
Global and regional cause-of-death patterns in 1990

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Demographic estimation techniques suggest that worldwide about 50 million deaths occur each year, of which about 39 million are in the developing countries. In countries with adequate registration of vital statistics, the age at death and the cause can be reliably determined. Only about 30–35% of all deaths are captured by vital registration (excluding sample registration schemes); for the remainder, cause-of-death estimation procedures are required. Indirect methods which model the cause-of-death structure as a function of the level of mortality can provide reasonable estimates for broad cause-of-death groups. Such methods are generally unreliable for more specific causes. In this case, estimates can be constructed from community-level mortality surveillance systems or from epidemiological evidence on specific diseases. Some check on the plausibility of the estimates is possible in view of the hierarchical structure of cause-of-death lists and the well-known age-specific patterns of diseases and injuries.

The results of applying these methods to estimate the causes of death for over 120 diseases or injuries, by age, sex and region, are described. The estimates have been derived in order to calculate the years of life lost due to premature death, one of the two components of overall disability-adjusted life years (DALYs) calculated for the 1993 World development report. Previous attempts at cause-of-death estimation have been limited to a few diseases only, with little age-specific detail. The estimates reported in detail here should serve as a useful reference for further public health research to support the determination of health sector priorities.

Introduction

Reliable information on global and regional deaths by cause are an essential input to planning, managing and evaluating the performance of the health sector in developing countries. The numbers of deaths by cause influence the manner in which resources are allocated to different service programmes and research activities. An accurate assessment of current death rates by cause in different regions also forms the baseline against which new health programmes must be evaluated. Without a reasonable baseline, we shall not, in 5 or 10 years from now, be able to assess what has worked and what has failed. In addition, reliable information on deaths by cause is an essential input to the assessment of the cost-effectiveness of new technologies for disease control and health promotion. The epidemiological transition, where the cause-of-death structure shifts profoundly from

infectious to chronic diseases, is under way in most middle-income countries and among the richer communities in low-income countries (1, 2). Estimating the cause-of-death pattern for 1990 will also provide a quantification of the extent to which this pattern has changed in different regions and for the developing world as a whole.

While data on deaths by cause are required for objective planning and evaluation of the health sector, the available datasets are wholly inadequate. A decade ago, claims concerning child and adult mortality by disease-specific programmes at the World Health Organization and by individual disease experts exceeded the total deaths in each age group by two- to threefold. Through the efforts of the World Bank and WHO, more consistent estimates of mortality, by cause, under age 5 have been developed although these still remain uncertain. Moreover, no plausible or consistent estimates for death over age 5 exist despite their increasing importance in the context of the epidemiological transition. The purpose of the present analysis is to redress these gaps in critical information. We present summary results from the Global Burden of Disease study, which involved over 100 disease experts (see Acknowledgements) and was a basic input into the World Bank's 1993 *World development report: Investing in health* (3).

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Attempts to estimate global mortality by cause are not new. The basic problem is that reliable vital registration data, with the cause of death coded by a physician, are available for only a small number of mostly developed countries (4). Estimates of mortality by cause need to be based on other approaches for virtually all of the populations of sub-Saharan Africa, most of Asia, the Middle East and North Africa. Indirect techniques to do this were first developed by Preston to model the relationship between total mortality and cause-specific mortality for broad groups of causes, based on an analysis of historical vital registration data for the developed and a few developing countries (5). In particular, cause-specific mortality was postulated to be a *linear* function of total mortality. Preston's work has formed the basis of nearly all subsequent approaches to estimating causes of death in regions without vital registration. Several others have refined the approach by estimating equations for specific age groups, incorporating more recent data or examining more detailed lists (6–9).^a

It is axiomatic that models only capture the relationship between cause-specific mortality and total mortality present in the countries with data. As few developing countries (particularly those with higher mortality) have good vital registration data, these model estimates are largely based on the experience of developed countries with a low mortality. Even the historical data for moderate levels of mortality in developed countries included in Preston's analysis tend to underestimate the mortality from communicable diseases. The relevance of models built on historical data is also affected by problems of diagnostic quality, revisions to the International Classification of Diseases, and basic differences in disease epidemiology in different regions. Furthermore, changes in cause-specific mortality with respect to total mortality are difficult to interpret in view of the parallel decline in the proportion of deaths coded to senility and ill-defined conditions. Our premise is that model estimates of cause-specific mortality are reasonable for large groups of causes. Model-based estimates for detailed causes, however, are probably not valid.

Recent studies have employed alternative procedures for estimating specific causes of death based on a review of data from disease-specific surveillance systems and the epidemiological literature (10, 11). Estimates of mortality from a particular cause such as malaria can be built up from epide-

miological data on incidence, remission, and case-fatality rates. The major limitation of the epidemiological approach to cause-of-death estimation is the lack of data for many diseases in many regions. There is also a tendency for the epidemiological approach to yield higher estimates than vital registration or model-based estimates, possibly because disease-specific analyses tend to be more inclusive than exclusive.

The estimates presented in this report use a combination of data sources and approaches, exploiting vital registration data where available, using models of the epidemiological transition to estimate broad causes, and supplementing these with a distillation of disease-specific data sources. Not only have estimates been derived for very many more causes than previous attempts at global estimation, but they have also been presented for specific age groups. In considering several competing and exhaustive causes simultaneously, we have also been constrained by independent estimates of total mortality by age. This is clearly not relevant for disease-specific estimates carried out in isolation and is a major reason why the estimates reported here for several diseases are lower than previously claimed.

Methods

Cause-of-death estimates for the developing and developed world depend first on estimates of the total mortality by age and sex. These deaths can then be attributed to particular causes. The analysis in this study is based on the following eight geographical regions as given in the *World development report 1993* (3): the Established Market Economies (EME), the Former Socialist Economies of Europe (FSE), Latin America and the Caribbean (LAC), China (CHN), India (IND), Other Asia and Islands (OAI), Middle Eastern Crescent (which includes North Africa, the Middle East, Pakistan and the Central Asian Republics of the Former Soviet Union) (MEC), and Sub-Saharan Africa (SSA). The demographic estimates of mortality by age and sex have been developed by the World Bank. The database for estimating child mortality is unquestionably much better developed than that for adult mortality (12). Indeed, there is considerable controversy among demographers over the levels of adult mortality in some developing regions without good vital registration systems, where mortality was estimated indirectly from census and survey data. For example, the United Nations Population Division and the World Bank estimates of adult mortality by age and sex can differ by as much as 50%, but in general the differences are smaller.

^a **Bulatao RA, Stephens PW.** *Estimates and projections of mortality by cause: a global overview, 1970–2015.* Unpublished manuscript prepared for the World Bank, 1991.

The cause-of-death groupings and detailed causes examined were initially developed by Murray et al. (9). Their system was extensively modified for the Global Burden of Disease study, preserving however the division of mortality into three large groups: communicable, maternal and perinatal (I); noncommunicable (II); and injuries (III). These are then further subdivided into several more specific causes. A list of causes selected for the study is given in the Annex. Clearly, this list, by being selective, has omitted some causes which, with further analysis, may justifiably be included in the future.

Our approach to attributing death to one single cause is based on the principles of the international classification of diseases: each death is coded to the underlying cause that initiated the sequence of events leading to death. For example, a patient with lung cancer who dies from respiratory failure from a post-obstructive pneumonia is coded to lung cancer. In the case of young children, where several causes may contribute significantly to death, the underlying cause has been selected as the primary cause of death, based on expert opinion about the nature of disease interactions at these ages. One disease can also be a risk factor for another. A patient with cirrhosis who dies from an oesophageal variceal bleed will be coded to cirrhosis despite the fact that his or her cirrhosis may have been caused by hepatitis B infection at an early age. Finally, deaths attributed to senility and ill-defined causes have been proportionately allocated either (if under age 5) to the communicable, maternal and perinatal causes, or (if older) to noncommunicable causes.

Our estimates of mortality by cause have been constructed from three types of estimates. First, for regions or parts of regions with good vital registration data, we have used deaths coded by the vital registration system according to the ninth revision of the International Classification of Diseases. This includes all deaths in the Established Market Economies and Former Socialist Economies, 61% of deaths in Latin America and the Caribbean, 23% of those in the Middle Eastern Crescent, and 11% of those in Other Asia and Islands (Table 1). As China does not have a complete vital registration system, a random sample of the population was monitored through the Disease Surveillance Points (DSP) system (13), in which teams (including a physician) review hospital records or interview the family to determine the cause for each death. However, not all deaths in the surveillance sites are captured by the DSP system. Underreporting is estimated at 10.8% in urban areas and 15.3% in rural areas. According to other methods for assessing completeness such as the Brass "growth-balance" method (14), the World Bank has estimated that underregistration of deaths in China is closer to 30%. Hence for China, an adjustment for underreporting was first made using the World Bank-estimated underreporting ratio, and then distributed across urban and rural areas on the basis of the information from the DSP system. For India, the Survey of Causes of Death (rural) provides useful information on lay-reported causes of death. This system collects information via a "verbal autopsy" on about one-half of 1% of all rural deaths in India, based on about 1300 primary health care centres

Table 1: Methods for estimating causes of death and percentage of deaths registered, by region

Region ^a	Percentage of deaths registered	Sample registration ^b	Non-registered deaths		
			Groups I, II and III	Detailed causes ^c	Adjustment algorithm ^d
EME	99				
FSE	99				
CHN		DSP		EPI	
LAC	61		Models	EPI/m	X
OAI	11		Models	EPI/m	X
MEC	23		Models	EPI/m	X
IND		SCD (R)	SCD (R)	EPI	
SSA			Models	EPI/m	X

^a EME, Established Market Economies; FSE, Former Socialist Economies of Europe; CHN, China; LAC, Latin America and the Caribbean; OAI, Other Asia and Islands; MEC, Middle Eastern Crescent; IND, India; SSA, Sub-Saharan Africa.

^b DSP = Disease Surveillance Points system in China. SCD (R) = Survey of Causes of Death (rural) in India.

^c EPI = epidemiological estimates. EPI/m = epidemiological estimates and model estimates.

^d X indicates that an adjustment algorithm was used.

spread throughout the country. This dataset has been used to establish the size of Groups I, II and III and for some finer information on injuries (Table 1).

The second main source is model-derived estimates of cause-of-death patterns based on total age-specific mortality. Building on the original work of Preston, we examined the relationship between Groups I, II and III mortality and total mortality for each age group. Data for the latest available year and a year from the 1950s from all countries, assessed as having complete and reliable vital registration, were included to expand the number of countries with moderate or high mortality in the sample. The relationship between Groups I and II and total mortality is non-linear; at higher mortality rates, Group I begins to increase faster. As a result, linear regression equations will tend to underestimate Group I mortality, particularly at higher mortality levels. To address this bias, natural log regression equations were used; the predicted mortality for Groups I, II and III from the equations was then adjusted to equal the total mortality. With a few exceptions, the coefficients for total mortality and the intercept were statistically significant (<0.05). Group III (injuries) had non-significant intercepts at ages 0–4, 15–29, 60–69 and 70+ years. It is important to emphasize, however, that because many of the slopes and intercepts in the age group 70+ were not significant, we have less confidence in predicting even the highest level disaggregation of mortality into the causes for this age group.

The third source of estimates is built up from studies by disease experts on the regional epidemiology of specific diseases. Specialists in diseases or injuries contributed their assessment of incidence, prevalence, remission and case-fatality rates based on review of existing data for each disease. These estimates were carefully evaluated for internal consistency utilizing a competing-risks computer model. Any internal inconsistencies were reviewed with disease experts and revised. The age pattern of predicted mortality by cause was also carefully reviewed for plausibility.

Estimates for Groups I, II and III totals, by age and sex, for the EME and FSE regions were based on vital registration data. For MEC, OAI and LAC regions, vital registration data for the subcomponent of the respective region with good registration were combined with model estimates for the residual parts. In China, the adjusted data from the Disease Surveillance Points system were applied to the total urban and rural population. In India, the Survey of Causes of Death (rural) system was used (15). For Sub-Saharan Africa, the Groups I, II and III totals were based solely on model estimates. All those

regions or subregions with model estimates were subject to revision as discussed below.

The following approach was used for the detailed causes. For EME and FSE regions, only minor adjustments were made to the vital registration data for deaths due to HIV infection. For LAC, vital registration data were used for the subregion with good registrations and this age-sex-specific distribution of causes (within Groups I, II, and III) was then used in the other parts of that region. For example, the percent of Group II mortality due to lung cancer within any age-sex group would be taken to be approximately similar in the areas with and without registration. Adjustments in both subregions were made for some Group I causes, (e.g., vaccine-preventable diseases) based on specific epidemiological data. For China, the age-specific proportions suggested by the DSP system were adopted with minor adjustments. For the majority of OAI, MEC, India, and Sub-Saharan Africa, most of the estimates were based on the epidemiological approach. Alternative methods were developed for clusters of causes including cancers, neuropsychiatric disorders, cardiovascular diseases, chronic respiratory diseases, and injuries as outlined below.

