarks for routine public health surveillance and monitoring (Fig. 10). In selecting and formulating the indicators, several aspects were considered: a focus on 2–3 priority elements per WASH dimension (elements that did not have full coverage); feasibility of monitoring; aspects already addressed by national regulations; feasibility of (cost-effective) implementation in the next five years; feasibility of implementation at the facility level; and a focus on health-related aspects.

Fig. 10. Ladder of services for monitoring WASH in HCFs in Serbia, including national criteria for advanced service levels



Source: WHO Regional Office for Europe *(42)*.

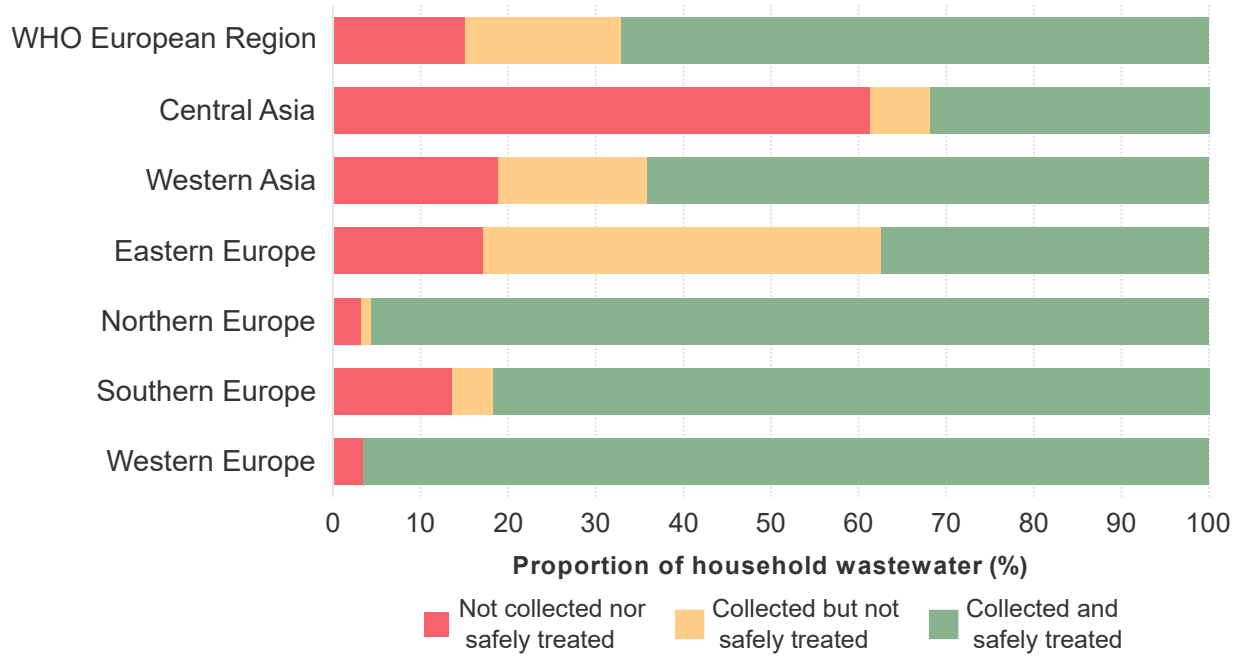
Area for action 7.

Improving wastewater collection and treatment capacity

Stakeholders should work to improve wastewater collection and treatment capacity across the WHO European Region. Untreated wastewater contains a variety of pathogens and a broad array of pollutants, including those of emerging concern, such as pharmaceuticals and microplastics. Discharging untreated wastewater into the environment – and particularly into water bodies – can adversely affect human health (for example, through recreational exposure or pollution of water bodies used for drinking-water production) and impair the functioning of ecosystems. SDG target 6.3 aims to monitor the improvement of water quality by eliminating, minimizing and significantly reducing different streams of pollution into water bodies *(43)*. SDG indicator 6.3.1 focuses on the proportion of domestic (including households with sewer connections and those with septic tanks) and industrial wastewater flows that are treated in compliance with national or local standards – i.e. "safely treated" – before being discharged or reused.

