

## CHILDREN AGED 0-14 YEARS LIVING IN POVERTY

GENERAL CONSIDERATIONS	
<i>Issues</i>	<p>Perinatal diseases</p> <p>Respiratory diseases</p> <p>Diarrhoeal diseases</p> <p>Physical injuries</p>
<i>Type of indicator</i>	<p>Exposure (distal/driving force)</p> <p>Can also be used as a measure of action in relation to social policy.</p>
<i>Rationale</i>	<p>Poverty is a major risk factor for children's environmental health. It operates in three main ways. First, because of what has been termed environmental injustice, there is a marked tendency for the poorest in society to be more exposed to environmental hazards. This occurs both because the poor are more likely to live in inadequate housing, and in more hazardous areas, and because there is a tendency for polluting industries and other activities to congregate in poorer areas (e.g. because of lower land prices, less strict regulations and less effective opposition from the communities involved). Secondly, poverty tends to be associated with more harmful (or less self-protective) lifestyles and behaviours, for example in terms of diet, smoking, exercise and drug usage, both because of lack of awareness of the risks concerned and the lack of resources to avoid them. Thirdly, poverty makes it harder for those at risk to obtain treatment or help, often because of their remoteness from the necessary services, their lack of resources to access them and – in some cases – inherent biases and inadequacies within the services themselves. As a result, almost all environmental health effects show strong associations with poverty. Poverty thus represents an important, complex and inter-related set of social and environmental risks that cannot easily be separately specified. It also acts as an important confounder and modifier to relationships between many other risk factors and human health.</p>
<i>Issues in indicator design</i>	<p>Defining and measuring poverty is extremely difficult. Poverty is neither a unitary nor absolute condition. It is multi-faceted and contextual. No single, simple threshold or measure for poverty therefore exists that can be used as a basis for the indicator. Instead proxies of various types tend to be used. These are variously described in terms of poverty, deprivation, disadvantage or inequality.</p> <p>Some of these rely on single measures – such as disposable income, or family assets. Others use compound indices, often including a range of social, economic and, in some cases, health variables. The main example internationally is the UNDP Human Poverty Index (HPI), of which two forms have been devised, one for developed and one for developing countries. Various national indicators are also in use (e.g. the Carstairs Index which is widely used in the UK).</p> <p>Each of these indicators – and each of these approaches to devising indicators of poverty – has limitations. Indicators based on income alone, for example, take a very narrow view of poverty, and ignore the many other factors that influence social well-being – for example, customs that may limit the ability of some groups (e.g. women) to access, or benefit from, the available wealth. For the most part, compound indicators tend to be more powerful, but these are often highly contextual, and include variables that are not always widely relevant. Those (such as the UNDP HPI) that include variables relating directly to health (life expectancy, disability etc.) are not</p>

	<p>appropriate as <i>independent</i> measures of poverty, that can readily be used in combination with health indicators. Defining thresholds with any of these measures, below which people may be said to be living in poverty, is also difficult. On the other hand, merely taking an average measure across a population (e.g. average household income, or the average HPI) is misleading, because it fails to reflect the disparities in affluence and poverty that may exist within that population.</p> <p>Against this background, it is impossible to define a single indicator that will satisfy all circumstances and applications. The indicator proposed here attempts to define poverty in terms of both sustainable and disposable income, and its ability to meet basic needs. The concepts of income and need are defined generically, as a basis for indicator development, but in many cases would need to be further specified to take account of local circumstances (e.g. social structure, economic conditions, expectations). The age range of 0-14 years is taken because poverty affects children of all ages more or less equally.</p>
<b>SPECIFICATION</b>	
<i>Definition</i>	Percentage (or number) of children aged 0-14 years living in households with a sustainable income inadequate to meet their basic needs.
<i>Terms and concepts</i>	<p><b>Sustainable and disposable income:</b> the level of household income (in money or in kind) that is available to spend after primary commitments (e.g. taxation, tithes, travel and other costs involved in acquiring the income) have been paid, and that can realistically be expected to be maintained in the long term (i.e. over a period of one or more years). This income can be measured in different ways, depending on local circumstances, but should be converted to a common 'currency' (based on relative purchasing power) where international comparisons need to be made.</p> <p><b>Basic needs:</b> the costs of essential life-support materials and services required to provide a healthy existence for a child within the local context. These should include all requirements for nutrition (to an acceptable, basic level), shelter (of a safe and adequate condition), education (to acquire essential literacy, numeracy and vocational skills) and health care (access to basic primary and secondary health care services). Costs of materials and services provided either via taxation or through direct deduction from income should not be included.</p>
<i>Data needs</i>	<p>Number of children aged 0-14 years by sustainable, disposable household income</p> <p>Costs of basic needs</p>
<i>Data sources</i>	<p>Data on household income can usually be obtained from national censuses or other routine surveys or registers (e.g. declarations to taxation offices). Where these sources are not available, sample data may be obtained from household surveys. In some cases, sample data are also collected by commercial companies (e.g. for marketing purposes). To estimate the disposable income it may be necessary to subtract from the reported income figures the levels of taxation and other routine deductions. To identify households with a sustainable income, it may be necessary to adjust the data according to employment rates (e.g. the percentage of people in long-term employment).</p> <p>Costs of basic needs should be calculated on the basis of an average 'basket' of goods, comprising essential food, shelter, education and health care. In some cases, national measures will be available (e.g. from national</p>