Total cancer deaths for OAI, MEC, IND, and SSA regions by age groups were based on the models. These were then distributed by site as follows. Firstly, the distribution of deaths by site was obtained by multiplying the incidence recorded at IARC (International Agency for Research on Cancer) regional cancer registries and the case-fatality rates recorded in cancer registries with the best follow-up by IARC (16). This distribution of deaths was then applied to the total number of cancer deaths suggested by the models to yield the estimated deaths by site.

For these same four regions, the total deaths by age and sex for neuropsychiatric causes were based on the models, whereas the estimates for detailed causes were based on the average percent distribution of mortality within each age-sex group recorded by vital registration systems in the other four regions (i.e., EME, FSE, LAC and CHN). A similar approach was taken for estimating asthma and chronic obstructive pulmonary disease (COPD) from total chronic respiratory mortality, based on vital registration data disaggregated into the ICD 3- and 4-digit codes for about 20 countries. A large number of deaths in China coded to cor pulmonale were transferred to COPD, based on discussions with those familiar with the cause-of-death coding applied in the DSP system.

Estimates of total cardiovascular mortality for OAI, MEC, IND, and SSA regions were based on the models. Four detailed causes, or groups of causes, were identified: rheumatic heart disease, ischaem-

ic heart disease, cerebrovascular disease, and a new category entitled "inflammatory heart disease" (pericarditis, endocarditis, myocarditis and cardiomyopathies). Small autopsy series, clinical case studies and limited survey data suggest that this last category is an important cause of death in high mortality populations. For each of these four causes, local studies have been used to qualitatively score the relative risk of each cause in each region. Using actual data from EME, FSE, LAC and CHN, these qualitative scores have been converted into percent distributions by cause for each age and sex group. (This is an obviously crude approach given the importance of cardiovascular causes of death, but it does provide preliminary estimates of the possible mortality due to cardiopathologies in high-mortality populations).

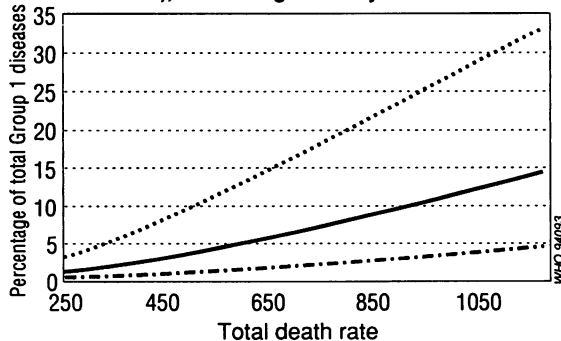
Because the pattern of injury mortality by detailed cause is highly variable across regions and within regions, no satisfactory method is available to predict local injury patterns; in China, for example, suicides and drownings predominate. We have therefore used the average percent distribution of injuries by age and sex for EME, FSE, LAC and CHN to estimate the pattern of detailed injuries for the other four regions, supplemented by the available epidemiological information on injury patterns.

Initial estimates of Group I mortality (communicable, maternal or perinatal), based on the epidemiological approach (i.e., summation of estimates by experts in specific diseases), considerably exceeded the total Group I mortality by 200–300% for men in some age groups in MEC, OAI, IND, and SSA. In these regions, therefore, the reduction in cause-specific Group I numbers to equal Group I deaths produces particularly important differences between the present and previous estimates. As all epidemiological estimates were subject to the same critical review, they were all considered equally plausible. Hence, an algorithm was developed to proportionately reduce all Group I causes equally.

Essentially, the algorithm was as follows: if the overestimation was less than 10%, then all causes were equally reduced to sum to the total available Group I mortality for that age-sex group. Otherwise an alternative Group I total was defined for each age-sex group using the constant (intercept) in the regression equation, plus 1 standard deviation (Fig. 1).

Adjustments were then also made so that Groups I, II and III summed to the total mortality. This new equation defined the Group I upper bound. Where Group I was overestimated by more than 10%, each cause was automatically reduced by 10%. If the resulting estimate was outside of the Group I upper bound, the upper-bound estimate of Group I was used instead and the detailed causes were proportionately reduced to equal the new Group I total. If the

Fig. 1. Predicted Group I versus total standardized death rates, plus and minus 1 standard error (top and bottom curves), females age 45–59 years.



resulting estimate, after a 10% reduction, was smaller than the Group I upper bound, then the estimates were used without further modification. Fig. 1 illustrates how the width of the confidence band increases dramatically with rising overall mortality, based on the estimates for women aged 45–59 years.

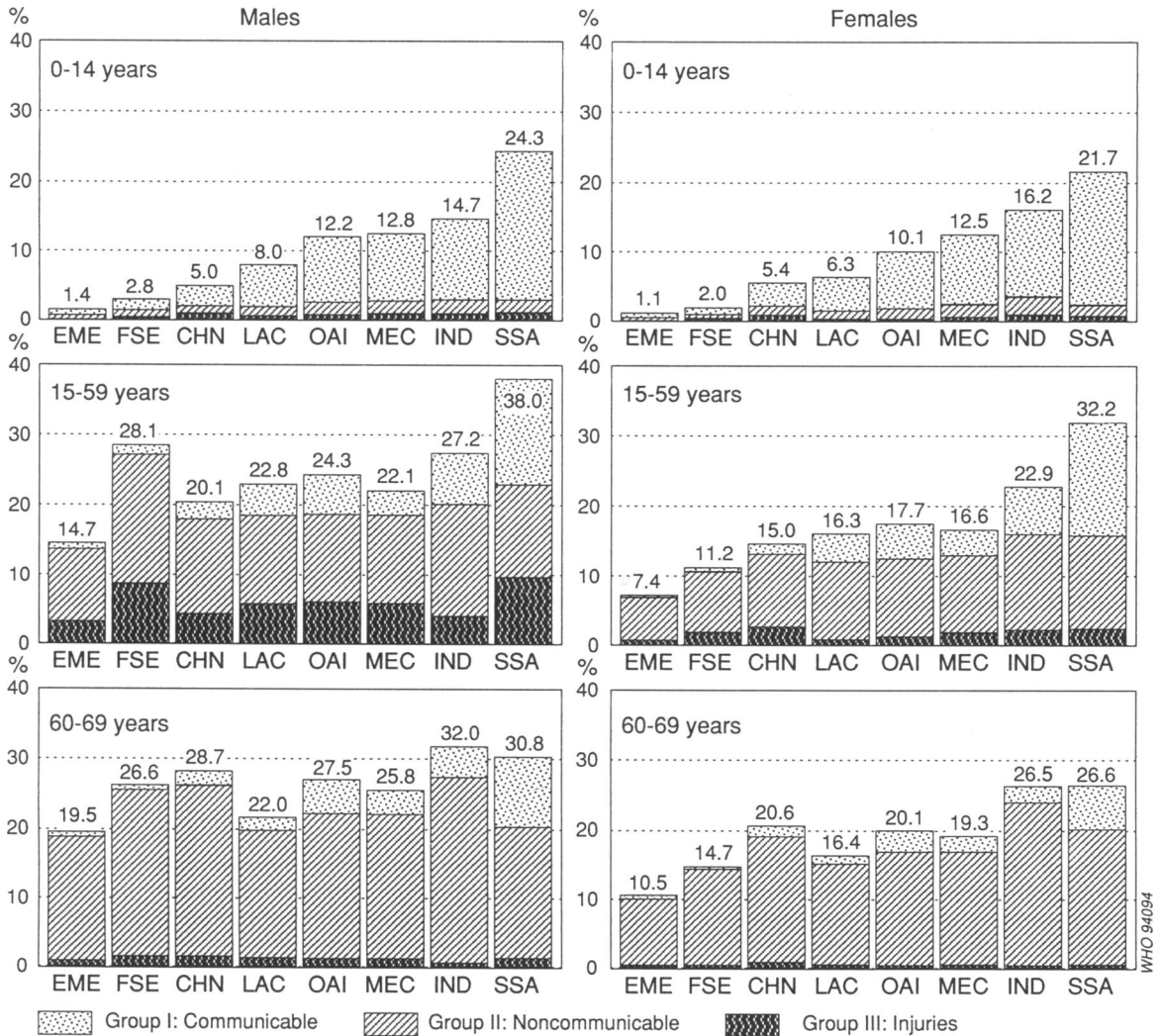
Results

Fig. 2 illustrates the profound differences in cause-of-death structure between developed and developing regions due to differences both in population age structure and, more importantly, in the age-specific mortality rates for different groups of diseases. Group I (communicable, maternal or perinatal causes) accounts for 40% of the deaths in developing regions but only 5% of deaths in developed regions. Group III (injuries) causes roughly the same proportion (8–9%) of deaths in both regions but are twice as common among males than females.

For the developing regions as a whole, one in every two deaths now occurs from noncommunicable diseases. Indeed, the ratio of deaths from Group II to Group I causes, which is a rough indicator of the epidemiological transition, is about 5 in China, and 2 in Latin America, compared with about 17 in developed regions and unity elsewhere in the developing world, except for Sub-Saharan Africa where Group I causes are still 2–3 times more common than Group II. The relative importance of injuries (Group III) in the cause-of-death structure is least in the industrialized countries and India (6–6.5% of all deaths), rising to just under 10% in Eastern Europe and Latin America, and to almost 12% in China.

Detailed mortality estimates for 120 causes by age and sex, separately for developed and developing regions, are given in the Annex; to facilitate the

Fig. 2. Probabilities of dying from three groups of causes for males and females, by age group and region, 1990. (EME, Established Market Economies; FSE, Former Socialist Economies; CHN, China; LAC, Latin America and Caribbean; OAI, Other Asia and Islands; MEC, Middle Eastern Crescent; IND, India; SSA, Sub-Saharan Africa).



computation of rates, this tabulation also gives the estimated populations at risk in 1990, by age and sex, for the two broad regions.

It is important to note, however, that there is substantial epidemiological diversity among both developed and developing countries. Some populations in Latin America and East Asia have patterns of mortality similar to those in industrialized countries and very different from those in other developing regions. Death rates are considerably higher in Eastern Europe than in other developed countries.

These differences are clear from Fig. 2 which shows the risks of dying for three age groups (0-14, 15-59, and 60-69 years) from the three broad groups of causes in each region.

On average, a newborn child in the Established Market Economies has only a 1% chance of dying before reaching adulthood (age 15 years), which is markedly lower than the 20-25% risk in Sub-Saharan Africa. Almost all of this excess mortality arises from Group I causes. The risk of childhood death is also comparatively low in China, with the probability

of dying being roughly similar for boys and girls. The only other region with a relatively small difference in survival chances between males and females is MEC; otherwise, male death rates are considerably higher than those for females and are due almost entirely to the higher death rates from Group I causes.

During adulthood (15–59 years) the risk of death in all regions is largely determined by the noncommunicable diseases, although Group I causes still contribute significantly in Sub-Saharan Africa and, to a lesser extent, in India. The risk of death from injuries is a major public health problem among males in all regions, but is particularly high (one-third of the overall risk) in FSE. Interestingly, the risk of death in adulthood (15–59 years) from noncommunicable diseases is higher for both men and women in all developing regions compared with the Established Market Economies, something which is not widely appreciated but is consistent with the pattern observed in the industrialized countries earlier this century. The excess is less marked for males, however, owing to the impact of tobacco (17). Smoking-related mortality is one of the principal factors underlying the comparatively high risk of death (18.5%) from noncommunicable diseases among adult males in Eastern Europe, typically accounting for about 40% of male deaths at these ages. At older ages (60 to 69 years), mortality is dominated by the noncommunicable diseases, although even at these ages a substantial risk of death from communicable diseases in Sub-Saharan Africa remains. At these ages, the comparative advantage in survival prob-

ability enjoyed by the EME countries is considerably less (the excess compared with SSA and IND being 1.5–2), which reflects the progressive convergence of mortality risks with advancing age.

Developed regions (11 million deaths)

Comparatively few deaths in developed countries are now due to communicable, maternal or perinatal causes (see Table 2). Of half a million such deaths, a quarter of a million involve respiratory infections in middle age or particularly old age, and should perhaps be considered together with the noncommunicable respiratory deaths. The remainder include perinatal conditions (90 000 deaths, virtually all occurring in the first few weeks of life), and HIV infection (40 000 deaths in 1990, but with substantial increases expected).

Where communicable diseases are rare, the large majority of the deaths are due to noncommunicable diseases: cardiovascular diseases alone cause 5.3 million deaths a year (half of them from ischaemic heart disease and a quarter from stroke), malignant neoplasms caused 2.4 million deaths (0.5 million from lung cancer, plus 0.25 million from other tobacco-related cancers, such as mouth, pharynx, oesophagus, pancreas and bladder), and the most important remaining category is respiratory disease, which causes 0.5 million deaths (chiefly from chronic obstructive pulmonary disease). The importance of diabetes is underestimated in these Tables, because it can also cause death indirectly, by increasing the incidence of heart disease and stroke.