While estimates of domestic wastewater flows are available for the great majority of countries in the Region, much less information is available on total and industrial wastewater. Fig. 11 reveals profound differences in the collection and treatment of household wastewater among the geographical subregions in the Region.

Fig. 11. The average proportion of collected and safely treated domestic wastewater, 2020



Source: WHO SDG 6.3.1 data portal *(44)*.

Across the Region, it is estimated that around 85% of domestic wastewater is collected, but only 67% is safely treated. This means that over 5 billion m^3 of untreated wastewater is discharged into the environment annually. This is even more than one of the most populous countries in the Region (such as Germany, the Russian Federation or Türkiye) generates each year.

Available data suggest that countries should improve and scale up monitoring efforts of wastewater flows generated and treated – particularly disaggregated by economic sectors, to identify heavy polluters *(45)*. It is also imperative to expand and invest in wastewater collection and treatment capacity to minimize risks to health and the environment from the discharge of untreated wastewater into the environment. Treatment levels and capacity should align with the intended disposal and end-use of treated wastewater and sludge, and should seek to increase recycling and safe reuse of wastewater for water, energy and nutrient recovery substantially, in line with SDG 6, and in support of other relevant SDGs on climate resilience and the circular economy.

Accurate information on the volumes and flows of wastewater generated and treated is crucial to promote sustainable and safe wastewater management. Such knowledge helps policy- and decision-makers direct interventions and enables enforcement of pollution laws and discharge permits. This in turn protects human health and the environment, and enables safe productive use of wastewater by other sectors such as agriculture. Clear institutional mandates for wastewater management and monitoring – and supportive coordination mechanisms between regulatory agencies, service providers and sectors using treated wastewater and sludge – are essential to establishing effective wastewater management strategies at the local and national levels *(46)*.

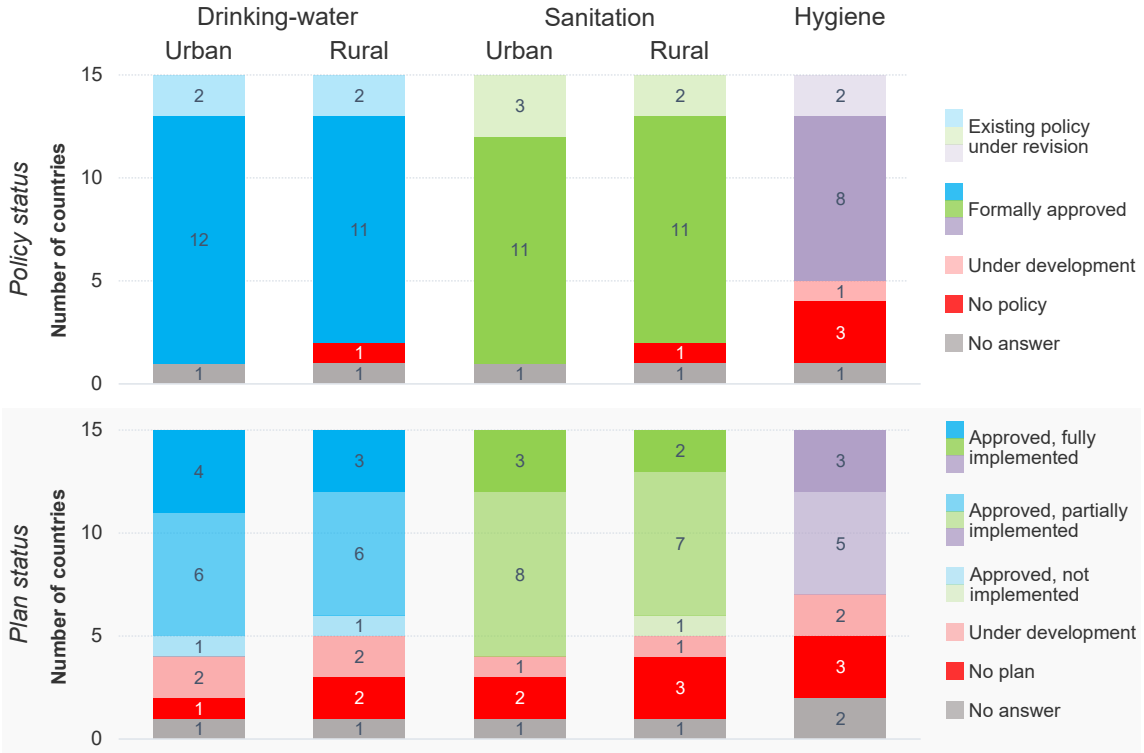
Area for action 8.

