

References

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- Salomon JA, Murray CJL. The epidemiologic transition revisited: compositional models for causes of death by age and sex. Population and Development Review 2002; 28(2):205-228
- World Health Organization. World Health Report 2002. Reducing Risks, Promoting Healthy Life. Geneva: WHO, 2002. (www.who.int/whr).

Further information on the WHO website

Most recent estimates of deaths by cause and sex for WHO subregions are available in Annex Table 2 of the World Health Report on the WHO website at

<http://www.who.int/whr>

Spreadsheets with estimates of deaths by cause, age and sex for WHO subregions are available on the WHO website at

<http://www.who.int/bod>

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CAUSES OF DEATH

Global, regional and country-specific estimates of deaths by cause, age and sex



Causes of death for 14 subregions of the WHO regions and the world are reported annually in the World Health Report. WHO uses data provided by Member States, together with all available other sources of information on causes of death, to estimate death rates by age, sex for underlying causes of death as defined by the ICD classification rules. In 2001, there were a total of 56.5 million deaths globally. The 20 leading global causes of death are shown below.

Version 2 estimates of global deaths in 2001, 15 leading causes

Rank	Cause	Total deaths (thousands)
1	Ischaemic heart disease	6,880
2	Cerebrovascular disease	5,096
3	Lower respiratory infections	3,863
4	HIV/AIDS	2,943
5	Chronic obstructive pulmonary disease	2,520
6	Perinatal conditions	2,438
7	Diarrhoeal diseases	2,124
8	Tuberculosis	1,660
9	Road traffic accidents	1,259
10	Trachea, bronchus, lung cancers	1,210
11	Malaria	1,080
12	Hypertensive heart disease	939
13	Self-inflicted injuries	814
14	Diabetes mellitus	808
15	Cirrhosis of the liver	796
16	Measles	777
17	Stomach cancer	744
18	Congenital anomalies	656
19	Liver cancer	626
20	Nephritis and nephrosis	619

Methods and data sources

Data sources

Vital registration data provided to WHO by 112 Member States capture about 18.6 millions deaths representing one third of all deaths occurring in the world. In the last two years, WHO has intensified efforts to support the collection of vital registration information and other mortality data for developing countries (see Table below). In addition, information from sample registration systems, population laboratories and epidemiological analyses of specific conditions have been used to improve estimates of the cause of death patterns.

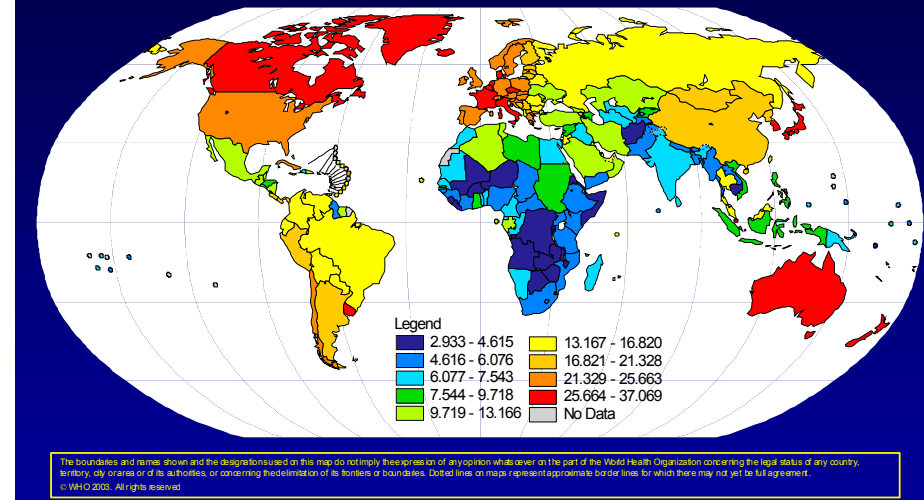
Number of countries with recent useable data

WHO Region	Useable data	Complete coverage	Total countries
Africa	4	1	46
The Americas	32	14	35
Eastern Mediterranean	7	4	22
Europe	48	39	51
South-East Asia	4	0	11
Western Pacific	22	8	27
World	117	66	192

Ten leading causes of death, developed and developing regions, Version 2 estimates, 2000

Developed countries		Developing countries	
	% of total deaths		% of total deaths
1 Ischaemic heart disease	23.3%	1 Ischaemic heart disease	9.2%
2 Cerebrovascular disease	13.4%	2 Cerebrovascular disease	8.4%
3 Trachea, bronchus, lung cancers	4.4%	3 Lower respiratory infections	7.9%
4 Lower respiratory infections	3.6%	4 Perinatal conditions	6.0%
5 COPD	3.2%	5 HIV/AIDS	6.0%
6 Colon and rectum cancers	2.3%	6 COPD	5.2%
7 Self-inflicted injuries	1.8%	7 Diarrhoeal diseases	4.6%
8 Diabetes mellitus	1.7%	8 Tuberculosis	3.6%
9 Stomach cancer	1.7%	9 Malaria	2.7%
10 Hypertensive heart disease	1.7%	10 Road traffic accidents	2.4%

Malignant neoplasms: percent of total death, 2001



Principles for WHO reporting on health

WHO regularly publishes information on levels of health, mortality and burden of disease to inform international and national health policy debates. As an international organization, information published by the WHO is frequently used for benchmarking, for advocacy of particular policies, for monitoring achievements toward internationally accepted goals and targets, such as the MDGs, and to guide technical strategies and responses. Validity, reliability, cross-population comparability, an explicit audit trail, and consultation with Member States are the five quality criteria of health statistics WHO is committed to apply to validate the data on core health indicators and health MDGs.

WHO applies standard methods to the analysis of Member State data to ensure comparability of estimates across countries. This will inevitably result in small differences for some Member States with official estimates for quantities such as cause-specific death rates, where a variety of different projection methods and other methods are used.

The process of coding underlying causes of death involves some extent of misattribution or miscoding even in countries where causes are assigned by medically qualified staff. Main reasons are incorrect or systematic biases in diagnosis, incorrect or incomplete death certificates and misinterpretation of ICD rules for selection of the underlying cause. Special attention has been paid to problems of misattribution or miscoding of causes of death in cardiovascular diseases, cancer, injuries and general ill-defined categories.