Table 2: Distribution of deaths from three groups of causes, by region, 1990

Region ^a	No. of deaths (× 1000) attributed to:			
	I. Communicable, maternal and perinatal causes	II. Noncommunicable causes	III. Injuries	Total
EME	439 (6.2) ^b	6 238 (87.6)	445 (6.2)	7 121
FSE	136 (3.6)	3 264 (86.8)	362 (9.6)	3 762
CHN	1 343 (15.1)	6 519 (73.4)	1 023 (11.5)	8 885
LAC	966 (32.3)	1 733 (57.9)	293 (9.8)	2 992
OAI	2 306 (41.8)	2 736 (49.6)	477 (8.6)	5 519
MEC	2 026 (46.2)	1 966 (44.8)	392 (8.9)	4 384
IND	4 060 (43.3)	4 700 (50.2)	611 (6.5)	9 371
SSA	5 415 (68.2)	1 898 (23.9)	624 (7.9)	7 937
World	16 690 (33.4)	29 055 (58.1)	4 227 (8.5)	49 971

^a EME, Established Market Economies; FSE, Former Socialist Economies; CHN, China; LAC, Latin America and the Caribbean; OAI, Other Asia and Islands; MEC, Middle Eastern Crescent; IND, India; SSA, Sub-Saharan Africa.

^b Figures in parentheses are percentages.

Developing regions (39 million deaths)

Age 0–14 years (15 million deaths). At present, about 13 million children aged 0–4 years die each year in the developing regions, the three chief causes being conditions arising in the perinatal period, diarrhoea, and acute respiratory infections. Other leading causes include measles, malaria, tetanus and pertussis. There are about another 2.2 million deaths each year at ages 5–14 in the developing regions, of which 1.3 million involve communicable diseases (primarily the same ones that dominate the under-5 pattern, but with the notable addition of 150 000 deaths from tuberculosis). Injuries (most notably from drowning or motor vehicles) are a major cause of death throughout childhood, accounting for almost one million deaths a year.

Age 15–59 years (10 million deaths). One in 5 male deaths and, significantly, one in 3 female deaths, among adults are due to Group I conditions. Tuberculosis is a leading killer of young adults, claiming over 1.2 million lives each year, as are maternal causes, acute respiratory infections, HIV infection, malaria, diarrhoeal diseases, and syphilis. Significantly, the noncommunicable diseases dominate the cause of death structure, accounting for half of all deaths in this age group. The principal causes of premature adult mortality are similar for the developing and developed regions. In addition, several sites of cancer are major causes of adult death in developing countries, most notably liver cancer, oesophageal cancer and oropharyngeal cancer, with the mortality in each case being higher for males than females. Lung cancer is already a major cause of adult male mortality in developing countries. Pericarditis, endocarditis, myocarditis and cardiomyopathies, as well as rheumatic heart disease, are significant causes of death among adults.

Among the injuries, in addition to motor-vehicle accidents and drownings, occupational injuries claim the lives of about 86 000 male workers and some 27 000 female workers at ages 15–59 years. There is also a very substantial mortality among adults due to suicide (480 000 deaths, 45% of whom were women) and war (about 160 000 males and 70 000 females).

Comparative mortality is perhaps better assessed by examining the *risks* of death. The probability of adult death from selected causes, as well as broad groups of causes, is shown in Table 3. What is most striking about this Table is the comparatively poor survival chances of adult males in Eastern Europe. Almost 3 in 10 males reaching age 15 can expect to die before age 60, twice the level in the industrialized countries and higher than anywhere else in the world, except Sub-Saharan Africa. Much of this excess is attributable to higher mortality from inju-

ries, heart disease, stroke and lung cancer. The risk of female mortality varies from 7% in the industrialized countries to 31% in Sub-Saharan Africa. Among African men, the risk of death from tuberculosis is currently four times that from AIDS.

Age 60+ (14 million deaths). Only about 10% of deaths in old age are due to Group I causes, primarily tuberculosis and acute respiratory infections; the vast majority of deaths at older ages, as in developed countries, are from noncommunicable diseases. The leading causes of death are chronic diseases similar to those identified at earlier ages of adulthood; details of the numbers of deaths estimated in 1990 can be ascertained from the Annex.

Discussion

The estimates presented here agree reasonably well with those previously reported for specific diseases or groups of diseases. They do not agree exactly, however, and we believe it is important to emphasize why. More than 100 diseases and injuries have been analysed, substantially more than the one to five conditions which have generally been estimated in specific disease reviews. This fact alone will tend to lead to lower mortality estimates simply on the basis of competing causes. Unlike many previous discussions of specific causes of death, we have been constrained to make the cause-specific deaths by age and sex sum to the total mortality for each age and sex group. Awareness of competing causes of child mortality has naturally led over the past five years to estimates that are more consistent with each other. The same cannot be said of estimates of the adult causes of death which have not been compared with each other in a consistent fashion.

The approach followed in this analysis is to try to exploit all existing data sources, based on a prudent assessment of their completeness, reliability and relevance. Public health research has led to a very substantial amount of data from community surveys, registration systems and the like which can provide important insights into cause-of-death patterns. Vital registration, or sample vital registration, or surveillance systems (where complete registration is not feasible) will always be the method of choice to provide continuous mortality data, provided that the cause of death is reliably certified. The goal of adequate registration of vital events is still beyond the means of many developing countries; in the meantime, much can be learned from other sources including hospital-based data, partial registration, and community studies that inform public health priorities.

Neither the accuracy, nor the inaccuracy of the estimation procedures employed in this study should

Table 3: Probability of dying (in %) between ages 15 and 60 years for males (M) and females (F) from selected causes, by region, 1990^a

	Established Market Economies		Formerly Socialist Economies of Europe		China		Latin America and the Caribbean		Other Asia and Islands		Middle Eastern Crescent		India		Sub-Saharan Africa	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
	All causes	14.67	7.35	28.09	11.24	20.11	14.97	22.82	16.35	24.28	17.71	22.09	16.64	27.21	22.88	38.04
Group I	0.88	0.26	0.98	0.35	2.15	1.64	4.28	4.02	5.48	5.07	3.50	3.71	7.10	6.77	14.97	16.28
Tuberculosis	— ^b	—	0.54	—	1.45	0.98	2.02	1.15	4.18	2.31	2.75	1.64	4.37	2.33	7.98	5.10
HIV infection	0.57	0.10	—	—	—	—	0.67	0.13	—	—	—	—	—	—	2.04	2.30
Diarrhoeal diseases	—	—	—	—	—	—	0.16	0.28	0.25	0.28	0.26	0.32	0.45	0.44	0.29	0.34
Malaria	—	—	—	—	—	—	0.11	0.12	0.38	0.42	—	—	0.14	0.14	0.97	1.14
Respiratory infections	0.19	0.10	0.33	0.11	0.11	—	0.50	0.62	0.45	0.49	0.27	0.33	0.79	0.80	0.71	0.84
Maternal conditions	—	—	—	—	—	0.31	—	0.68	—	1.30	—	1.11	—	2.03	—	3.64
Group II	10.38	6.04	18.50	9.09	13.91	10.50	12.81	11.18	12.93	11.41	12.84	11.10	16.37	13.73	13.32	13.47
Stomach cancer	0.33	0.18	0.95	0.43	1.06	0.58	0.35	0.18	0.39	0.22	0.36	0.23	0.37	0.21	0.30	0.31
Colorectal cancer	0.37	0.28	0.39	0.35	0.25	0.23	0.16	0.17	0.12	0.14	0.11	0.11	0.12	—	—	—
Liver cancer	0.16	—	—	—	1.81	0.59	—	—	0.66	0.20	0.15	0.10	0.14	—	0.79	0.35
Lung cancer	1.14	0.40	2.14	0.25	0.65	0.34	0.35	0.10	0.59	0.20	0.72	0.17	0.38	—	0.24	0.10
Diabetes mellitus	0.20	0.14	0.15	0.15	0.14	0.17	0.54	0.72	0.37	0.57	0.60	0.83	0.49	0.65	0.13	0.24
Rheumatic heart disease	—	—	0.30	0.33	0.39	0.64	—	0.14	0.11	0.32	0.15	0.39	0.35	0.86	0.33	0.94
Ischaemic heart disease	2.19	0.56	5.34	1.33	0.87	0.45	2.04	1.06	2.68	1.33	1.95	0.82	2.61	1.09	0.81	0.40
Cerebrovascular disease	0.63	0.42	1.93	1.29	2.06	1.75	1.52	1.46	0.96	1.23	1.41	1.50	1.08	1.32	1.73	2.16
Inflammatory cardiac diseases	0.22	0.08	0.29	0.11	0.20	0.17	1.09	0.77	0.75	0.58	1.03	0.69	2.31	1.48	2.21	1.60
Chronic obstructive lung disease	0.18	0.10	0.52	0.15	1.22	0.98	0.31	0.23	0.23	0.24	0.30	0.25	0.36	0.36	0.26	0.33
Asthma	—	—	0.12	—	—	—	0.10	0.12	—	0.12	—	0.12	0.11	0.18	—	0.16
Cirrhosis of the liver	0.71	0.26	0.45	0.16	1.00	0.47	1.38	0.43	1.17	0.50	0.70	0.36	1.42	0.58	1.30	0.64
Group III	3.41	1.04	8.60	1.80	4.06	2.82	5.73	1.15	5.86	1.23	5.74	1.84	3.75	2.38	9.75	2.41
Road traffic accidents	1.19	0.39	2.25	0.45	0.85	0.32	1.60	0.37	1.61	0.29	1.14	0.26	1.05	0.22	2.06	0.27
Suicide	1.00	0.35	1.89	0.42	1.27	1.65	0.37	0.12	1.21	0.35	0.88	0.32	0.58	0.50	1.52	0.34
Homicide and violence	0.34	0.10	0.75	0.23	0.23	0.10	1.47	0.13	0.66	0.10	0.46	—	0.20	—	0.87	0.10
War	—	—	—	—	—	—	0.22	—	—	—	1.61	0.73	—	—	2.47	1.23

^a Probabilities have been estimated using the formula $1 - e^{-(15 M_{15} + 15 M_{15} + 15 M_{15} + 15 M_{15})}$ where xM_y is the death rate from y to age $y + x$. Cause-specific risks are adjusted to sum to total mortality risk.

^b Dash (—) equals less than 0.1 percent.

be exaggerated. Vital registration is likely to provide a good and, in many cases, a very good basis for determining the causes of death. Nevertheless, even these returns are often faulty, suffering from poor medical certification practices, diagnostic biases, sociocultural influences and so on. In the absence of vital registration, well-focused, well-maintained disease surveillance systems in defined populations can be expected to yield good epidemiological data on the causes of death. Their utility, as for vital registration, depend clearly on good coverage of events, reliable certification, and internationally comparable diagnostic procedures. Lay-reporting systems are likely to be only of use for determining broad cause-of-death categories, but even these "real" data may be preferable to indirect estimates from models of the mortality transition. Such models, as used in this study, are predicated on the average experience of the more developed countries at earlier stages of epidemiological transition and thus inherently assume the same cause-level relationships for contemporary developing countries. This is clearly highly contentious and we have therefore tried to adjust the model-based estimates, wherever possible, using direct epidemiological evidence. In some cases (such as for cancer), we have preferred to use the indirect estimates of mortality, suggested by the models, rather than estimates based on cancer incidence because the level of underreporting by registries in some areas (e.g., India) seemed to us to be sufficiently high to invalidate this approach.

Communicable, maternal and perinatal causes remain an important unfinished agenda in the developing world, much more so in Sub-Saharan Africa, India, the Middle-Eastern Crescent, and Other Asia and Islands. Some causes of mortality are now well recognized but still remain major public health challenges including acute respiratory infections, diarrhoeal diseases, measles, tetanus, HIV infection, malaria, and maternal causes. Other Group I causes such as syphilis, meningitis, and especially tuberculosis are underappreciated as causes of mortality. Models of the epidemiological transition imply a steady decline in communicable, maternal and perinatal mortality through time. It would be foolhardy, however, to take such a complacent attitude towards Group I mortality in light of their continued high levels in many parts of the world and increasing trends for some diseases, e.g., HIV infection and possibly malaria.

While recognizing the need for continued vigilance over communicable, maternal and perinatal mortality, it is important to realize that globally the noncommunicable diseases have already emerged as the leading causes of death in developing regions. Even in poor countries, the epidemiological transi-

tion is under way with profound implications on the demand for health care to address the burden of chronic diseases. Moreover, with a number of cost-effective interventions targeted to communicable disease mortality in children, it is reasonable to expect the proportion of mortality due to noncommunicable diseases to increase. At present, the *risk* of death from noncommunicable diseases during adulthood (15–60 years) is considerably higher in the developing world than in the Established Market Economies, suggesting that the future, in effect, has already arrived.