Supporting WASH policies through effective planning and resource allocation

Countries need to support WASH policies through effective planning and resource allocation. Setting and implementing policies and related action plans is essential for holding governments accountable to users and improving WASH service delivery under the SDGs *(13)*. To ensure safe and sustainable WASH services, countries should set national targets and create supporting policies and regulations at the national level. Ideally, implementation should be supported by sufficient institutional capacity and human and financial resources.

The GLAAS survey examines, inter alia, the extent to which countries develop and implement national WASH policies and action plans and provide necessary resources for their effective implementation. Data from 15 countries in the WHO European Region participating in the last GLAAS reporting cycle (2018/2019) revealed a discrepancy between existing WASH policies and associated action plans: the plans are often implemented only in part or not at all, or in some cases do not even exist (Fig. 12).

Fig. 12. WASH policy and plan status reported by countries through the GLAAS 2018/2019 survey



Source: GLAAS data portal *(26)*.

For drinking-water and sanitation, the majority of participating countries (>85%) had formally approved policies in place or under revision, with slightly higher numbers in urban than rural areas. Only around one fifth of reporting countries supported their policies with approved and fully implemented action plans, however. Both policies and plans on hygiene lag behind those on drinking-water and sanitation.

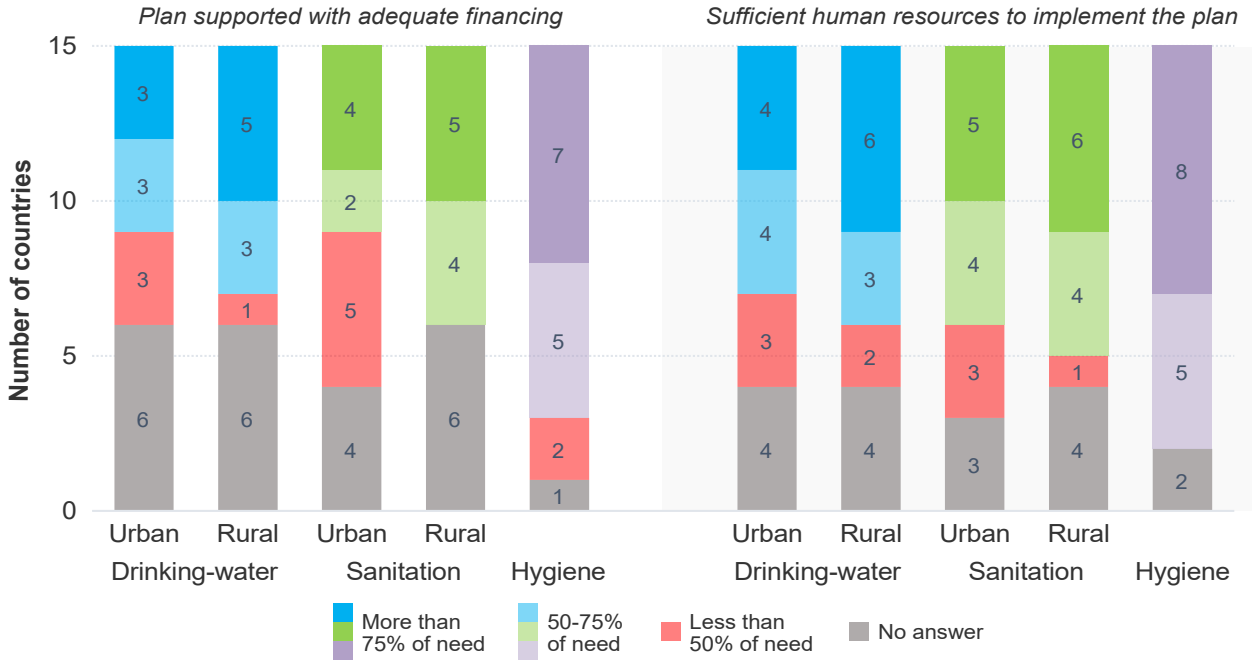
Owing to the relatively low number of participating countries in the Region, this figure gives a hint of potential issues, but is not fully representative of the situation across the Region.

