



## GOAL 6

# Ensure availability and sustainable management of water and sanitation for all

### TARGET 6.1

By 2030, achieve universal and equitable access to safe and affordable drinking water for all

### Broader monitoring context

Universal access to safe drinking water is a human right and a key determinant of child survival, maternal, and children's health, family wellbeing, and economic productivity. It is a core socio-economic and health indicator and a central focus of UNICEF's efforts to ensure every child lives in a safe and clean environment (SP pillar #4). To date UNICEF has primarily focused on extending access to basic services and strengthening national monitoring of inequalities in service levels.

### Target overview

#### SDG monitoring

SDG target 6.1 is tracked by the following indicator:

- 6.1.1: Proportion of population using safely managed drinking water services

#### UNICEF role in monitoring

The WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (JMP) has been monitoring progress on drinking water and sanitation since 1990, and uses service ladders, which capture progressive realization of universal access to drinking water, to benchmark and compare progress across countries. The ladders build on the established improved/unimproved facility type classification, thereby providing continuity with MDG monitoring, and introduce additional criteria for SDG monitoring relating to the level of service provided to households. The JMP will continue to monitor all rungs on each ladder, with a particular focus on those that relate to progress towards SDG targets.

#### JMP service ladder for drinking water

SERVICE LEVEL	DEFINITION	SDG INDICATOR #
<b>Safely managed</b>	Drinking water from an improved water source that is located on premises, available when needed and free from faecal and priority chemical contamination	SDG 6.1.1
<b>Basic</b>	Drinking water from an improved source, provided collection time is not more than 30 minutes for a round trip, including queuing	SDG 1.4.1
<b>Limited</b>	Drinking water from an improved source for which collection time exceeds 30 minutes for a round trip, including queuing	
<b>Unimproved</b>	Drinking water from an unprotected dug well or unprotected spring	
<b>Surface water</b>	Drinking water directly from a river, dam, lake, pond, stream, canal or irrigation canal	

Note: Improved sources include: piped water, boreholes or tubewells, protected dug wells, protected springs, rainwater, and packaged or delivered water



Affordability of water and sanitation services, which is explicitly included in the wording of the target, is an important cross-cutting concern. At present there is no commonly agreed approach to assessing affordability of WASH services, and so the methods underlying existing country data may vary. The JMP is using available data on household expenditure, tariffs, income and poverty to start benchmarking affordability across countries and reporting national, regional and global trends.

While household access remains the primary concern, international consultations recommended that future monitoring should also prioritise institutional settings, including schools, health care facilities and workplaces, where lack of access to WASH significantly impacts on the health, welfare and productivity of populations. The language of SDG targets 6.1 and 6.2 referring to 'universal access' and 'for all' further reinforce the importance of WASH in all settings, not only the household.

## General information and resources

- UNICEF data: <https://data.unicef.org>
- MICS: <http://mics.unicef.org/tools>
- SDG metadata: <https://unstats.un.org/sdgs/metadata/>
- JMP website: <https://washdata.org>
- Brochure on WASH in the 2030 Agenda: <https://washdata.org/report/jmp-2017-wash-2030-agenda>
- Sanitation and Water for All: <http://sanitationandwaterforall.org/>

*For further information, please contact the WASH focal point at the Data & Analytics Section at UNICEF HQ via: [data@unicef.org](mailto:data@unicef.org)*



## INDICATOR 6.1.1

# Proportion of population using safely managed drinking water services

## Description

### Definition and key terms

*Proportion of population using safely managed drinking water services* is defined as the proportion of population using an improved drinking water source which is accessible on premises, available when needed, and free of faecal (and priority chemical) contamination.

#### Key terms:

- 'Improved' drinking water sources include: piped water into dwelling, yard or plot; public taps or standpipes; boreholes or tubewells; protected dug wells; protected springs; packaged water (bottled, sachet); delivered water (tanker trucks, small cart) and rainwater.
- A water source is considered to be 'accessible on premises' if the point of collection is within the dwelling, yard, or plot.
- 'Available when needed': households report being able to access sufficient quantities of water when needed.
- Free from faecal and priority chemical contamination': *E. coli* or thermotolerant coliforms are the preferred indicator for microbiological quality, and arsenic and fluoride are the priority chemicals for global reporting.

### National data sources

**Household surveys and censuses:** Access to drinking water and sanitation is a core indicator for most household surveys in low and middle income countries. Surveys and censuses provided the great majority of data used for tracking the WASH MDGs, and will continue to be at the heart of SDG reporting. Household surveys and censuses can provide information on types of basic drinking water sources, and also indicate if sources are on premises. These data sources often have information on the availability of water and increasingly on the quality of water at the household level, through direct testing of drinking water for faecal or chemical contamination. As SDG monitoring continues, these data will be combined with data on availability and compliance with drinking water quality standards (faecal and chemical) from administrative reporting or regulatory bodies.

#### National Management Information Systems (MIS):

Administrative data provide information that cannot always be measured through household surveys, particularly on the levels of service (quality, availability). In several high-income countries, where information on the use of basic services is not collected in household surveys, data can be drawn from regulators and administrative records. In many low- and middle-income settings,

however, sectoral monitoring systems are weak or absent and information on service levels is a major data gap. As sector capacities strengthen MIS can increasingly provide reliable information on the availability and quality of drinking water services.

### Data collection innovation

The JMP has been actively advancing measurement methodologies for WASH in the SDG era.