This article does not provide information on the time trend in noncommunicable diseases. The historical, statistical returns for developed countries and data for those developing countries with long series of vital registration data suggest that age-specific rates of noncommunicable diseases have declined throughout most of this century. Specific trends in noncommunicable diseases as well as the overall trend are hard to predict, as most of our causal models do not explain the sustained decline observed over the past century. While this decline is likely to continue, behavioural change in many developing regions may slow or alter this trend. Something like 50–60% of adult males in developing countries are regular smokers, and on current trends an epidemic of smoking-related mortality is inevitable (18). As a consequence, increases in lung cancer, other cancers causally related to smoking, chronic lung diseases, and cardiovascular diseases may be expected.

The estimates reported here are the result of applying several different approaches, analysing numerous data sources (some of which were not previously available), and making a large number of decisions about the relative validity of one estimate versus another. We hope that by publishing these estimates, despite their imprecision, we will encourage not only the further development of methods and data sources to improve on them, but also provide a reference to guide policy in assessing the major public health issues contributing to the disease burden at the end of this twentieth century. We have emphasized the importance of developing a baseline estimate of the cause-of-death pattern in all age groups in developing and developed regions for the purposes of planning, managing and evaluating health sector investments. Equally important for a comprehensive assessment of population health status are non-fatal health outcomes, which have not been addressed here. Mortality data, despite their limitations, are more widely available than comparable information for morbidity or disability; hence the estimation of cause-of-death patterns, despite the substantial uncertainty involved, is more reliably informed by empirical data. Nevertheless, there is

clearly an urgent need for comprehensive and comparable data on non-fatal health outcomes. The broader issue of measuring both mortality and disability is addressed by the Global Burden of Disease study which provides a new integrative framework for assessing and monitoring the health of populations (19–21).

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Résumé

Répartition mondiale et régionale des causes de décès en 1990

Depuis longtemps, les renseignements sur les causes de décès sont la base statistique utilisée pour faciliter la détermination des priorités de

santé et surveiller l'efficacité des interventions. Les données fiables sur les causes de décès sont toutefois loin d'être largement disponibles. Le présent article donne pour la première fois des estimations mondiales et régionales complètes des causes de décès pour les huit régions du monde définies par la Banque mondiale dans son *Rapport sur le développement dans le monde de 1993*, séparément pour les hommes et pour les femmes et pour plus de 100 causes de décès. Ces estimations ont été établies pour les classes d'âge suivantes: 0–4, 5–14, 15–44, 45–59, 60–69 et 70 ans et plus. Les tentatives antérieures pour donner des estimations mondiales et régionales des causes de décès se sont limitées à une seule cause de décès, tout au plus à quelques-unes, et à une tranche d'âge particulière (en général, le nourrisson et le jeune enfant), ou bien ont donné des estimations pour des catégories de causes de décès très larges, d'une utilité douteuse pour définir le besoin en stratégies d'intervention de santé ciblées.

Plusieurs sources de données ont été utilisées pour procéder aux estimations. L'enregistrement des statistiques de vie, soit pour la population entière d'un pays (lorsque ces données existent), soit pour un échantillon de sites d'enregistrement, a été utilisé lorsqu'il était disponible, en ajustant sur la sous-déclaration et les erreurs de déclaration de la cause initiale de décès. Pour les populations pour lesquelles ces données n'existaient pas, on a mis au point des modèles de relation niveau-cause de décès, d'après ce que l'on sait dans les pays où les données sur les causes de décès sont fiables depuis une quarantaine d'années. Ces modèles ont fourni une estimation préliminaire de la structure des causes de décès, qui a par la suite été révisée en s'appuyant sur des études au niveau de la communauté et les statistiques hospitalières. Les modèles (établis en prenant \pm un écart type de la constante de régression) ont également produit un algorithme statistique servant à déterminer les limites de plausibilité des estimations.

D'après ces méthodes, les maladies non transmissibles, et principalement les maladies cardio-vasculaires, les cancers et les pneumopathies chroniques, sont les premières causes de décès dans le monde et sont maintenant devenues des causes majeures de décès dans les pays en développement. Ainsi, en 1990, d'après nos estimations, 14,3 millions de personnes sont décédées de maladies cardio-vasculaires (5,1 millions de cardiopathie ischémique, 4,6 millions d'accident cérébro-vasculaire) et 6,1 millions des suites d'un cancer (dont près d'un million d'un cancer du

poumon). Si la *proportion* de décès par maladie chronique majeure est plus faible dans les pays en développement que dans les régions développées, les *risques* de décès sont supérieurs pour de nombreuses causes, en particulier chez les hommes. Il apparaît donc qu'il est urgent d'intervenir contre les maladies non transmissibles, et en particulier contre les habitudes nuisibles pour la santé sous-jacentes à leur étiologie, et ce quel que soit le niveau de développement sanitaire des pays, mais plus encore dans les pays en développement, qui comme la Chine ont fait des progrès considérables dans la lutte contre les maladies infectieuses.

Il reste toutefois que la liste est encore longue des mesures à prendre pour diminuer considérablement la mortalité prématurée par les maladies infectieuses majeures; en effet, dans leur ensemble, ces maladies tuent environ 16,7 millions de personnes chaque année qui, à un demi-million près, vivent toutes dans des pays en développement. Les premières causes de décès en 1990 par cette catégorie de maladie sont notamment les infections respiratoires aiguës (4,3 millions de décès), les maladies diarrhéiques (2,9 millions), les causes périnatales (2,5 millions), la tuberculose (2,0 millions), la rougeole et le paludisme (près d'1 million de décès pour chacune de ces maladies). Les traumatismes (intentionnels ou autres) sont des causes très importantes de décès à tous les niveaux de développement sanitaire, le nombre résultant de décès étant estimé à 4,3 millions en 1990, dont 850 000 par accident de la route, 800 000 par suicide, 380 000 par noyade et 300 000 par homicide et faits de guerre.

Ces estimations devraient être périodiquement remises à jour au fur et à mesure que des données plus récentes et plus fiables seront disponibles. Elles devraient fournir en attendant une base d'information utile permettant de fixer des priorités sanitaires dans le monde.

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Annex

Estimated deaths (in thousands) by age, sex and cause, 1990: Developed Regions

Cause of Death (ICD 9)	No. of deaths (in thousands)																
	Males						Females										
	Both sexes	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages
Population (in millions)	1,144.0	40.1	80.7	130.0	130.4	93.1	48.4	33.1	555.8	38.2	77.1	125.0	129.2	97.8	60.7	60.3	588.2
All Causes	10,883.1	123.1	28.7	190.6	357.5	886.9	1,181.8	2,782.1	5,550.6	90.5	17.1	61.8	143.0	422.9	767.1	3,830.2	5,332.5
<i>I. Communicable, maternal & perinatal</i>	574.7	73.3	1.5	9.9	32.1	30.9	29.3	138.7	315.8	52.0	1.3	4.8	8.3	9.2	16.0	167.1	258.9
A. Infectious & parasitic	153.0	8.6	-	8.1	27.4	20.0	12.2	23.5	100.4	6.5	-	2.2	4.7	4.8	6.6	27.2	52.7
A1. Tuberculosis	37.5	-	-	1.0	5.4	8.9	6.0	7.6	29.0	-	-	-	-	1.3	1.8	4.4	8.5
A2. Syphilis	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A3. HIV	42.8	1.1	-	5.6	18.4	8.7	-	1.2	35.6	1.1	-	1.5	3.3	-	-	-	7.2
A4. Diarrhoeal diseases	6.9	2.1	-	-	-	-	-	3.4	1.8	-	-	-	-	-	-	1.4	3.5
a. Acute watery	6.6	2.0	-	-	-	-	-	3.2	1.7	-	-	-	-	-	-	1.3	3.4
b. Persistent	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
c. Dysentery	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A5. Pertussis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A6. Measles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A7. Tetanus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A8. Meningitis	10.1	2.6	-	-	-	-	-	-	5.8	1.8	-	-	-	-	-	-	4.3
A9. Malaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A10. Trypanosomiasis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A11. Chagas disease	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A12. Schistosomiasis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A13. Leishmaniasis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A14. Onchocerciasis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B. Respiratory infections	330.0	12.4	-	1.8	4.7	11.0	17.1	115.3	163.1	9.3	-	1.2	2.1	4.3	9.4	139.9	166.9
C. Maternal causes	3.0	-	-	-	-	-	-	-	-	-	-	1.5	1.5	-	-	-	3.0
C1. Haemorrhage	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C2. Sepsis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C3. Eclampsia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C4. Hypertension	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C5. Obstructed labour	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C6. Abortion	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1
D. Perinatal causes	88.7	52.3	-	-	-	-	-	-	52.4	36.2	-	-	-	-	-	-	36.3
<i>III. Injuries</i>	806.6	12.5	16.3	139.1	149.8	122.0	55.9	75.8	571.4	8.4	7.3	30.7	33.4	36.1	27.6	91.9	235.2
A. Unintentional	557.7	11.8	14.8	95.3	93.4	79.1	37.1	55.4	386.8	7.7	6.5	20.5	18.8	21.3	18.0	78.2	170.9
A1. Road traffic accidents	218.8	2.3	6.2	60.2	39.4	26.9	13.0	14.4	162.3	1.5	3.4	14.6	9.4	8.7	6.9	12.0	56.5
A2. Poisoning	55.8	-	-	5.4	15.2	14.1	3.9	1.9	41.9	-	-	1.5	3.0	3.9	2.0	2.5	13.9
A3. Falls	96.7	-	-	3.3	6.0	7.8	5.8	21.2	45.2	-	-	-	-	1.8	3.1	44.5	51.4
A4. Fires	17.9	1.1	-	1.4	2.3	2.3	1.3	2.1	11.0	-	-	-	-	-	-	2.7	6.9
A5. Drowning	35.6	2.0	3.4	7.2	7.4	4.9	2.0	1.8	28.7	-	1.0	-	-	-	-	1.8	6.9
A6. Occupational	21.9	-	-	2.9	8.8	6.7	-	-	18.8	-	-	-	1.4	1.2	-	-	3.1
B. Intentional	248.9	-	1.5	43.8	56.4	43.0	18.8	20.4	184.6	-	-	10.2	14.6	14.8	9.6	13.7	64.3
B1. Self-inflicted	189.5	-	-	27.7	40.2	35.8	16.7	19.1	140.4	-	-	6.4	9.9	12.1	8.4	12.1	49.1
B2. Homicide and violence	59.3	-	-	16.1	16.1	7.1	2.1	1.3	44.1	-	-	3.8	4.6	2.7	1.3	1.6	15.2
B3. War	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

A dash (-) indicates less than 1000 deaths.