To implement and enforce existing WASH policies and action plans successfully, they need to be supported by adequate financing and sufficient human resources. The majority of countries had costed action plans for drinking-water and sanitation, but financing and human resources were often not ideal for their implementation (Fig. 13).

In most responding countries, the action plan was supported by at least 50% of the need in terms of financial and human resources. Only a few countries reported adequate financing and sufficient human resources for their WASH action plans, however (here defined as having available more than 75% of what is needed).

Insufficient financing and human resources hinder enforcement of national WASH policies, action plans and targets. It is therefore important for countries to continue to strengthen their capacity to assess human resources needs and develop tailored human resources plans, tracking WASH financial flows to inform costing and fund allocations, and targeting actions and resources for WASH in institutional settings.

Fig. 13. Financial and human resource availability for WASH plan implementation reported by countries through the GLAAS 2018/2019 survey



Source: GLAAS data portal *(26)*.

Outlook: future priorities for WASH in the WHO European Region

Closing the gap in access to basic and safely managed WASH services continues to be a priority in the WHO European Region. Reliable and safe WASH services are crucial for protecting public health and responding to outbreaks of infectious diseases and health emergencies, including COVID-19 and AMR *(47)*.

COVID-19 has claimed the life of several million people worldwide, and health-care systems in countries in the Region have been challenged by the pandemic. WASH, environmental cleaning and waste management interventions, along with IPC measures, have been key ingredients of the multifaceted efforts to contain transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).

Frequent and proper hand hygiene is a first line of defence to prevent and control transmission of SARS-CoV-2 and other infections, and is a highly cost-effective public health measure *(48)*. The Hand Hygiene for All global initiative, jointly led by WHO and UNICEF, calls on countries to establish road maps to achieve universal access to hand hygiene *(49)*. It further stipulates integrating short-term COVID-19 preparedness and response plans with mid- and long-term national development plans to enable a lasting culture of hand hygiene beyond the pandemic. Intensified attention and action are needed to promote universal hand hygiene in all settings, including schools, HCFs and public places, and to strengthen monitoring and reporting of hand hygiene provisions in such settings.

Investing in essential services, from WASH service provision to clean energy, in HCFs is among the core prescriptions of the WHO manifesto for a healthy recovery from COVID-19 *(50)*. Emphasizing that going back to "normal" is not good enough, the manifesto calls for provision and promotion of use of safe drinking-water and safe toilets, as well as installation of handwashing facilities in households, schools, HCFs, workplaces and public places. This is supported by resolution WHA73.1 on COVID-19 response, which calls on Member States "to take measures to support access to safe water, sanitation and hygiene, […] promotion of personal hygienic measures in all settings, including humanitarian settings, and particularly in health facilities" *(8)*.

