

CHILDREN AGED 0-14 YEARS LIVING IN HOMES LACKING ACCESS TO A PIPED WATER SUPPLY

GENERAL CONSIDERATIONS

<i>Issues</i>	Physical injuries
<i>Type of indicator</i>	Exposure (distal/state) Can also be used as an indicator of action targeted at improving water services to the home.
<i>Rationale</i>	Drowning represents a major cause of death and injury to children, worldwide. In developing countries, especially, many cases of drowning are associated with the lack of piped water to the home or neighbourhood. As a result, water has to be collected either from wells or streams, and washing and bathing often has to be carried out in open water bodies. Risks of drowning are increased as a result. Water collection from remote areas also adds to other risks, including injuries by traffic, snake bites, falls and chronic physical injury (e.g. back problems) and deformities. The need for mothers to spend time collecting water may also mean that children are left unsupervised for longer than would otherwise be the case, raising the risks of accidents. This indicator thus provides a general measure of the risks of physical injuries due to lack of adequate water supplies in the neighbourhood or home, and the consequent need for water gathering and use of open water sources.
<i>Issues in indicator design</i>	<p>The major difficulty in developing this indicator is the definition of access to a piped water supply. Two problems arise in this respect: how close the supply tap should be to provide adequate access; and how to take account of the consistency of the piped water supply. In other contexts (e.g. in terms of access to safe water) it may be considered appropriate to allow a relatively long distance of travel for water collection and access – e.g. 15 minutes). In the context of accidents and injuries, however, it is evident the need to carry water any significant distance will continue to pose risks for children. A narrower threshold (e.g. 5 minutes walk) should therefore be used. Continuity of water supply is also important, for otherwise people may have to resort to non-piped sources on many occasions. Piped supplies should thus provide continuous water throughout the day.</p> <p>Problems are also likely to occur in obtaining data for this indicator. Data on homes provided with direct, piped supplies are likely to be maintained by the supply companies (though the numbers of children in these homes may not be easily defined). Data on access to community supplies, on the other hand, may need to be obtained either by some form of modelling (e.g. to assess travel distance of homes from the supply) or through household surveys. In either case, considerable errors are likely to occur.</p> <p>An age range of 0-14 years is used for this indicator, because risks extend throughout the child's early life and adolescence.</p>
SPECIFICATION	
<i>Definition</i>	Percentage of children aged 0-14 living in households without a piped and continuous water supply either to the home or to the immediate neighbourhood.

<i>Terms and concepts</i>	<p>Piped and continuous water supply: a piped water supply, providing an adequate supply of water to meet household needs continuously throughout the day.</p> <p>In the home: a supply that provides at least one controlled outlet inside the home, or in the yard/garden associated with the home.</p> <p>In the immediate neighbourhood: a supply that provides at least one controlled outlet, with unrestricted access, no more than 5 minutes walk from the home.</p>
<i>Data needs</i>	<p>Numbers of children aged 0-14 by water supply status of the home.</p> <p>Total number of children.</p>
<i>Data sources, availability and quality</i>	<p>Data on the availability of, and access to, piped or public water supplies or water supplies provided under a formal licensing scheme (e.g. licensed abstractions from wells) may be obtained both from censuses and from relevant administrative authorities (e.g. water companies, public works departments). Data on access to informal supplies will usually need to be obtained via household surveys.</p> <p>Data on total population are available from national censuses and should be reliable.</p>
<i>Level of spatial aggregation</i>	Community or water supply zone
<i>Averaging period</i>	Annual or longer term
<i>Computation</i>	<p>The indicator can be computed as a simple percentage:</p> $100 * (Cacc / Ctot)$ <p>where: <i>Cacc</i> is the number of children aged 0-14 years with access to a continuous piped water supply either in the home or within a 5 minute walk of the home;</p> <p><i>Ctot</i> is the total population of children aged 0-14 years.</p>
<i>Units of measurement</i>	Percentage
<i>Worked example</i>	<p>Assume that a survey of households shows that 600 children, out of a total of 1 050 children, live in households without access either to a piped and continuous water supply either in the home or within easy walking distance. In this case, the value of the indicator will be:</p> $100 * (600 / 1 050) = 57.1\%$
<i>Interpretation</i>	<p>This indicator provides a measure of the access to continuous piped water supplies within easy reach of the home. It is used here as an indicator of risks of physical injuries (e.g. by drowning, traffic or other accidents) whilst collecting water, bathing or washing. In general therefore, an increase in the indicator represents a raised risk, a reduction a diminished risk. In interpreting the indicator, it is nevertheless important to recognize that the data used to compile the indicator may be subject to major uncertainties, and comparisons between different areas (that might use different definitions or measurement methods) need to be undertaken with care.</p>

<i>Variations and alternatives</i>	Variations in this indicator are possible by defining it in terms of different age ranges (e.g. children aged 0-4 years), or by using different classifications of a continuous and accessible water supply: e.g. percentage of children living in homes linked to a piped and treated water supplies.
<i>Examples</i>	<p>UN Indicators of sustainable development</p> <ul style="list-style-type: none"> • Access to safe drinking water <p>UNCHS (Habitat) <i>Urban indicators programme</i></p> <ul style="list-style-type: none"> • Household connection levels <p>WHO <i>Catalogue of health indicators</i></p> <ul style="list-style-type: none"> • Access to safe drinking water <p>WHO <i>Environmental health indicators: framework and methodologies</i></p> <ul style="list-style-type: none"> • Access to safe and reliable supplies of drinking water
<i>Useful references</i>	<p>UN 1996 <i>Indicators of sustainable development. Framework and methodologies</i>. New York: United Nations.</p> <p>UNCHS(Habitat) 1997 <i>Monitoring human settlements with urban indicators</i>. Nairobi: United Nations Centre for Human Settlements.</p> <p>WHO 1982 <i>National and global monitoring of water supply and sanitation. CWS series of Cooperative Action for the decade, No.2</i>.</p> <p>WHO 1996 <i>Catalogue of health indicators: a selection of health indicators recommended by WHO programmes</i>. Geneva: World Health Organization (under revision).</p> <p>WHO 1999 <i>Environmental health indicators: framework and methodologies</i>. Geneva: World Health Organization. (Available at http://www.who.int/docstore/peh/archives/EHIndicators.pdf)</p> <p>WHO/UNICEF 1996 <i>Water supply and sanitation sector monitoring report 1996</i>. World Health Organization/UNICEF Joint Monitoring Programme.</p> <p>WHO/UNICEF 1999 <i>Global water supply and sanitation assessment 2000. Water supply and sanitation sector questionnaire (Draft report)</i>.</p>