Estimated deaths (in thousands) by age, sex and cause, 1990: Developed Regions

Cause of Death (ICD 9)	No. of deaths (in thousands)																
	Both sexes		Males					Females					All ages				
	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages	0-4	5-14	15-29	30-44		45-59	60-69	70+	All ages
<i>II. Noncommunicable</i>	9,501.8	37.3	10.9	41.6	175.5	733.9	1,096.6	2,567.6	4,663.4	30.1	8.5	26.3	101.3	377.6	723.4	3,571.2	4,838.4
A. Malignant neoplasms	2,430.8	2.3	4.3	12.3	50.2	279.7	401.8	603.4	1,353.9	1.8	3.1	9.2	51.9	181.2	263.7	565.9	1,076.8
A1. Mouth and oropharynx	50.5	-	-	-	2.8	14.9	11.8	9.6	39.3	-	-	-	-	2.1	2.7	5.8	11.2
A2. Oesophagus	57.7	-	-	-	1.3	12.3	14.5	15.2	43.3	-	-	-	-	1.7	3.2	9.2	14.3
A3. Stomach	244.0	-	-	-	5.6	32.0	42.3	63.0	143.4	-	-	-	4.2	13.7	22.4	59.8	100.6
A4. Colorectal	280.4	-	-	-	4.0	22.5	37.9	71.2	136.1	-	-	-	3.6	17.7	31.6	91.2	144.3
A5. Liver	43.9	-	-	-	7.7	11.1	10.5	30.5	50.5	-	-	-	1.7	3.9	7.5	13.4	20.6
A6. Pancreas	96.3	-	-	-	1.5	9.1	14.8	23.5	49.1	-	-	-	3.4	21.2	38.7	60.8	124.4
A7. Lung	526.4	-	-	-	9.8	93.8	140.2	157.8	402.1	-	-	-	15.5	45.8	43.7	69.3	174.9
A8. Breast	174.9	-	-	-	-	-	-	-	-	-	-	4.6	7.7	8.0	10.7	31.5	55.7
A9. Cervix	31.5	-	-	-	-	-	-	-	-	-	-	2.7	12.6	16.2	23.7	55.7	55.7
A10. Ovary	55.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A11. Prostate	107.7	-	-	-	-	4.3	19.6	83.6	107.7	-	-	-	-	-	-	-	-
A12. Bladder	70.8	-	-	-	-	6.9	13.4	29.6	50.9	-	-	-	1.8	4.1	13.7	20.0	20.0
A13. Lymphoma	96.2	-	-	2.2	4.2	9.8	12.9	21.2	51.0	-	1.2	2.2	2.2	5.9	10.4	25.0	45.1
A14. Leukemia	76.7	-	1.7	2.9	3.3	6.5	9.3	17.4	41.8	-	1.2	1.7	2.6	4.9	6.8	17.2	34.9
B. Diabetes mellitus	176.5	-	-	-	3.2	9.7	16.5	38.5	68.7	-	-	-	1.8	7.7	20.9	76.6	107.8
C. Nutritional/endocrine	73.6	1.4	-	1.2	1.6	3.7	5.8	17.4	31.7	1.2	-	1.3	1.3	3.3	5.1	29.0	41.9
C1. Protein-energy malnutrition	6.3	-	-	-	-	-	-	1.8	2.3	-	-	-	-	-	-	3.6	4.0
C2. Anaemia	16.7	-	-	-	-	-	-	4.5	7.1	-	-	-	-	-	1.0	7.2	9.7
D. Neuro-psychiatric	232.1	2.3	1.8	7.2	12.6	17.8	16.3	55.3	113.3	1.9	1.4	3.3	5.4	8.8	11.7	86.5	118.8
D1. Psychoses	15.7	-	-	-	-	1.1	1.0	3.8	6.8	-	-	-	-	-	7.4	8.9	8.9
D2. Epilepsy	12.7	-	-	1.5	2.3	1.8	-	-	7.8	-	-	-	1.0	-	-	1.0	4.9
D3. Alcohol dependence	21.8	-	-	-	4.1	7.6	3.7	1.8	17.6	-	-	-	-	1.7	-	-	4.2
D4. Alzheimer & other dementias	94.8	-	-	-	2.4	5.2	26.6	36.0	50.0	-	-	-	-	1.7	4.8	50.9	58.7
D5. Parkinson disease	30.2	-	-	-	-	1.6	13.6	15.5	20.0	-	-	-	-	-	1.1	13.4	14.7
D6. Multiple sclerosis	8.4	-	-	-	-	1.2	-	-	3.4	-	-	-	-	1.1	1.7	1.2	5.0
E. Cardiovascular diseases	5,328.0	2.2	1.0	11.1	74.4	318.8	510.3	1,483.0	2,400.7	1.9	-	5.3	24.0	125.9	333.9	2,435.6	2,927.3
E1. Rheumatic diseases	45.7	-	-	-	2.4	5.6	4.0	3.9	16.6	-	-	-	1.8	7.5	8.0	11.4	29.1
E2. Ischaemic heart disease	2,678.0	-	-	2.4	38.7	190.7	298.8	752.7	1,283.4	-	-	-	6.0	49.9	163.3	1,174.9	1,394.6
E3. Cerebrovascular diseases	1,447.9	-	-	2.3	12.8	61.1	109.5	379.0	565.4	-	-	1.5	7.6	40.6	100.8	731.5	882.5
E4. Inflammatory cardiac diseases	135.7	-	-	1.8	5.3	11.4	14.3	37.2	70.7	-	-	-	1.8	4.4	7.8	49.6	64.9
F. Respiratory	508.7	1.0	-	2.0	5.0	30.5	67.1	202.6	308.0	-	-	1.4	2.8	12.7	31.4	150.6	199.9
F1. Chronic obstructive lung disease	358.3	-	-	-	1.1	18.9	50.7	157.0	228.7	-	-	-	-	7.5	22.9	99.1	130.2
F2. Asthma	34.1	-	-	-	1.3	3.3	3.6	7.3	16.6	-	-	-	1.1	2.3	3.2	10.2	17.6
G. Digestive	427.2	1.7	-	2.7	21.5	58.3	56.8	91.1	232.5	1.1	-	1.5	7.8	23.7	34.7	125.5	194.7
G1. Peptic ulcer disease	46.3	-	-	-	1.6	5.0	5.9	13.6	26.3	-	-	-	1.2	2.7	15.7	20.0	20.0
G2. Cirrhosis	146.3	-	-	-	12.1	33.8	28.1	22.6	97.4	-	-	-	4.2	11.9	13.5	18.8	48.8
H. Genito-urinary	168.9	-	-	1.3	3.5	8.7	13.8	55.9	83.7	-	-	-	2.5	7.2	12.3	61.7	85.1
H1. Nephritis/nephrosis	99.8	-	-	-	2.6	5.9	8.3	30.9	49.2	-	-	-	1.5	4.1	7.2	36.8	50.6
I. Musculo-skeletal	37.2	-	-	-	-	1.3	2.0	6.0	10.4	-	-	-	1.2	2.7	4.1	17.9	26.7
J. Congenital	60.8	25.3	1.6	2.0	1.3	1.1	-	1.0	33.1	20.7	1.4	1.4	-	1.1	-	1.3	27.7

A dash (-) indicates less than 1000 deaths.

Estimated deaths (in thousands) by age, sex and cause, 1990: Developing Regions

Cause of Death (ICD 9)	No. of deaths (in thousands)																
	Males						Females										
	Both sexes	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages
Population (in millions)	4,123.4	281.2	470.5	605.9	383.7	219.3	88.4	48.9	2,097.9	271.1	448.4	577.7	366.8	213.3	90.2	58.0	2,025.5
All Causes	39,088.0	6,485.0	1,160.0	1,400.0	1,564.0	2,615.0	2,963.0	4,670.0	20,857.0	5,958.0	1,060.0	1,221.0	1,188.0	1,841.0	2,211.0	4,752.0	18,231.0
<i>I. Communicable, maternal & perinatal</i>	16,115.0	5,538.6	632.7	413.5	385.4	510.0	386.9	472.3	8,339.4	5,038.1	648.4	643.3	490.0	294.3	246.4	415.1	7,775.6
<i>A. Infectious & parasitic</i>	9,301.1	2,814.0	512.7	373.3	358.5	471.2	239.8	223.0	4,992.5	2,650.6	512.4	359.2	293.7	248.3	115.4	129.0	4,308.6
A1. Tuberculosis	1,978.0	34.3	66.8	165.7	217.3	369.1	193.9	173.7	1,220.8	37.3	84.6	160.6	152.4	164.4	79.2	78.7	757.2
A2. Syphilis	192.3	40.5	-	35.9	19.7	5.1	-	-	102.6	36.7	-	28.0	19.5	4.5	-	-	89.7
A3. HIV	248.0	29.1	4.7	53.8	29.1	8.9	2.8	1.4	129.9	26.7	4.9	48.0	31.1	5.5	1.2	-	118.2
A4. Diarrhoeal diseases	2,865.8	1,262.8	102.7	27.4	19.6	14.5	9.5	17.4	1,453.9	1,211.4	107.8	27.8	21.8	15.5	6.8	20.7	1,411.8
a. Acute watery	1,546.7	634.7	78.0	21.8	15.8	11.2	7.6	14.0	1,474.5	609.1	81.7	22.0	17.6	11.9	5.3	16.0	763.6
b. Persistent	871.3	439.2	4.9	-	-	-	-	-	444.1	421.1	5.2	-	-	-	-	-	427.2
c. Dysentery	447.8	188.9	19.8	5.6	3.8	3.4	1.9	3.4	226.8	181.1	20.9	5.8	4.2	3.6	1.4	4.0	221.0
A5. Pertussis	321.1	145.8	21.9	-	-	-	-	-	167.7	131.4	22.0	-	-	-	-	-	153.4
A6. Measles	1,006.2	441.8	69.2	-	-	-	-	-	511.1	420.7	73.9	-	-	-	-	-	495.0
A7. Tetanus	504.6	231.6	13.9	2.9	2.2	3.8	2.3	1.7	258.4	218.6	14.1	2.9	2.4	4.2	2.1	1.9	248.2
A8. Meningitis	231.7	70.5	50.0	8.8	4.2	4.9	3.0	1.5	143.1	50.1	17.8	10.1	4.8	2.4	2.2	1.3	88.6
A9. Malaria	926.3	331.5	75.7	32.5	19.1	10.2	3.6	1.9	474.5	300.5	77.0	33.2	23.7	11.3	3.9	2.3	451.9
A10. Trypanosomiasis	55.1	1.5	10.2	7.1	3.6	4.8	-	-	28.2	2.7	9.1	6.8	4.4	3.2	-	-	26.8
A11. Chagas disease	23.1	-	-	-	2.7	3.4	2.3	2.2	11.5	-	-	1.1	3.2	3.6	1.9	1.8	11.6
A12. Schistosomiasis	37.6	4.1	4.7	4.6	9.1	2.5	1.8	-	23.8	-	2.0	2.5	1.6	6.6	-	-	13.8
A13. Leishmaniasis	53.7	4.1	13.0	7.0	4.6	1.2	-	-	30.2	3.1	11.4	4.6	3.1	1.1	-	-	23.5
A14. Onchocerciasis	29.8	-	-	2.7	1.4	6.1	4.8	2.4	17.4	-	-	1.9	1.2	4.6	3.1	1.7	12.4
B. Respiratory infections	3,984.4	1,371.2	119.9	40.2	26.9	38.9	147.1	249.3	1,993.5	1,339.1	123.6	42.0	30.1	38.9	131.1	286.1	1,990.9
C. Maternal causes	427.7	-	-	-	-	-	-	-	-	-	12.4	242.1	166.1	7.1	-	-	427.7
C1. Haemorrhage	129.5	-	-	-	-	-	-	-	-	-	3.6	73.7	49.7	2.4	-	-	129.5
C2. Sepsis	79.1	-	-	-	-	-	-	-	-	-	2.5	44.2	31.3	1.2	-	-	79.1
C3. Eclampsia	44.5	-	-	-	-	-	-	-	-	-	1.3	25.4	17.1	-	-	-	44.5
C4. Hypertension	31.4	-	-	-	-	-	-	-	-	-	1.7	17.4	12.6	-	-	-	31.4
C5. Obstructed labour	40.4	-	-	-	-	-	-	-	-	-	1.2	22.6	16.0	-	-	-	40.4
C6. Abortion	60.2	-	-	-	-	-	-	-	-	-	1.8	34.6	22.9	-	-	-	60.2
D. Perinatal causes	2,401.8	1,353.3	-	-	-	-	-	-	1,353.4	1,048.4	-	-	-	-	-	-	1,048.5
<i>III. Injuries</i>	3,420.1	253.9	256.9	716.8	508.1	267.2	124.6	136.0	2,263.6	233.4	149.9	292.4	165.9	113.7	69.2	132.0	1,156.5
A. Unintentional	2,236.7	216.8	222.7	415.1	299.6	183.6	81.3	94.9	1,514.0	192.2	127.0	129.8	77.5	64.8	40.7	90.7	722.7
A1. Road traffic accidents	637.0	27.7	55.0	167.0	123.6	63.7	26.2	21.6	484.7	22.2	35.4	33.4	21.1	18.8	10.0	11.3	152.2
A2. Poisoning	131.8	12.6	5.3	17.2	21.8	17.8	5.8	6.8	87.3	6.5	5.2	11.8	8.1	3.9	3.5	5.4	44.5
A3. Falls	168.2	10.3	7.9	19.2	15.4	15.9	10.5	18.5	97.7	11.9	4.4	2.6	2.5	6.6	8.5	34.0	70.4
A4. Fires	82.5	17.9	5.5	6.0	5.3	3.6	1.9	6.6	46.7	12.4	7.8	3.9	2.1	1.9	2.0	5.7	35.7
A5. Drowning	348.5	58.6	66.2	57.3	22.3	12.5	5.5	7.7	230.1	47.8	30.1	17.2	6.9	5.5	3.6	7.2	118.3
A6. Occupational	115.3	-	-	23.7	42.3	20.3	1.4	-	87.8	-	-	7.3	13.2	6.4	-	-	27.5
B. Intentional	1,183.4	37.2	34.2	301.7	208.5	83.6	43.3	41.0	749.6	41.2	22.9	162.7	88.4	48.9	28.6	41.3	433.9
B1. Self-inflicted	628.6	-	11.2	121.5	98.4	57.1	34.3	36.6	359.2	-	8.1	112.1	54.5	36.3	22.6	35.9	269.4
B2. Homicide and violence	233.1	10.6	6.9	83.8	53.5	18.6	5.5	2.7	181.6	14.6	4.3	11.3	10.3	4.8	2.7	3.5	51.5
B3. War	321.8	26.5	16.1	96.4	56.6	7.8	3.5	1.7	208.8	26.6	10.5	39.3	23.6	7.8	3.2	1.9	113.0

A dash (-) indicates less than 1000 deaths.