	statistical offices or social service departments); otherwise, data to compute these costs may need to be obtained from household surveys.
<i>Level of spatial aggregation</i>	Administrative district (e.g. census tract)
<i>Averaging period</i>	Annual or longer
<i>Computation</i>	<p>The indicator is computed as a simple percentage, as follows:</p> $100 * ( C_{pov} / C_{tot} )$ <p>where : <math>C_{pov}</math> is the number of children aged 0-14 years living in households with a sustainable income inadequate to meet their basic needs;  <math>C_{tot}</math> is the total number of children aged 0-14 years</p>
<i>Units of measurement</i>	Percentage (or number)
<i>Worked example</i>	<p>Assume that an area contains 15 000 households, with a total population of 62 000 children. Of these households, 6 400 (containing 31 400 children) are deemed to have a disposable and sustainable income below that needed to satisfy their basic needs. In this case, the indicator would be calculated as:</p> $100 * 31\ 400 / 62\ 000 = 50.6\%$
<i>Interpretation</i>	<p>In general terms, an increase in the index value may be taken as an indication of increased poverty and an associated increase in the vulnerability of children to health problems, and reduced quality of life. Care is nevertheless necessary, especially in comparing countries or regions that differ markedly in terms of their culture, economy and way of life. Marked rural/urban differences may also occur, which may be masked where data are aggregated to large areas. The data needed to construct the indicator may also suffer from inaccuracies, inconsistencies and gaps, which might not be apparent in the reported statistics. Data on income, for example, are often subject to major uncertainties because of incorrect or incomplete reporting, and because of difficulties in assessing non-monetary or occasional income. Estimates of the cost of basic needs are also inherently uncertain, and likely to vary substantially from one country or population group to another. Minor differences in the indicator value are therefore unlikely to be meaningful and the indicator should only be seen to present a broad measure of poverty.</p>
<i>Variations and alternatives</i>	<p>Many alternatives to this indicator are possible. Examples include:</p> <p><b>Average household income per child:</b> the mean household income (total or disposable) per child.</p> <p><b>Income disparity:</b> the difference or range of incomes across the population. The UNCHS Household Income Distribution Indicator (UNCHS 1993), for example, is calculated as the ratio of the average income of the highest income quintile to the average income of the lowest income quintile.</p> <p><b>The poverty gap:</b> a measure of the difference between the poverty line and the level of consumption of all individuals in the population – e.g. the Poverty Gap Index (DAC 1999, UN 1996).</p> <p><b>Poverty or deprivation indices:</b> these typically assign an arithmetic score to individuals or areas based on a number of poverty or deprivation indicators (e.g. income, employment status, family situation, access to basic resources). Examples include the UNDP Human Poverty Index (UNDP</p>

	1999), the Jarman score (Jarman 1983), the Townsend Index (Townsend <i>et al.</i> 1988), and the Carstairs score (Carstairs and Morris 1989).
<i>Examples</i>	<p>WHO <i>Environmental health indicators: framework and methodologies</i></p> <ul style="list-style-type: none"> <li>• <b>Poverty</b></li> </ul> <p>UNDP <i>Human development report</i></p> <ul style="list-style-type: none"> <li>• <b>Human poverty index for developing countries (HPI-1)</b></li> <li>• <b>Human poverty index for developed countries (HPI-2)</b></li> </ul> <p>UN <i>Indicators of sustainable development</i></p> <ul style="list-style-type: none"> <li>• <b>Head count index of poverty</b></li> <li>• <b>Poverty gap index</b></li> <li>• <b>Squared poverty gap index</b></li> <li>• <b>Gini index of income inequality</b></li> </ul> <p>UNCHS and World Bank <i>Housing indicators programme</i></p> <ul style="list-style-type: none"> <li>• <b>Household income distribution</b></li> <li>• <b>Households below poverty line</b></li> <li>• <b>DAC Indicators of poverty reduction</b></li> <li>• <b>Incidence of extreme poverty</b></li> <li>• <b>Poverty gap ratio</b></li> <li>• <b>Inequality</b></li> </ul> <p>Many indicators have also been developed at national level, often as a basis for allocating health resources e.g.:</p> <ul style="list-style-type: none"> <li>• <b>the Carstairs score</b></li> <li>• <b>the Jarman score</b></li> <li>• <b>the Townsend index</b></li> </ul>
<i>Useful references</i>	<p>Carstairs, V. and Morris, R. 1989 Deprivation: explaining difference in mortality between Scotland and England and Wales. <i>British Medical Journal</i> 299, 886-889.</p> <p>DAC 1999: <a href="http://www.oecd.org/dac/indicators/htm/list.htm">http://www.oecd.org/dac/indicators/htm/list.htm</a></p> <p>Gwatkin, D.R. and Guillot, M. 2000 <i>The burden of disease among the global poor. Current situation, future trends and implications for strategy.</i> Washington: World Bank.</p> <p>Jarman, B. 1983 Identification of underprivileged areas. <i>British Medical Journal</i> 286, 1705-1709.</p> <p>Townsend, P., Phillimore, P. and Beattie, A. 1988 <i>Health and deprivation: inequality and the north.</i> London: Croom Helm Ltd.</p> <p>UN 1996 <i>Indicators of sustainable development. Framework and methodologies.</i> New York: United Nations.</p> <p>UNCHS (Habitat) and the World Bank 1993 <i>The Housing Indicators Programme. Report and the Executive Director (Volume I).</i> Nairobi: United Nations Centre for Human Settlements.</p> <p>UNCHS (Habitat) 1997 <i>Monitoring human settlements with urban indicators.</i></p>

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