

CHILDREN AGED 0-14 YEARS LIVING IN UNSAFE, UNHEALTHY OR HAZARDOUS HOUSING

GENERAL CONSIDERATIONS

<i>Issues</i>	Respiratory diseases Physical injuries
<i>Type of indicator</i>	Exposure (proximal) Can also be used as a measure of action in relation to housing quality.
<i>Rationale</i>	The adequacy of housing is an important determinant of the health status of children. <i>Inter alia</i> , housing quality affects levels of exposure to indoor pollutants, food and water hygiene, levels of sanitation, exposures to physical hazards and injury, and general quality of life. Housing may be unsafe, therefore, for a variety of reasons, including: dangerous construction, inadequate ventilation, inadequate heating, dangerous or inadequately maintained services, inadequate size for the number of residents (i.e. overcrowding), location in a hazardous area (e.g. areas prone to flooding or earthquakes, or on contaminated land) or the presence of dangerous contaminants (e.g. lead or radon) in the building materials. Living in inadequate housing is therefore likely to result in increased risks of a variety of health effects, including respiratory illness and physical injury.
<i>Issues in indicator design</i>	<p>Although potentially valuable, this indicator is difficult to define and measure in a clear and systematic manner. In many cases, the most appropriate measure may be the percentage (or number) of children living in unsafe, unhealthy or hazardous housing. Defining the terms 'unsafe', 'unhealthy' and 'hazardous', however, poses severe difficulties for these are all to a large extent both environmentally and culturally dependent, and thus are liable to vary from one area (or one time) to another. Possible definitions of unsafe, unhealthy or hazardous housing include housing which is:</p> <ul style="list-style-type: none"> • physically unsound and likely to be dangerous to its occupants, because of its poor construction, or inadequately maintained services (e.g. electricity); or • is located in a physically hazardous area (e.g. an area of flood or earthquake risk) or is sited on contaminated land (e.g. by chemical wastes, radioactivity); or • provides serious risks of exposures to indoor pollution (e.g. air pollutants) or pathogens (e.g. moulds, ticks, fleas); or • provides inadequate shelter (e.g. due to poor insulation, inadequate roofing) and basic amenities (e.g. cooking facilities, heating). <p>Problems may also exist in devising a single indicator that combines all these different conditions in a single measure, since in terms of health they may not be equivalent. As an alternative, therefore, separate indicators can be developed, relating to specific aspects of housing condition and quality. Thus, indicators might be compiled of overcrowding, access to basic amenities, indoor air pollution, flood risk, avalanche risk, earthquake risk etc. The disadvantages of this approach are the large number of indicators that might need to be compiled, and the difficulties of comparing between them or of using them to provide a general overview of housing conditions.</p> <p>An age range of 0-14 years is applied in the case of this indicator because the various risks from hazardous housing conditions affect children of all</p>

	ages.
SPECIFICATION	
<i>Definition</i>	Percentage (or number) of children aged 0-14 years living in unsafe, unhealthy or hazardous housing.
<i>Terms and concepts</i>	<p>This indicator requires the ability to identify, and measure the extent of, unsafe, unhealthy or hazardous housing. This may be generally defined as housing which is:</p> <ul style="list-style-type: none"> • physically unsound and likely to be dangerous to its occupants, because of its poor construction, or inadequately maintained services (e.g. electricity); or • is located in a physically hazardous area (e.g. an area of flood or earthquake risk) or is sited on contaminated land (e.g. by chemical wastes, radioactivity); or • provides serious risks of exposures to indoor pollution (e.g. air pollutants) or pathogens (e.g. moulds, ticks, fleas); or • provides inadequate shelter (e.g. due to poor insulation, inadequate roofing) and basic amenities (e.g. cooking facilities, heating). <p>These definitions may need to be adjusted locally to meet specific circumstances.</p> <p>In addition, a definition is required of the total number of children: i.e. the total resident population of children aged 0-14 years, at the time of census or survey.</p>
<i>Data needs</i>	<p>Number of children aged 0-14 years living in unsafe, unhealthy or hazardous housing.</p> <p>Total resident population of children aged 0-14 years.</p>
<i>Data sources, availability and quality</i>	Data on the quality of the housing stock, and the number of children living in unsafe, unhealthy or hazardous housing is rarely available from routine sources. In some countries, an approximation to this may be available from census statistics (e.g. housing lacking basic amenities). Generally, however, data will need to be obtained by special surveys. In all cases, these data are liable to considerable margins of error and inconsistency due to difficulties of definition, inconsistent reporting and difficulties of ensuring representative sampling. Data on the total resident population of children should be available from national censuses and should be reliable.
<i>Level of spatial aggregation</i>	Community, administrative district or region
<i>Averaging period</i>	Annual or longer term
<i>Computation</i>	<p>The indicator can be computed as:</p> $100 * C_{unsafe} / C_{tot}$ <p>where: <i>C_{unsafe}</i> is the number of children aged 0-14 years living in unsafe, unhealthy or hazardous housing;</p> <p><i>C_{tot}</i> is the total population of children aged 0-14 years</p>
<i>Units of measurement</i>	Percentage or number
<i>Worked example</i>	Assume that a survey of housing conditions shows that 1 440 children, from a total sample of 11 070 children, are found to be living in homes classified

	<p>as unsafe, unhealthy or hazardous. In this case the value of the indicator is:</p> $100 * 1\,440 / 11\,070 = 13.0\%$
<i>Interpretation</i>	<p>This is an important indicator, which has wide-ranging significance for policy. In providing a measure of the adequacy of the housing stock, it also acts as an indicator of health risks associated with poor sanitation, exposures to indoor air pollution, and access to safe water. It can, therefore, help to interpret a range of other issues and indicators.</p> <p>Like all general-purpose indicators, however, it needs to be interpreted carefully. The characteristics which render housing unsafe, unhealthy or hazardous may clearly vary; without information on these specific characteristics it can be misleading to infer either the existence of particular health risks or effects or the need for specific actions. Definitional issues are also likely to pose major difficulties for comparisons between different areas, or between different surveys, unless standard protocols have been used. A clear understanding of the data is therefore essential before interpretations are made.</p>
<i>Variations and alternatives</i>	<p>This indicator can be based upon a wide range of locally defined classifications of housing quality – for example, temporary or non-permanent housing, housing without adequate amenities, housing built on unsafe or unstable land, or houses at risk of flooding. It can also be applied to different age ranges (e.g. children 0-5 years in age), as appropriate.</p>
<i>Examples</i>	<p>WHO <i>Environmental health indicators: framework and methodologies</i></p> <ul style="list-style-type: none"> • Population living in unsafe housing <p>UNCHS (Habitat) <i>Urban Indicators Programme</i></p> <ul style="list-style-type: none"> • Permanent structures (percentage of housing units located in structures expected to maintain their stability for 20 years or longer under local conditions with normal maintenance); • Housing in compliance (percentage of the total housing stock in compliance with current regulations); • Housing destroyed (percentage of the housing stock destroyed by natural or man-made disasters over the past ten years).
<i>Useful references</i>	<p>UNCHS Urban Indicators Programme: http://www.urbanobservatory.org/indicators/database/</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>