Estimated deaths (in thousands) by age, sex and cause, 1990: Developing Regions

Cause of Death (ICD 9)	No. of deaths (in thousands)																
	Males						Females										
	Both sexes	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages
<i>II. Noncommunicable</i>	19 552.8	692.5	270.4	269.7	670.5	1 837.8	2 451.4	4 061.7	10 254.0	686.5	261.7	285.2	532.1	1 433.0	1 895.3	4 204.9	9 298.8
A. Malignant neoplasms	3 697.9	16.2	51.0	56.4	145.6	547.0	672.5	678.0	2 166.7	26.9	13.4	47.9	161.7	420.0	402.0	459.3	1 531.3
A1. Mouth and oropharynx	315.2	-	1.0	4.5	12.0	31.0	80.4	82.1	211.4	-	-	2.6	8.4	16.7	37.1	38.2	103.8
A2. Oesophagus	331.8	-	1.7	8.5	56.4	76.6	220.3	76.6	220.3	-	-	1.3	3.6	25.8	40.9	39.9	111.5
A3. Stomach	522.1	-	-	3.4	14.0	88.7	117.4	113.4	337.3	-	-	3.5	14.0	42.4	56.1	68.6	184.8
A4. Colorectal	215.0	-	-	3.8	7.8	20.3	39.2	44.6	116.0	-	-	2.0	7.7	17.9	32.8	38.2	99.0
A5. Liver	419.5	-	1.7	7.3	45.3	106.7	77.7	60.2	299.3	-	-	2.2	13.6	33.9	32.7	36.8	120.2
A6. Pancreas	72.5	-	-	-	1.7	10.4	14.7	16.3	44.0	-	-	-	1.1	6.1	9.6	11.3	28.5
A7. Lung	440.5	-	-	3.9	7.8	81.3	117.2	117.7	329.0	-	-	1.2	4.2	26.6	34.5	44.8	111.4
A8. Breast	157.6	-	-	-	-	-	-	-	-	-	-	5.7	26.2	56.9	32.0	36.7	157.6
A9. Cervix	183.4	-	-	-	-	-	-	-	-	-	-	6.1	24.3	72.6	39.0	41.1	183.4
A10. Ovary	50.7	-	-	-	-	-	-	-	-	-	-	3.0	9.9	15.2	10.2	11.4	50.7
A11. Prostate	104.8	-	-	-	-	9.0	44.2	51.0	104.8	-	-	-	-	-	-	-	-
A12. Bladder	79.6	-	-	-	1.5	10.8	22.6	25.7	61.4	-	-	-	1.0	3.5	6.2	7.2	18.3
A13. Lymphoma	121.3	2.9	11.5	5.1	6.6	11.5	19.8	19.6	77.1	2.6	-	1.8	5.5	7.9	11.9	13.6	44.2
A14. Leukemia	142.7	6.3	17.5	10.1	11.1	9.6	11.6	12.4	78.6	9.6	5.4	8.6	11.9	8.8	9.2	10.7	64.1
B. Diabetes mellitus	483.1	-	-	7.7	10.4	47.8	76.0	56.0	198.4	-	-	8.3	8.7	66.6	113.9	86.3	284.7
C. Nutritional/endocrine	577.7	118.5	10.7	27.3	43.1	18.4	16.1	32.2	266.2	126.5	27.6	24.6	20.1	30.2	27.7	54.8	311.5
C1. Protein-energy malnutrition	206.6	65.8	5.9	2.1	2.3	2.5	2.7	10.4	91.8	82.0	5.6	2.1	1.3	1.6	5.0	17.2	114.8
C2. Anaemia	146.6	19.9	6.0	5.4	2.5	4.3	5.0	8.2	51.4	16.2	23.0	9.0	7.1	11.3	11.5	17.0	95.2
D. Neuro-psychiatric	599.8	36.1	71.5	37.0	48.4	54.1	37.4	60.2	344.5	37.5	48.9	32.1	24.2	21.9	24.8	65.9	255.3
D1. Psychoses	42.3	-	-	3.1	6.6	5.7	3.6	6.3	25.5	-	-	1.8	2.7	2.8	2.4	6.2	16.7
D2. Epilepsy	102.5	4.0	16.5	10.8	12.6	9.2	3.9	3.1	60.1	3.8	10.6	12.1	7.2	4.0	2.4	2.4	42.4
D3. Alcohol dependence	31.0	-	-	3.3	7.5	9.7	3.0	3.4	26.9	-	-	-	-	1.5	-	-	4.0
D4. Alzheimer & other dementias	99.8	5.3	6.2	1.3	2.6	6.9	8.6	19.1	50.0	6.7	3.6	1.6	1.5	3.2	6.6	26.7	49.8
D5. Parkinson disease	31.5	-	-	-	-	1.0	4.5	13.6	19.3	-	-	-	-	-	-	-	-
D6. Multiple sclerosis	24.8	-	-	-	-	2.8	4.0	2.4	1.6	11.4	-	-	4.0	3.7	2.6	1.9	13.4
E. Cardiovascular diseases	9 016.7	63.5	31.0	64.4	229.1	768.1	1 133.2	2 209.8	4 499.0	58.7	48.8	76.5	169.8	598.9	967.3	2 597.7	4 517.7
E1. Rheumatic diseases	440.2	-	2.2	11.5	15.6	32.0	34.9	49.8	146.7	1.9	4.0	14.0	26.0	72.7	84.8	90.2	293.5
E2. Ischaemic heart disease	2 469.0	1.8	1.1	9.2	62.1	253.8	368.6	653.5	1 350.1	-	-	6.1	22.6	115.8	250.8	722.3	1 118.9
E3. Cerebrovascular diseases	3 181.2	7.8	6.4	12.6	49.3	222.4	390.9	834.4	1 523.8	5.8	8.4	16.7	49.0	212.0	360.9	1 004.8	1 657.4
E4. Inflammatory cardiac disease	1 228.7	31.7	14.8	21.2	68.1	139.9	148.6	228.0	652.2	36.2	25.7	20.7	39.5	95.0	113.0	246.4	576.4
F. Respiratory	2 336.3	77.5	31.2	13.6	29.9	122.4	282.8	692.2	1 249.7	78.6	18.6	17.5	28.9	99.6	182.8	660.6	1 086.6
F1. Chronic obstructive lung disease	1 714.0	10.9	3.4	1.1	13.0	91.7	239.8	588.9	949.0	9.0	2.3	1.5	12.4	70.5	152.6	516.6	764.9
F2. Asthma	147.2	4.7	15.2	5.1	5.6	8.7	9.5	16.5	65.3	4.5	9.7	7.3	7.6	12.8	11.2	28.6	81.9
G. Digestive	1 415.7	87.4	20.3	29.2	130.8	217.1	161.8	178.7	825.3	106.2	25.5	27.9	67.3	118.7	96.2	148.5	590.4
G1. Peptic ulcer disease	194.3	-	1.4	5.0	17.7	33.5	27.1	36.1	121.7	1.2	-	5.3	9.9	15.9	12.2	27.4	72.6
G2. Cirrhosis	563.0	4.1	2.9	10.4	83.7	138.9	90.7	53.1	383.7	3.2	4.1	8.0	29.2	58.4	39.7	36.8	179.3
H. Genito-urinary	535.2	12.1	24.4	14.7	22.0	43.9	47.3	111.6	276.1	7.7	20.5	20.8	22.7	54.5	57.0	75.8	259.1
H1. Nephritis/nephrosis	327.3	5.7	22.3	13.3	17.4	32.6	31.2	54.2	176.7	4.4	19.0	13.9	16.4	27.2	31.0	38.8	150.6
I. Musculo-skeletal	105.9	-	2.6	1.8	1.3	3.8	10.0	21.6	41.5	1.2	3.1	5.7	7.0	8.8	9.5	29.1	64.4
J. Congenital	595.0	271.0	20.8	12.0	4.6	1.1	-	-	311.3	231.9	20.9	15.0	11.4	3.6	-	-	283.7

A dash (-) indicates less than 1000 deaths.

Estimated deaths (in thousands) by age, sex and cause, 1990: Established Market Economies

Cause of Death (ICD 9)	No. of deaths (in thousands)																								
	Both sexes							Males							Females										
	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages	
Population (in millions)	797.8	26.4	53.3	93.7	90.4	66.1	34.2	26.4	390.5	25.1	50.7	90.0	89.2	67.8	40.5	44.0	407.3	25.1	50.7	90.0	89.2	67.8	40.5	44.0	407.3
All Causes	7,121.2	60.2	13.8	113.9	186.6	467.6	741.9	2,075.5	3,659.3	45.3	8.8	39.3	87.3	243.7	447.7	2,589.8	3,461.9	45.3	8.8	39.3	87.3	243.7	447.7	2,589.8	3,461.9
<i>I. Communicable, maternal & perinatal</i>	438.8	34.9	-	7.7	24.4	17.3	20.6	127.2	232.6	25.2	-	2.6	5.4	6.1	12.2	154.3	206.3	25.2	-	2.6	5.4	6.1	12.2	154.3	206.3
A. Infectious & parasitic	111.0	2.7	-	6.7	21.7	11.2	7.6	20.6	70.7	2.1	-	1.5	3.6	3.2	4.9	24.7	40.3	2.1	-	1.5	3.6	3.2	4.9	24.7	40.3
A1. Tuberculosis	14.6	-	-	-	-	1.6	2.3	5.3	9.9	-	-	-	-	-	-	3.0	4.6	-	-	-	-	-	-	3.0	4.6
A2. Syphilis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A3. HIV	41.8	-	-	5.5	18.3	8.7	-	1.2	35.1	-	-	1.4	3.2	-	-	-	6.7	-	-	1.4	3.2	-	-	-	6.7
A4. Diarrhoeal diseases	2.7	-	-	-	-	-	-	-	1.2	-	-	-	-	-	-	1.3	1.6	-	-	-	-	-	-	1.3	1.6
a. Acute watery	2.6	-	-	-	-	-	-	-	1.1	-	-	-	-	-	-	1.2	1.5	-	-	-	-	-	-	1.2	1.5
b. Persistent	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
c. Dysentery	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A5. Pertussis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A6. Measles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A7. Tetanus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A8. Meningitis	4.8	-	-	-	-	-	-	-	2.6	-	-	-	-	-	-	-	2.2	-	-	-	-	-	-	-	2.2
A9. Malaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A10. Trypanosomiasis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A11. Chagas disease	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A12. Schistosomiasis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A13. Leishmaniasis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A14. Onchocerciasis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B. Respiratory infections	275.3	2.2	-	-	2.7	6.1	13.1	106.6	131.8	1.5	-	-	1.4	2.9	7.3	129.6	143.5	1.5	-	-	1.4	2.9	7.3	129.6	143.5
C. Maternal causes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C1. Haemorrhage	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C2. Sepsis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C3. Eclampsia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C4. Hypertension	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C5. Obstructed labour	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C6. Abortion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D. Perinatal causes	51.8	30.0	-	-	-	-	-	-	30.0	21.7	-	-	-	-	-	-	21.7	-	-	-	-	-	-	-	21.7
<i>III. Injuries</i>	444.8	5.9	7.1	80.3	65.5	51.6	31.0	56.8	298.3	4.0	3.5	20.4	19.0	18.2	15.3	66.2	146.5	4.0	3.5	20.4	19.0	18.2	15.3	66.2	146.5
A. Unintentional	301.9	5.3	6.3	53.2	36.9	30.3	20.1	42.3	194.3	3.5	3.0	13.6	9.9	9.6	9.8	58.1	107.6	3.5	3.0	13.6	9.9	9.6	9.8	58.1	107.6
A1. Road traffic accidents	131.4	1.4	3.4	38.3	19.0	13.2	7.8	10.9	94.0	1.0	1.9	10.9	6.1	5.1	4.3	8.1	37.4	1.0	1.9	10.9	6.1	5.1	4.3	8.1	37.4
A2. Poisoning	12.9	-	-	2.2	3.8	1.5	-	-	9.1	-	-	-	-	-	-	-	3.8	-	-	-	-	-	-	-	3.8
A3. Falls	69.1	-	-	1.6	2.7	4.3	3.8	17.2	30.1	-	-	-	-	1.1	2.0	35.0	39.0	-	-	-	-	-	-	-	39.0
A4. Fires	10.5	-	-	-	1.1	1.0	-	1.5	6.2	-	-	-	-	-	-	-	4.3	-	-	-	-	-	-	-	4.3
A5. Drowning	12.9	1.0	-	2.3	1.7	1.4	-	1.3	9.7	-	-	-	-	-	-	1.2	3.2	-	-	-	-	-	-	-	3.2
A6. Occupational	8.6	-	-	1.3	3.2	2.6	-	7.4	-	-	-	-	-	-	-	-	1.3	-	-	-	-	-	-	-	1.3
B. Intentional	142.8	-	-	27.2	28.7	21.3	11.0	14.4	104.0	-	-	-	-	-	-	-	38.9	-	-	-	-	-	-	-	38.9
B1. Self-inflicted	112.1	-	-	17.3	21.2	18.4	9.9	13.7	80.9	-	-	-	-	-	-	-	31.3	-	-	-	-	-	-	-	31.3
B2. Homicide and violence	30.6	-	-	9.9	7.5	2.9	-	23.0	-	-	-	-	-	-	-	-	7.6	-	-	-	-	-	-	-	7.6
B3. War	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

A dash (-) indicates less than 1000 deaths.

