

CHILDREN AGED 0-4 YEARS ABLE TO OBTAIN REHYDRATION THERAPY WITHIN 24 HOURS OF NEED

GENERAL CONSIDERATIONS

<i>Issues</i>	Diarrhoeal diseases
<i>Type of indicator</i>	Action
<i>Rationale</i>	Rapid rehydration treatment has been proved to be one of the most effective strategies for combating the problems of cholera. Though it cannot be seen as a substitute for policies that remove the primary risk factors (such as poor sanitation, inadequate water supplies or inefficient waste management), therefore, it undoubtedly needs to be part of the policy response to risks from diarrhoeal diseases, especially in cholera-prone areas. This indicator is designed to assess the degree of coverage provided by rehydration therapies.
<i>Issues in indicator design</i>	<p>Success of rapid rehydration therapies depends on the ability to gain assistance from a trained health worker quickly in the event of need. This depends first and foremost on the availability of trained professionals (though it also depends, of course, on the mother's ability to recognize the symptoms that demonstrate that need). Information on the distribution of trained health care workers is likely to be widely available. How accessible these are, however, is often more difficult to assess; it depends on the transport facilities, as well as on cultural factors (e.g. the mother's freedom to travel when required). It may also depend on the operating practices (e.g. opening hours) at the relevant health centres. The time window available within which to seek assistance is also likely to vary, and will depend on how adept the mother is at detecting early warning signs. All these factors mean that it is difficult to design a robust and reliable indicator of the coverage of rapid rehydration facilities. The indicator developed here, however, provides a simple approximation, by estimating the percentage of children within a day's travel time of the available trained professionals.</p> <p>An age range of 0-4 years is used, because younger children tend to be more at risk.</p>

SPECIFICATION

<i>Definition</i>	Percentage of children aged 0-4 years able to obtain emergency rehydration therapy within 24 hours of need.
<i>Terms and concepts</i>	<p>Emergency rehydration therapy: emergency treatment to combat dehydration caused by acute diarrhoea.</p> <p>Access to assistance within 24 hours of need: the ability to travel to, or receive a visit from, a trained health worker within 24 hours of need.</p>
<i>Data needs</i>	<p>Location of health workers trained in rapid rehydration therapies.</p> <p>Place of residence of mothers.</p> <p>Transport routes and facilities.</p>
<i>Data sources, availability and quality</i>	<p>Data on the distribution and location of trained health care professionals, able to give rapid rehydration therapy, may be available from the relevant health services (though data may often be incomplete). Where suitable data are not available, they can be collected by a questionnaire survey of local health care centres and hospitals.</p> <p>Data on the distribution of children aged 0-4 years should usually be available from national censuses and can then be considered relatively reliable. Where census tracts are small, these may be sufficient to estimate the numbers of children within the specified travel time of the specialist health</p>

	<p>care facilities. Where these data are not of a sufficiently high resolution, it may be necessary to use modelling techniques to estimate the more local population distribution (e.g. on the basis of land cover type derived from satellite data, or land use maps).</p> <p>Data on transport facilities (e.g. road-lines) may be available in a digital or map form (e.g. from mapping or highways agencies); data on public transport facilities can often be obtained from the relevant transport companies. Based on these it is possible to estimate standard travel times.</p> <p>Where any of these data sets are unavailable, questionnaire or interview surveys may be necessary to estimate accessibility on the basis of a sample of individuals.</p>
<i>Level of spatial aggregation</i>	Community, administrative district, health district
<i>Averaging period</i>	Annual or longer term
<i>Computation</i>	<p>The indicator can be computed as a simple percentage, as follows:</p> $100 * C_{near} / C_{tot}$ <p>where: C_{near} is the number of children aged 0-4 years living within 24 hour's travel of a trained health care worker able to deliver rapid rehydration therapy; C_{tot} is the total number of children aged 0-4 years.</p>
<i>Units of measurement</i>	Percentage
<i>Worked example</i>	<p>Assume that, within an area containing 19 400 children aged 0-4 years, 17 550 live within 24 hour's travel of a trained health care worker able to deliver rapid rehydration therapy. In this case, the value of the indicator is calculated as:</p> $100 * 17\ 550 / 19\ 400 = 90.5\%$
<i>Interpretation</i>	<p>Where reliable data exist, this indicator can be interpreted as a measure of the ease of access to trained health care workers able to deliver rapid rehydration therapy. An increase in the indicator represents an improvement in accessibility; a fall in the indicator implies a reduction in accessibility. These changes can, of course, occur for different reasons: because of changes in the extent and availability of the services, or because of changes in population numbers and distribution. Care is also needed in interpreting the indicator because the existence of services within the specified travel time does not necessarily mean that they are accessible, or that mothers know about them or are able to recognize symptoms requiring attention when they occur. Major uncertainties may also be expected in the indicator, due to data limitations and the need to estimate travel times.</p>
<i>Variations and alternatives</i>	<p>The main variations that may be required in this indicator are in the way in which access is defined and calculated. The specification of 24 hours as the threshold for travel time is, for example, arbitrary; other thresholds may be more appropriate in some cases. Where travel times cannot easily be calculated, it may also be more practicable to base the indicator on a distance measure (e.g. percentage of women of child-bearing age living within 50 km of trained health care worker able to deliver rapid rehydration therapy). A simpler alternative is to assess the average population-weighted density of the available services (i.e. number of people per trained health care worker); this, however, takes no direct account of proximity and is not sensitive to clustering of the services in certain (e.g. more affluent) areas.</p>
<i>Examples</i>	WHO <i>Catalogue of health indicators</i>

	<ul style="list-style-type: none"> • Mother's knowledge of home therapy for diarrhoea <p>World Bank <i>HNP Indicators on Socio-Economic Inequalities</i></p> <ul style="list-style-type: none"> • Oral rehydration treatment rate for diarrhoea • Medical treatment rate for diarrhoea • Percentage seen in a public facility
<i>Useful references</i>	<p>Ali, M., Atkinson, D. and Underwood, P. 2000 Determinants of use rates of oral rehydration therapy for management of childhood diarrhoea in rural Bangladesh. <i>Journal of Health, Population and Nutrition</i> 18, 103-8.</p> <p>WHO 1996 Catalogue of health indicators: a selection of health indicators recommended by WHO programmes. Geneva: World Health Organization (under revision).</p> <p>World Health Organization. Diarrhoeal diseases: http://www.who.int/aboutwho/en/preventing/diarrhoeal.htm</p>