



# Public water supply and access to improved water sources

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## Proportion of population with continuous access to adequate amount of safe drinking-water at home

The data mainly reflect the proportion of the population supplied from a public system controlled regularly for quality criteria compliance, and only to a lesser extent the safety and adequacy of drinking-water available to the population. The complexity of the definition of an improved source, combined with the voluntary nature of the reporting, means that care should be taken in interpreting the data.

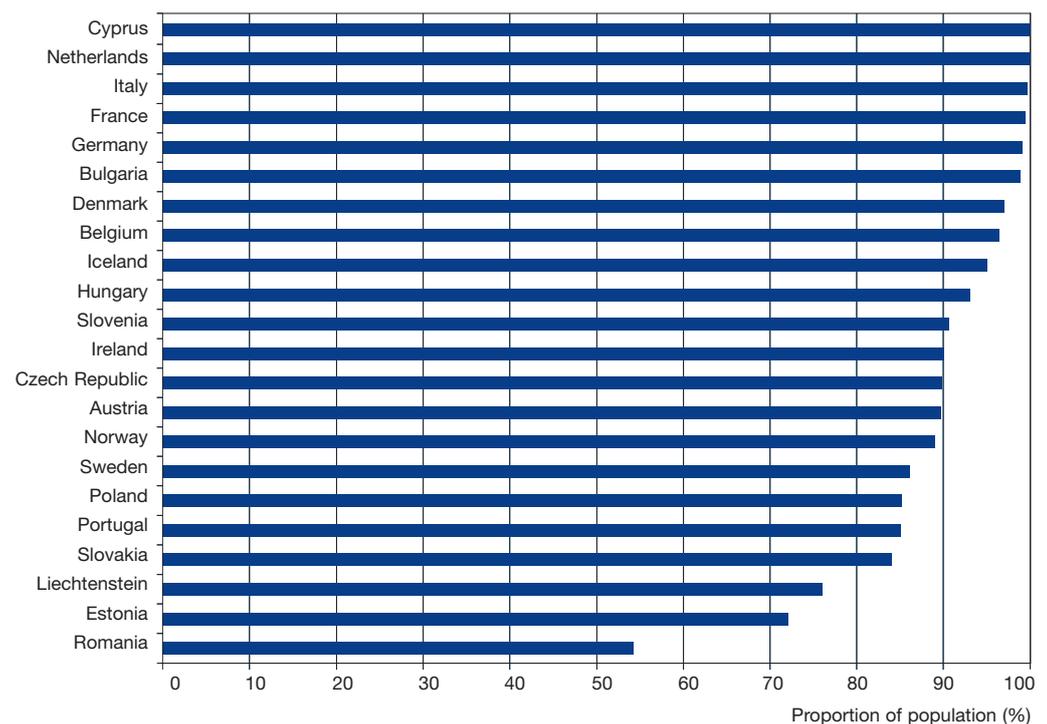
### KEY MESSAGE

☹ There is a clear east-west divide as regards access to drinking-water. In western Europe, close to 100% of the population have had access to safe drinking-water since the 1990s. In the eastern part of the Region access remains low, albeit rising, ranging from 58% to 80%. According to the World Health Organization and United Nations Children's Fund (WHO/UNICEF) Joint Monitoring Programme assessment (1), there are important disparities between urban and rural areas: In the east only 30–40% of rural households have access to individual sources of safe drinking-water.

### RATIONALE

The indicator estimates the achievement of the minimum requirements for access to an adequate supply of piped and safe water in the home. It is a core indicator for risks related to water and hygiene.

