Causes of death among children under five years of age (percentage)

Rationale for use

MDG4 consists in the reduction of under-five mortality by two thirds in 2015, from its level in 1990. Child survival efforts can be effective only if they are based on reasonably accurate information about the causes of childhood deaths. Cause-of-death information is needed to prioritize interventions and plan for their delivery, to determine the effectiveness of disease-specific interventions, and to assess trends in disease burden in relation to national and international goals.

Definition

The causes of death (CoD) as entered on the medical certificate of cause of death in countries with civil (vital) registration system. The underlying cause of death is being analysed. In countries with incomplete or no civil registration, causes of death are those reported as such in epidemiological studies that use verbal autopsy algorithms to establish CoD.

Associated terms

Under-5 mortality rate is strictly speaking not a rate (i.e. the number of deaths divided by the number of population at risk during a certain period of time) but a probability of death derived from a life table and expressed as rate per 1,000 live births.

Underlying cause of death has been defined as "(a) the disease or injury which initiated the train of morbid events leading directly to death, or (b) the circumstances of the accident or violence which produced the fatal injury".

Data sources

WHO regularly receives mortality-by-cause data from its Member States as recorded in national civil (vital) registration systems. Those statistics were therefore analysed to obtain the distribution of child deaths by cause in 72 countries where those systems are judged to be sound (based on reliable diagnostic procedures and standard application of cause coding which follows the rules of the International Statistical Classification of Diseases and Related Health Problems (ICD) as applied to death certificates) and have coverage rates of 85% or above. These are all from high- and middle-income countries. For countries with incomplete or no vital registration system, epidemiological studies and statistical modelling were extensively used.

Methods of estimation

Causes-of-death data from civil registration systems were evaluated for their completeness. Complete and nationally-representative data were then grouped by ICD codes into the cause categories and their proportions to total under-five deaths were then computed. For countries with incomplete data or no data, the distribution of deaths by cause was estimated in two steps. In the first step, a statistical model was used to assign deaths to one of three broad categories of causes: communicable diseases; non-communicable diseases; or injuries and external causes. In a second step, cause-specific under-five mortality estimates from Child Health Epidemiology Reference Group (CHERG), WHO Technical Programmes, and the Joint United Nations Programme on HIV/AIDS (UNAIDS) were taken into account in assigning the distribution of deaths to specific causes. A variety of methods, including proportional mortality and natural
history models, were used by CHERG and WHO to develop country-level cause-specific mortality estimates. All CHERG working groups developed comparable and standardized procedures to generate estimates from the databases.

Disaggregation

Country level, age groups (neonatal (0-27 days) and 28 days - 59 months)

References


Database


- Department of Child and Adolescent Health and Development (CAH) web site: (http://www.who.int/child-adolescent-health/OVERVIEW/CHILD_HEALTH/child_epidemiology.htm)

Comments

The under-five deaths were estimated for 8 cause categories only. There are still estimates of some of the major causes of child deaths (e.g. injuries) that have not yet been developed using the CHERG methods. Also, a better understanding of the indirect contributions of diseases to child deaths is needed in order to assess disease control priorities and evaluate interventions.