Not going back to "normal" also means addressing the impacts of climate change on WASH service provision. Increasing climate variability increases the frequency and intensity of extreme weather events, puts stress on availability of freshwater resources and alters water quality. If not managed properly, such impacts threaten public health. Scaling up efforts on climate change mitigation and adaptation for health is therefore crucial *(51)*. In expanding the uptake of WHO-recommended water and sanitation safety planning approaches, due consideration must be given to climate projections and associated health risks to ensure that water and sanitation services become climate-resilient, remain safe and secure, and protect health effectively *(52)*.

Universal access to safely managed sanitation services, reducing the release of untreated wastewater into the environment and substantially increasing recycling and safe reuse globally are key objectives of SDG 6. The WHO guidelines on sanitation and health recommend ensuring universal access to safe systems along the entire sanitation service chain from toilet, through containment, emptying, conveyance, onsite or offsite treatment, to final disposal or reuse *(19)*.

Reusing wastewater is an emerging practice in the Region in response to challenges caused by climate change (such as water scarcity). If wastewater and sludge are used safely, valuable water, nutrients and energy can be returned, contributing to a circular economy *(53)*. Establishment and enforcement of regulations that frame the safe (re-)use of wastewater are vital to protect human health and the environment, however.

Wastewater is an important source of environmental dispersal of pathogens, emerging chemicals and AMR. Environmental surveillance of such biomarkers in wastewater (for example, poliovirus or SARS-CoV-2) is a rapidly evolving area that contributes to public health surveillance. Improving policies, investment and interventions to promote context-specific management approaches and technological solutions to prevent exposure to excreta-related health risks throughout the sanitation chain remain a strategic priority in the Region. Onsite sanitation systems require particular attention in terms of developing supportive regulatory frameworks and promoting adequate design, construction, operation and management.

The Protocol on Water and Health is a unique legal instrument and policy platform in the WHO European Region that helps countries take systematic action to address persisting gaps and emerging challenges related to WASH *(9)*. The Protocol supports efforts to implement national and international agendas to provide universal and equitable access to safe WASH for all in all settings, as well as safe management and reuse of wastewater. Government leadership and accountability are crucial in turning these aspirations into reality.

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Annex 1. Country groupings and codes

Table A sets out the countries in the WHO European Region grouped into geographical subregions according to the official United Nations Statistics Division classification system[3] and their International Organization for Standardization (ISO) codes,[4] which are used in some charts.

Table A. Country groupings and ISO codes

Geographical subregion	Country	ISO 3166-1 alpha-3 country code
Central Asia	Kazakhstan	KAZ
	Kyrgyzstan	KGZ
	Tajikistan	TJK
	Turkmenistan	TKM
	Uzbekistan	UZB
Western Asia	Armenia	ARM
	Azerbaijan	AZE
	Cyprus	CYP
	Georgia	GEO
	Israel	ISR
	Türkiye	TUR
Eastern Europe	Belarus	BLR
	Bulgaria	BGR
	Czechia	CZE
	Hungary	HUN
	Poland	POL
	Republic of Moldova	MDA
	Romania	ROU
	Russian Federation	RUS
	Slovakia	SVK
	Ukraine	UKR

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Table A contd

Northern Europe	Denmark	DNK
	Estonia	EST
	Finland	FIN
	Iceland	ISL
	Ireland	IRL
	Latvia	LVA
	Lithuania	LTU
	Norway	NOR
	Sweden	SWE
	United Kingdom of Great Britain and Northern Ireland	GBR
Southern Europe	Albania	ALB
	Andorra	AND
	Bosnia and Herzegovina	BIH
	Croatia	HRV
	Greece	GRC
	Italy	ITA
	Malta	MLT
	Montenegro	MNE
	North Macedonia	MKD
	Portugal	PRT
	San Marino	SMR
	Serbia	SRB
	Slovenia	SVN
	Spain	ESP
Western Europe	Austria	AUT
	Belgium	BEL
	France	FRA
	Germany	DEU
	Luxembourg	LUX
	Monaco	MCO
	Netherlands	NLD
	Switzerland	CHE

The WHO Regional Office for Europe

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

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