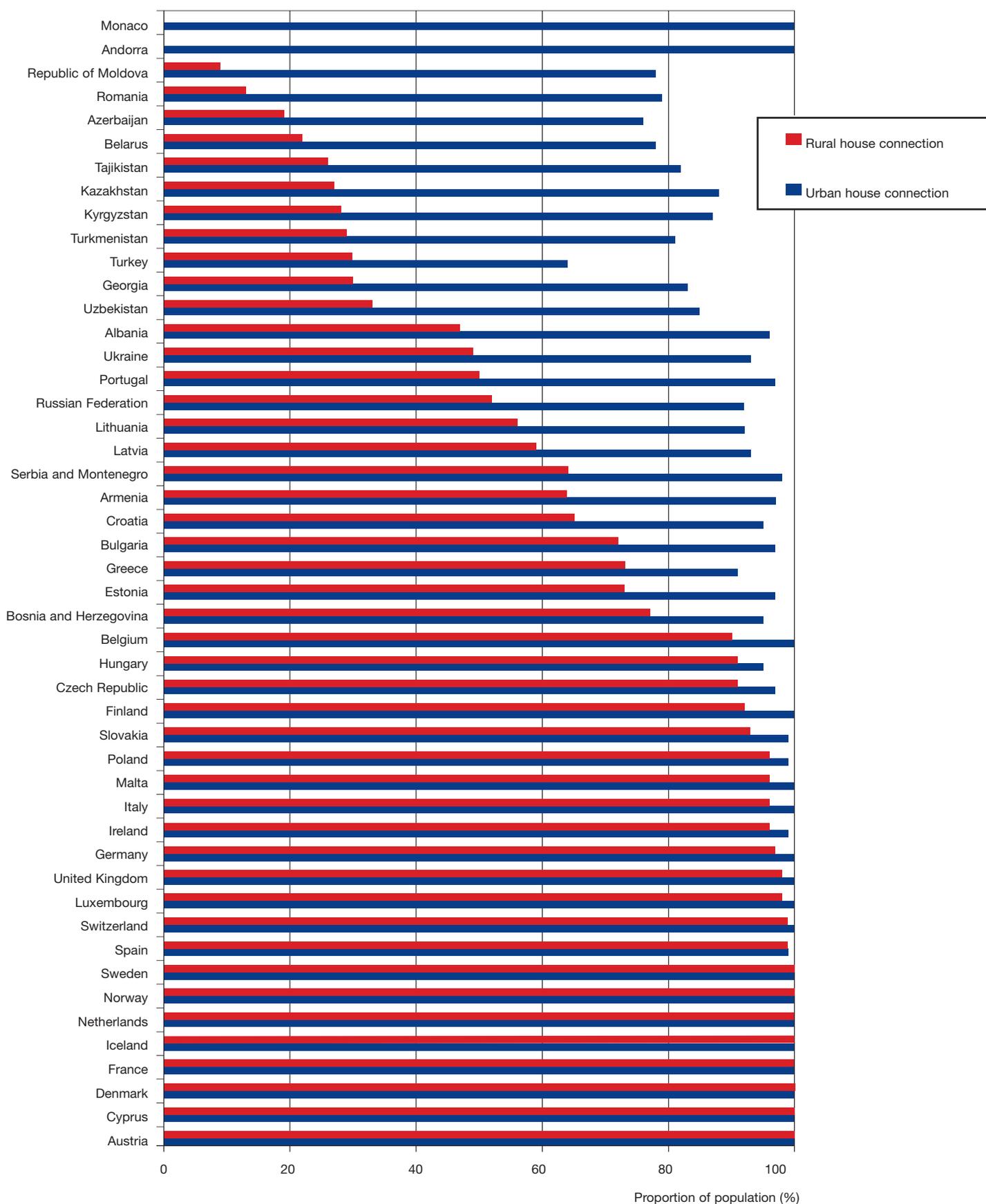
Fig. 1. Proportion of population connected to public water supply in Europe, 2002, or last available year



Note. Data for France and Germany are for 2001; data for Italy are for 1999; data for Portugal are for 1998; data for Slovakia are for 2003; data for Sweden are for 1997.

Source: EUROSTAT (1).

Fig. 2. Percentage of the population with access to an improved water supply in urban and rural areas, WHO European Region, 2004 or last available year



Note.

Data for Belgium, Greece and Portugal are for 1995; data for Armenia, Azerbaijan, Belarus, Cyprus, Georgia, Kazakhstan, Kyrgyzstan, Republic of Moldova, Russian Federation, Tajikistan, Turkey, Turkmenistan, Ukraine and Uzbekistan are for 2002.

Serbia and Montenegro became two separate Member States of WHO in September 2006. In this fact sheet the data refer to 2004 and relate to the then one country of Serbia and Montenegro.

## PRESENTATION OF DATA

Figure 1 is based on EUROSTAT data covering 22 countries in Europe which show that close to 100% of the population in almost all the western countries have continuous access to adequate amounts of safe drinking-water at home.

Figure 2 shows data covering 48 countries from the Joint Monitoring Programme database. This gives a broader view of the Region and reveals that an important proportion of the population, especially in the Commonwealth of Independent States, has poorer access to improved drinking-water sources, particularly in rural areas.

## HEALTH – ENVIRONMENT CONTEXT

Access to safe drinking-water is strongly connected to basic health benefits. Hence, from the public health point of view, the proportion of the population with access to safe drinking-water is an indicator that measures the extent to which basic needs (as defined by the United Nations in recognition of water as a fundamental human right) are met (3,4).

Outbreaks of disease related to contaminated drinking-water continue to occur even in the economically developed European countries. They can severely affect human health, with infants and young children bearing the highest risk. According to WHO estimates, poor quality drinking-water causes over 13 500 deaths from diarrhoea in children aged 0–14 years in the European Region (5.3% of all deaths in that age group) (5).

While the vast majority of outbreaks of water-borne diseases result from microbial (bacteriological, viral, protozoan or other biological) contamination, serious health concerns may also arise as a result of chemical contamination of drinking-water. These considerations explain the need to achieve high common standards for drinking-water so as to reduce the burden of diseases attributable to poor quality water, sanitation and hygiene.

## POLICY RELEVANCE AND CONTEXT

At present, there is no specific European Union (EU) legislation regarding the compulsory reporting of access to safe drinking-water.