Estimated deaths (in thousands) by age, sex and cause, 1990: Established Market Economies

Cause of Death (ICD 9)	No. of deaths (in thousands)																
	Males						Females						All ages				
	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages	0-4	5-14	15-29	30-44		45-59	60-69	70+	All ages
<i>I. Noncommunicable</i>	6,237.6	19.4	6.0	25.9	96.7	398.7	690.2	1,891.5	3,128.5	16.1	4.8	16.3	62.9	219.5	420.3	2,369.3	3,109.1
A. Malignant neoplasms	1,763.8	1.0	2.2	7.7	30.2	162.4	274.4	498.6	976.5	-	1.7	5.6	33.8	118.5	179.6	447.3	787.3
A1. Mouth and oropharynx	32.8	-	-	-	1.5	8.2	7.6	7.3	24.7	-	-	-	-	1.4	1.9	4.3	8.1
A2. Oesophagus	42.3	-	-	-	-	7.9	10.5	12.5	31.8	-	-	-	-	1.2	2.3	6.8	10.5
A3. Stomach	140.1	-	-	-	2.5	13.6	22.3	44.6	85.2	-	-	-	2.3	6.2	10.1	38.1	56.9
A4. Colorectal	209.2	-	-	-	2.6	15.2	27.2	58.1	103.3	-	-	-	2.3	11.3	20.6	71.6	105.9
A5. Liver	37.6	-	-	-	-	7.0	9.8	9.3	27.0	-	-	-	-	1.3	3.0	6.0	10.5
A6. Pancreas	85.5	-	-	-	1.2	7.6	12.8	21.6	43.1	-	-	-	-	4.3	9.4	28.0	42.4
A7. Lung	379.9	-	-	-	5.6	49.6	93.0	130.6	279.0	-	-	-	2.5	16.5	30.8	51.0	100.9
A8. Breast	134.2	-	-	-	-	-	-	-	-	-	-	-	11.0	32.3	32.3	58.1	134.2
A9. Cervix	15.7	-	-	-	-	-	-	-	-	-	-	-	2.5	3.8	3.5	5.7	15.7
A10. Ovary	41.2	-	-	-	-	-	-	-	-	-	-	-	1.9	8.8	11.4	18.8	41.2
A11. Prostate	92.5	-	-	-	-	3.0	15.6	73.8	92.5	-	-	-	-	-	-	-	-
A12. Bladder	46.5	-	-	-	-	2.8	7.5	22.6	33.2	-	-	-	-	-	2.1	10.5	13.3
A13. Lymphoma	79.4	-	-	-	1.4	2.9	7.2	10.4	41.6	-	-	-	1.5	4.4	8.3	22.7	37.8
A14. Leukemia	57.2	-	-	-	1.9	2.3	4.2	6.6	15.0	-	-	-	1.2	1.7	3.2	4.5	14.5
B. Diabetes mellitus	145.4	-	-	-	2.2	7.3	12.9	34.5	57.3	-	-	-	1.3	5.2	14.4	66.8	86.0
C. Nutritional/endocrine	66.3	-	-	-	1.2	3.0	5.2	16.8	28.4	-	-	-	1.1	1.0	2.5	4.2	27.9
C1. Protein-energy malnutrition	6.1	-	-	-	-	-	-	1.8	2.2	-	-	-	-	-	-	3.6	3.9
C2. Anaemia	14.6	-	-	-	-	-	-	4.2	6.1	-	-	-	-	-	-	6.7	8.5
D. Neuro-psychiatric	203.0	1.4	-	5.4	8.6	12.3	13.8	53.4	95.8	1.1	-	2.1	3.4	6.2	9.9	83.7	107.2
D1. Psychoses	12.5	-	-	-	-	-	-	3.5	5.3	-	-	-	-	-	-	6.5	7.3
D2. Epilepsy	7.4	-	-	-	1.2	-	-	-	4.5	-	-	-	-	-	-	-	2.9
D3. Alcohol dependence	15.8	-	-	-	2.7	5.1	2.9	1.6	12.6	-	-	-	-	1.3	-	-	3.3
D4. Alzheimer & other dementias	92.5	-	-	-	-	2.2	4.9	26.3	34.9	-	-	-	-	1.6	4.5	50.3	57.6
D5. Parkinson disease	29.1	-	-	-	-	-	1.5	13.3	15.0	-	-	-	-	-	-	13.1	14.2
D6. Multiple sclerosis	5.6	-	-	-	-	-	-	-	2.2	-	-	-	-	-	-	-	3.4
E. Cardiovascular diseases	3,174.7	1.5	-	6.2	35.1	156.2	292.2	1,000.3	1,492.0	1.3	-	3.3	13.3	57.6	156.7	1,449.9	1,682.7
E1. Rheumatic diseases	20.3	-	-	-	-	1.0	1.6	3.0	6.2	-	-	-	-	1.6	3.2	8.8	14.1
E2. Ischaemic heart disease	1,561.6	-	-	-	15.6	91.3	178.1	512.8	798.8	-	-	-	3.0	23.5	79.3	656.7	762.8
E3. Cerebrovascular diseases	792.0	-	-	1.2	6.2	24.3	47.3	239.5	319.0	-	-	-	4.4	15.5	35.7	406.2	462.9
E4. Inflammatory cardiac disease	91.8	-	-	1.2	3.3	7.2	9.4	25.5	47.0	-	-	-	1.1	2.7	4.8	35.2	44.7
F. Respiratory	341.6	-	-	1.4	2.6	12.7	39.1	151.3	208.1	-	-	-	1.7	7.6	20.3	102.2	133.5
F1. Chronic obstructive lung disease	242.4	-	-	-	-	7.8	29.5	117.3	155.5	-	-	-	-	4.5	14.7	67.2	87.0
F2. Asthma	21.9	-	-	-	1.4	2.1	5.4	10.3	16.1	-	-	-	-	1.4	2.0	6.9	11.6
G. Digestive	305.2	-	-	1.5	13.2	36.4	37.8	73.5	163.1	-	-	-	5.0	14.2	21.1	100.3	142.1
G1. Peptic ulcer disease	31.1	-	-	-	-	1.8	2.9	10.6	15.9	-	-	-	-	1.5	12.9	15.2	15.2
G2. Cirrhosis	117.1	-	-	-	9.2	26.3	22.3	19.2	77.7	-	-	-	3.3	9.2	10.6	16.0	39.5
H. Genito-urinary	123.0	-	-	-	1.4	3.9	8.1	43.9	58.0	-	-	-	-	2.0	6.7	53.9	65.0
H1. Nephritis/nephrosis	79.8	-	-	-	1.1	3.0	6.0	27.9	38.5	-	-	-	-	2.0	4.7	33.6	41.3
I. Musculo-skeletal	32.0	-	-	-	-	-	1.6	5.8	8.8	-	-	-	-	1.7	3.1	17.0	23.1
J. Congenital	34.2	12.8	-	1.4	-	-	-	-	18.3	10.8	-	-	-	-	-	1.2	15.9

A dash (-) indicates less than 1000 deaths.

Estimated deaths (in thousands) by age, sex and cause, 1990: Formerly Socialist Economies

Cause of Death (ICD 9)	No. of deaths (in thousands)																	
	Both sexes						Males						Females					
	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages		
Population (in millions)	346.2	13.8	27.3	36.3	40.0	27.0	14.2	165.3	13.1	26.4	35.0	40.0	30.0	20.1	16.3	180.9		
All Causes	3,761.9	63.0	14.9	76.7	170.9	419.3	439.9	706.6	45.2	8.3	22.5	55.7	179.2	319.4	1,240.4	1,870.6		
<i>I. Communicable, maternal & perinatal</i>	135.9	38.5	-	2.3	7.8	13.6	8.7	11.6	26.8	-	2.2	2.9	3.1	3.9	12.9	52.6		
A. Infectious & parasitic	42.0	5.8	-	1.4	5.7	8.8	4.6	2.9	4.4	-	-	1.1	1.7	1.7	2.6	12.4		
A1. Tuberculosis	22.9	-	-	-	4.8	7.3	3.7	2.2	19.0	-	-	-	-	-	1.4	3.9		
A2. Syphilis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
A3. HIV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
A4. Diarrhoeal diseases	4.2	1.9	-	-	-	-	-	2.2	1.6	-	-	-	-	-	-	2.0		
a. Acute watery	4.0	1.8	-	-	-	-	-	2.1	1.6	-	-	-	-	-	-	1.9		
b. Persistent	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
c. Dysentery	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
A5. Pertussis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
A6. Measles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
A7. Tetanus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
A8. Meningitis	5.4	1.6	-	-	-	-	-	3.2	1.1	-	-	-	-	-	-	2.2		
A9. Malaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
A10. Trypanosomiasis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
A11. Chagas disease	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
A12. Schistosomiasis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
A13. Leishmaniasis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
A14. Onchocerciasis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
B. Respiratory infections	54.7	10.2	-	-	2.1	4.8	4.1	8.7	7.9	-	-	-	1.4	2.2	10.3	23.5		
C. Maternal causes	2.2	-	-	-	-	-	-	-	-	-	1.1	1.1	-	-	-	2.2		
C1. Haemorrhage	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
C2. Sepsis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
C3. Eclampsia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
C4. Hypertension	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
C5. Obstructed labour	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
C6. Abortion	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0		
D. Perinatal causes	36.9	22.4	-	-	-	-	-	22.4	14.6	-	-	-	-	-	-	14.6		
III. Injuries	361.9	6.6	9.2	58.8	84.3	70.4	24.9	19.0	4.4	3.8	10.2	14.4	17.9	12.3	25.7	88.7		
A. Unintentional	255.8	6.4	8.5	42.1	56.6	48.8	17.0	13.0	4.2	3.5	6.9	8.8	11.7	8.1	20.1	63.3		
A1. Road traffic accidents	87.4	-	2.8	21.8	20.4	13.7	5.2	3.5	68.3	-	1.4	3.7	3.3	2.6	3.9	19.1		
A2. Poisoning	42.9	-	-	3.2	11.3	12.7	3.3	1.1	32.9	-	-	1.9	3.3	1.6	1.5	10.0		
A3. Falls	27.6	-	-	1.7	3.3	3.5	2.0	4.0	15.2	-	-	-	-	1.1	9.6	12.4		
A4. Fires	7.4	-	-	-	1.2	1.3	-	-	4.8	-	-	-	-	-	-	2.6		
A5. Drowning	22.7	-	2.4	4.9	5.7	3.6	1.1	-	19.1	-	-	-	-	-	-	3.6		
A6. Occupational	13.3	-	-	1.6	5.6	4.1	-	-	11.5	-	-	-	-	-	-	1.8		
B. Intentional	106.1	-	-	16.6	27.7	21.7	7.9	5.9	80.6	-	-	3.4	5.6	6.3	4.2	25.4		
B1. Self-inflicted	77.4	-	-	10.4	19.1	17.5	6.7	5.4	59.5	-	-	2.1	3.2	4.6	3.4	17.8		
B2. Homicide and violence	28.7	-	-	6.2	8.6	4.2	1.1	-	21.1	-	-	1.3	2.4	1.7	-	7.6		
B3. War	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

A dash (-) indicates less than 1000 deaths.