**Household:** The JMP collaborated with the UNICEF MICS team to develop a module for direct testing of drinking-water quality which is now being rolled out in national household surveys. Field teams test for *E. coli*, which indicates the risk of faecal contamination, in different water sources and across population groups to identify inequalities. Drinking water can also be tested for chemicals such as arsenic and fluoride. New questions relating to the accessibility and availability of drinking water have also been tested and validated for use in the sixth round of MICS household surveys.

**Schools:** The JMP has published Core questions and indicators for monitoring WASH in Schools in the Sustainable Development Goals.

**Health facilities:** A series of JMP-convened working groups and expert reviews has resulted in a harmonized set of generic core indicators and questions. Additional modules are being developed to address additional WASH requirement in specific service areas (e.g. delivery rooms).

## Using the indicator

### Interpretation

The indicator "Safely managed drinking water" goes beyond the concept of "improved" water sources, used to track progress towards the MDG target. To be considered "safely managed", the improved source, must also be 1) accessible on premises, 2) available when needed, and 3) free from faecal and priority chemical contamination. The new indicator is much more ambitious than the MDG indicator and baselines will be considerably lower in most countries.

In terms of contamination of drinking water, for global monitoring purposes the priority water quality parameter will be the absence of faecal indicator bacteria (*E. coli* or thermotolerant coliforms). Data on arsenic and fluoride will also be used where available. As such global estimates will not reflect compliance with all parameters in national standard or WHO Guidelines.

The indicator "Basic drinking water services" measures the proportion of people using an improved source of drinking water that required no more than 30 minutes per trip to collect water. This is one of the indicators that will be used to track progress towards SDG target 1.4 which aims, inter alia, for universal access to basic services.



## Disaggregation

Disaggregation by place of residence (urban/rural), socioeconomic status (wealth) and sub-national region is possible for nearly all countries for basic services and may be possible for safely managed services in future. Disaggregation by other stratifiers of inequality such as ethnicity, education, or migratory status may also be considered where relevant but these are generally not available from administrative data sources. Wherever possible drinking water services will also be disaggregated by the JMP by service level (including no services, basic, and safely managed services) following drinking water ladder.

## Common pitfalls

Data on availability and quality of drinking water is increasingly available through a combination of household surveys and administrative sources including regulators, but definitions have yet to be standardized. Existing data on availability are based on different measures and may not be comparable between countries, for example data from administrative sources often record the average number of hours of service per day whereas household surveys can assess whether sufficient water is available to meet domestic needs. Data drawn from regulatory databases may only cover, or primarily reflect, formal services in urban areas and often does not allow for disaggregation. Data on faecal and chemical contamination, drawn from household surveys and regulatory databases, will not cover all countries immediately, although sufficient data were available to make global and regional estimates of safely managed drinking water services for four out of eight SDG regions in 2017.

Whereas trends for basic services can be considered reasonably reliable for most countries, in 2017 there were insufficient data to generate reliable estimates of trends for safely managed drinking water services in most countries.

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## Monitoring and reporting

### National

National statistics offices, Ministries of water, sanitation, health, environment and/or regulators of water and sanitation services.

### Global

**Agencies:** WHO and UNICEF (WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene)

**Process:** The JMP maintains a database with nearly 5000 censuses, surveys and administrative records identified through extensive searches of published data and consultation with countries. The JMP uses a standard international classification to estimate access to type of source for each country, separately in urban and rural areas, by fitting a regression line to a series of data points from household surveys and censuses. The JMP then estimates the

population using services that meet each of criteria for safely managed services. The population data used by the JMP, including the proportion of the population living in urban and rural areas, are those routinely updated by the UN Population Division. All JMP estimates undergo rigorous country consultations facilitated by WHO and UNICEF country offices. Often these consultations give rise to in-country visits, and meetings about data on drinking water, sanitation and hygiene services and the monitoring systems that collect these data. The JMP is evaluating the use of alternative statistical estimation methods as more data become available.

**Timing:** New country, regional, and global estimates are published every two years. Baseline SDG estimates were published in July 2017 and will be updated in 2019.

**Discrepancies with national estimates:** JMP estimates are based on national sources of data approved as official statistics. Differences between global and national figures arise due to differences in indicator definitions and methods used in calculating national coverage estimates. In some cases national estimates are based on the most recent data point rather than from regression on all data points as done by the JMP. In some cases national estimates draw on administrative records of infrastructure coverage rather than the nationally representative surveys and censuses used by the JMP which collect information directly from households. For global reporting the JMP calculates the population using safely managed services based on the minimum value of the three criteria (accessibility, availability and quality) for rural, urban and national. For national reporting countries may report the elements of safely managed services separately and/or combine them at different levels.

## Key resources

Indicator information and cross-country comparable estimates:

- UNICEF Data: <https://data.unicef.org/topic/water-and-sanitation/drinking-water/>
- JMP website: <https://washdata.org>
- JMP 2017 update and SDG baselines: <https://washdata.org/report/jmp-2017-report-highlights>
- JMP Thematic Report on Safely Managed Drinking Water: <https://washdata.org/report/jmp-2017-tr-smdw>
- SDG metadata: <https://unstats.un.org/sdgs/metadata/files/Metadata-06-01-01.pdf>

Tools and measurement guidance:

- Core questions for monitoring WASH in schools: <https://washdata.org/report/jmp-2016-core-questions-and-indicators-monitoring-wins-0>
- Core questions for monitoring WASH in healthcare facilities: <https://washdata.org/report/jmp-2016-core-questions-and-indicators-monitoring-winhcf>
- SDG6 monitoring initiative: <http://www.sdg6monitoring.org/news/integrated-monitoring-guide-sdg-6>
- MICS6 tools (household questionnaire, women's questionnaire, water quality testing questionnaire): <http://mics.unicef.org/tools>