The WHO-United Nations Economic Commission (UNECE) for Europe Protocol on Water and Health, which entered into force in August 2005, is the first legally binding instru-

ment for the prevention and control of water-related diseases through improved and harmonized water supply and management. Article 4 of the Protocol requires parties to provide adequate supplies of wholesome drinking-water free from any microorganisms, parasites and substances which, owing to their numbers or concentration, constitute a potential danger to human health. To this end, parties are required to set targets and report on progress (6).

The Millennium Development Goal No. 7, target 10, is to “halve by 2015, the proportion of people without sustainable access to safe drinking-water and basic sanitation”. Millennium Development Goal No. 4 (reduction of child mortality) is also relevant: 90% of the circa 1.8 million deaths that occur every year from diarrhoeal diseases are in children aged under five years, mostly in developing countries (7). Target 5 is “to reduce by two thirds the under-five mortality rate between 1990 and 2015”.

In the European Region, a lack of safe water and adequate sanitation has been recognized as a major cause of child mortality and morbidity, especially in eastern countries. One of the four strands of the Children’s Environment and Health Action Plan for Europe (CEHAPE), the Regional Priority Goal 1, focuses on specific action “to increase the proportion of households with access to safe water and adequate sanitation, thereby ensuring that the proportion of children without access to clean water and sanitation is halved by 2015” (8).

The implementation of the WHO-UNECE Protocol supports the achievement of the Millennium Development Goals as well as of CEHAPE.

## ASSESSMENT

By estimating the proportion of the general population with access to piped water in the home, the indicator also provides an estimate of the number of people without such access who are potentially exposed to water-related health risks. With very few exceptions accessibility is close to 100% for many western European countries, but several hot spots can be detected in countries in the eastern part of the Region. However, accessibility (i.e. a water connection in the home) does not include compliance with the other criteria for this indicator such as an adequate water supply or compliance for quality or quantity of the water or the sustainability of a water supply.

The big disparities in water and sanitation coverage are in the countries grouped in the WHO Eur-B sub-region (Albania, Armenia,

Azerbaijan, Bosnia and Herzegovina, Bulgaria, Georgia, Kyrgyzstan, Poland, Romania, Serbia and Montenegro, Slovakia, Tajikistan, The former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Uzbekistan), where 86% of the population have access to an improved water source but only 63% have a household drinking-water connection. This situation accounts for the significant contribution of this region to the total burden of disease.

Although data are only available for the general population, they could be considered a good estimate for the child population as well, an indicator of progress in achieving the goals and a good marker for countries where action should be taken to increase the proportion of the (child) population with access to safe drinking-water.

## DATA UNDERLYING THE INDICATOR

### *Data source*

- 1.) EUROSTAT (1)
- 2.) WHO/UNICEF Joint Monitoring Programme (2).

### *Description of data*

Data on the total population with access to safe drinking-water are collected by questionnaire, either from the national statistics institutes (for EUROSTAT) or by WHO/UNICEF country representatives (for the Joint Monitoring Programme).

EUROSTAT data provide information on the proportion of the population with access to piped water in the home.

Joint Monitoring Programme data cover total access, that is, they include all “improved” water supply sources, both private and public. An “improved” water supply source, as defined by the Programme, is a source likely to provide at least 20 litres per person per day of safe water, such as a household connection, a borehole, a protected dug well, a protected spring or rainwater collection, within one kilometre of the user’s dwelling.

### *Method of calculating the indicator*

The indicator was computed as: connected population/total population x 100.

### *Geographical coverage*

The EUROSTAT database covers almost all the EU countries plus some others. Data were available for Austria, Belgium, Bulgaria, the Czech Republic, Cyprus, Denmark, Estonia, France, Germany, Hungary, Iceland, Ireland, Italy, Liechtenstein, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia and Sweden.

The Joint Monitoring Programme database covers almost all the 53 countries in the WHO European Region, including the Commonwealth of Independent States.

#### *Period of coverage*

The EUROSTAT database provides data from 1980 to 2003, with annual reporting periodicity. The Joint Monitoring Programme database offers data for five time points: 1990, 1995, 2000, 2002 and 2004.

#### *Frequency of update*

Annually for the EUROSTAT database.

#### *Data quality*

Owing to the voluntary nature of the data collection, the data sets obtained by both EUROSTAT and the Joint Monitoring Programme are incomplete and do not relate to the child population. Because of the relevance of those data in relation to the quality of the water supplied and, consequently, to water-related risks for children, there is a need for further improvement. The data reported should be in accordance with the standardized definition of the terms “accessibility”, “safe” and “ade-

quate” in order to reflect the real dimensions of the problem and its potential implications for health.

The collected data are useful in a policy context to identify areas where there is a need to focus on improving the water supply. For the future, however, there is a need for standardized, regular and clearly defined reporting on the proportion of the population with access to safe water, to allow for the estimation of water-related risks for children (in schools and kindergartens).

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#### **Further information**

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