Estimated deaths (in thousands) by age, sex and cause, 1990: Formerly Socialist Economies

Cause of Death (ICD 9)	No. of deaths (in thousands)																
	Males						Females										
	Both sexes	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages
<i>II. Noncommunicable</i>	3,264.2	17.9	4.8	15.7	78.8	335.2	406.4	676.1	1,534.9	14.0	3.7	10.0	38.3	158.2	303.2	1,201.9	1,729.3
A. Malignant neoplasms	666.9	1.3	2.1	4.6	20.0	117.3	127.3	104.8	377.4	-	1.4	3.6	18.2	62.7	84.1	118.6	289.5
A1. Mouth and oropharynx	17.6	-	-	-	1.3	6.6	4.2	2.3	14.6	-	-	-	-	-	-	1.5	3.1
A2. Oesophagus	15.4	-	-	-	4.4	4.0	2.7	11.5	11.6	-	-	-	-	-	-	2.3	3.9
A3. Stomach	103.9	-	-	-	3.1	18.4	20.0	18.4	60.2	-	-	-	1.9	7.5	12.3	21.7	43.7
A4. Colorectal	71.2	-	-	-	1.4	7.3	10.7	13.1	32.8	-	-	-	1.3	6.4	10.9	19.6	38.4
A5. Liver	6.3	-	-	-	-	1.3	1.2	3.4	3.4	-	-	-	-	-	-	1.5	2.9
A6. Pancreas	10.7	-	-	-	-	1.5	2.0	2.0	6.0	-	-	-	-	-	1.5	2.4	4.8
A7. Lung	146.6	-	-	-	4.3	44.1	47.2	27.3	123.1	-	-	-	-	4.7	7.9	9.8	23.4
A8. Breast	40.7	-	-	-	-	-	-	-	-	-	-	-	4.5	13.4	11.4	11.2	40.7
A9. Cervix	15.8	-	-	-	-	-	-	-	-	-	-	-	2.0	4.0	4.5	5.1	15.8
A10. Ovary	14.5	-	-	-	-	-	-	-	-	-	-	-	3.8	4.7	5.0	14.5	-
A11. Prostate	15.2	-	-	-	-	1.3	4.0	9.8	15.2	-	-	-	-	-	-	-	-
A12. Bladder	24.4	-	-	-	-	4.2	5.9	6.9	17.7	-	-	-	-	1.1	2.0	3.2	6.7
A13. Lymphoma	16.8	-	-	-	1.3	2.7	2.5	1.7	9.5	-	-	-	-	1.5	2.1	2.3	7.3
A14. Leukemia	19.5	-	-	-	1.0	2.3	2.7	2.4	10.6	-	-	-	-	1.7	2.2	2.7	8.9
B. Diabetes mellitus	31.2	-	-	-	-	2.4	3.7	4.0	11.3	-	-	-	-	2.5	6.6	9.8	19.8
C. Nutritional/endocrine	7.3	-	-	-	-	-	-	-	3.3	-	-	-	-	-	-	1.1	4.0
C1. Protein-energy malnutrition	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C2. Anaemia	2.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2
D. Neuro-psychiatric	29.1	-	-	1.8	4.0	5.5	2.5	1.9	17.5	-	-	1.2	2.0	2.6	1.7	2.8	11.6
D1. Psychoses	3.1	-	-	-	-	-	-	-	1.5	-	-	-	-	-	-	-	1.6
D2. Epilepsy	5.2	-	-	-	1.1	-	-	-	3.3	-	-	-	-	-	-	-	2.0
D3. Alcohol dependence	6.0	-	-	-	1.3	2.4	-	-	5.0	-	-	-	-	-	-	-	-
D4. Alzheimer & other dementias	2.3	-	-	-	-	-	-	-	1.1	-	-	-	-	-	-	-	1.2
D5. Parkinson disease	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D6. Multiple sclerosis	2.8	-	-	-	-	-	-	-	1.2	-	-	-	-	-	-	-	1.6
E. Cardiovascular diseases	2,153.3	-	-	4.9	39.3	162.6	218.1	482.7	908.7	-	-	2.0	10.6	68.2	177.2	985.7	1,244.6
E1. Rheumatic diseases	25.5	-	-	-	2.0	4.6	2.4	-	10.5	-	-	-	1.4	5.9	4.8	2.5	15.0
E2. Ischaemic heart disease	1,116.3	-	-	1.5	23.0	99.4	120.7	239.9	484.5	-	-	-	3.0	26.4	83.9	518.2	631.8
E3. Cerebrovascular diseases	665.9	-	-	1.1	6.6	36.8	62.3	139.5	246.4	-	-	-	3.2	25.1	65.2	325.3	419.6
E4. Inflammatory cardiac disease	43.9	-	-	-	2.0	4.2	4.9	11.7	23.7	-	-	-	-	1.7	3.0	14.4	20.2
F. Respiratory	167.1	-	-	-	2.4	17.9	28.0	51.3	100.6	-	-	-	1.1	5.0	11.2	48.5	66.5
F1. Chronic obstructive lung disease	115.9	-	-	-	-	11.0	21.1	39.8	72.6	-	-	-	-	3.0	8.1	31.9	43.3
F2. Asthma	12.2	-	-	-	-	1.9	1.5	1.8	6.2	-	-	-	-	-	1.1	3.3	6.0
G. Digestive	122.0	1.1	-	1.3	8.4	21.9	19.0	17.5	69.4	-	-	-	2.8	9.5	13.6	25.2	52.5
G1. Peptic ulcer disease	15.2	-	-	-	1.1	3.2	3.0	3.0	10.4	-	-	-	-	1.2	2.8	4.8	4.8
G2. Cirrhosis	29.2	-	-	-	2.8	7.5	5.8	3.4	19.8	-	-	-	-	2.7	2.8	2.8	9.4
H. Genito-urinary	45.9	-	-	-	2.1	4.8	5.7	12.0	25.7	-	-	-	1.6	4.3	5.6	7.8	20.2
H1. Nephritis/nephrosis	20.1	-	-	-	1.6	2.9	2.4	3.0	10.7	-	-	-	-	2.1	2.5	3.2	9.4
I. Musculo-skeletal	5.2	-	-	-	-	-	-	-	1.6	-	-	-	-	-	1.0	-	3.6
J. Congenital	26.6	12.5	-	-	-	-	-	-	14.8	9.9	-	-	-	-	-	-	11.8

A dash (-) indicates less than 1000 deaths.

Estimated deaths (in thousands) by age, sex and cause, 1990: India

Cause of Death (ICD 9)	No. of deaths (in thousands)																		
	Both sexes						Males						Females						
	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages			
Population (in millions)	849.5	59.8	101.8	256.0	121.5	79.0	47.6	19.1	10.6	439.4	1,650.0	294.0	306.0	111.3	72.0	46.0	18.5	10.4	410.1
All Causes	9,371.0	1,600.0	256.0	1,357.5	132.8	81.9	113.7	148.9	91.9	127.5	2,054.2	1,354.9	163.9	141.5	117.8	89.6	52.1	85.8	2,005.5
<i>I. Communicable, maternal & perinatal</i>	2,188.4	655.5	102.8	66.9	103.6	133.1	39.4	50.2	1,151.4	696.8	124.1	55.7	60.1	70.6	12.4	17.1	1,036.9		
A. Infectious & parasitic	451.8	6.6	10.9	28.9	67.4	103.2	30.2	44.4	291.7	11.2	21.2	25.9	36.2	43.0	7.5	13.0	160.1		
A1. Tuberculosis	25.8	3.4	-	5.8	3.9	1.4	-	-	14.7	3.6	-	3.6	2.7	1.1	-	-	-	-	11.1
A2. Syphilis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A3. HIV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A4. Diarrhoeal diseases	825.2	348.6	26.5	12.3	8.4	5.4	1.1	-	402.9	366.5	31.4	10.2	6.9	6.0	-	-	-	-	422.4
a. Acute watery	448.9	177.7	20.0	9.8	6.6	4.0	-	-	219.4	186.9	23.7	8.1	5.5	4.4	-	-	-	-	229.5
b. Persistent	248.2	119.6	1.3	-	-	-	-	-	120.9	125.8	1.5	-	-	-	-	-	-	-	127.3
c. Dysentery	128.2	51.3	5.2	2.5	1.7	1.5	-	-	62.6	53.9	6.2	2.1	1.4	1.6	-	-	-	-	65.6
A5. Pertussis	81.6	34.5	4.9	-	-	-	-	-	39.4	36.3	5.9	-	-	-	-	-	-	-	42.2
A6. Measles	276.3	116.8	16.7	-	-	-	-	-	133.4	122.8	20.0	-	-	-	-	-	-	-	142.8
A7. Tetanus	160.4	69.2	3.9	1.1	1.7	-	-	-	78.1	73.1	4.7	-	-	-	-	-	-	-	82.3
A8. Meningitis	61.8	16.9	10.1	3.7	2.4	2.8	1.4	-	37.5	14.6	4.5	2.5	1.3	-	-	-	-	-	24.2
A9. Malaria	27.5	1.6	3.6	3.5	2.3	2.1	-	-	13.9	1.7	4.2	2.9	1.9	2.3	-	-	-	-	13.7
A10. Trypanosomiasis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A11. Chagas disease	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A12. Schistosomiasis	13.4	-	-	-	-	6.5	-	-	7.8	-	-	-	-	-	-	-	-	-	5.6
A13. Leishmaniasis	36.1	2.3	8.4	5.3	3.6	1.1	-	-	20.9	1.7	7.1	3.1	2.1	1.0	-	-	-	-	15.2
A14. Onchocerciasis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B. Respiratory infections	1,096.1	348.2	30.0	14.9	10.1	15.8	52.5	77.3	548.9	366.1	35.5	12.3	8.4	16.6	39.6	68.7	547.2		
C. Maternal causes	129.4	-	-	-	-	-	-	-	-	-	4.2	73.4	49.3	2.4	-	-	-	-	129.4
C1. Haemorrhage	38.8	-	-	-	-	-	-	-	-	-	1.3	22.0	14.8	-	-	-	-	-	38.8
C2. Sepsis	25.9	-	-	-	-	-	-	-	-	-	-	14.7	9.9	-	-	-	-	-	25.9
C3. Eclampsia	12.9	-	-	-	-	-	-	-	-	-	-	7.3	4.9	-	-	-	-	-	12.9
C4. Hypertension	6.5	-	-	-	-	-	-	-	-	-	-	3.7	2.5	-	-	-	-	-	6.5
C5. Obstructed labour	12.9	-	-	-	-	-	-	-	-	-	-	7.3	4.9	-	-	-	-	-	12.9
C6. Abortion	25.9	-	-	-	-	-	-	-	-	-	-	14.7	9.9	-	-	-	-	-	25.9
D. Perinatal causes	645.9	353.8	-	-	-	-	-	-	353.8	292.0	-	-	-	-	-	-	-	-	292.0
<i>III. Injuries</i>	611.3	39.2	61.9	90.2	77.3	44.9	16.8	23.6	353.9	44.5	53.3	78.2	37.2	21.0	8.5	14.1	8.5	14.1	257.4
A. Unintentional	506.6	38.1	57.9	64.0	58.3	38.7	15.2	21.3	293.5	44.5	49.2	54.3	26.7	18.3	7.6	12.5	7.6	12.5	213.1
A1. Road traffic accidents	115.4	5.9	8.9	24.2	22.4	12.5	4.5	6.3	84.7	6.0	9.1	6.2	3.6	2.3	1.4	2.2	30.8	1.4	2.2
A2. Poisoning	10.4	1.5	-	1.4	2.4	1.3	-	-	8.1	-	-	-	-	-	-	-	-	-	2.4
A3. Falls	29.7	3.2	2.6	2.9	2.6	3.6	1.3	1.8	18.0	4.0	1.8	-	-	-	-	-	-	-	11.7
A4. Fires	19.6	5.9	1.3	-	-	-	-	-	9.4	3.3	3.7	1.8	-	-	-	-	-	-	10.2
A5. Drowning	57.0	5.5	10.4	6.7	3.1	2.1	-	1.2	29.8	6.5	8.2	6.5	2.3	2.0	-	-	-	-	27.3
A6. Occupational	35.5	-	-	4.6	10.4	5.4	-	-	20.8	-	-	4.6	7.0	2.8	-	-	-	-	14.6
B. Intentional	104.7	1.2	4.0	26.2	19.0	6.1	1.7	2.3	60.4	-	4.1	23.9	10.5	2.8	-	-	-	-	44.3
B1. Self-inflicted	78.0	-	3.2	18.8	12.5	4.3	1.2	1.7	41.7	-	3.9	20.6	8.9	1.8	-	-	-	-	36.3
B2. Homicide and violence	19.9	-	-	5.2	5.1	1.7	-	-	14.1	-	-	2.5	1.1	-	-	-	-	-	5.8
B3. War	6.7	-	-	2.2	1.4	-	-	-	4.6	-	-	-	-	-	-	-	-	-	2.1

A dash (-) indicates less than 1000 deaths.

Estimated deaths (in thousands) by age, sex and cause, 1990: India

Cause of Death (ICD 9)	No. of deaths (in thousands)																
	Males					Females											
	Both sexes	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages
<i>I. Noncommunicable</i>	4,700.0	203.3	61.4	78.9	152.0	471.3	629.2	870.9	2,466.9	250.1	76.8	86.3	106.0	368.4	508.4	837.2	2,233.1
A. Malignant neoplasms	775.8	3.2	9.3	13.3	19.6	111.8	149.9	143.2	450.2	9.8	1.2	10.4	31.1	99.5	89.6	83.9	325.6
A1. Mouth and oropharynx	157.1	-	-	2.2	3.2	12.6	45.9	43.8	108.0	-	-	-	2.6	7.4	19.5	18.3	49.1
A2. Oesophagus	83.2	-	-	-	1.1	13.7	18.4	17.5	51.5	-	-	-	1.5	8.9	10.7	10.0	31.7
A3. Stomach	63.4	-	-	1.1	1.7	12.4	14.2	13.6	43.0	-	-	-	1.3	6.1	6.5	6.1	20.4
A4. Colorectal	39.6	-	-	-	1.2	3.3	8.9	8.5	22.7	-	-	-	1.2	2.1	6.8	6.3	16.8
A5. Liver	19.7	-	-	-	-	4.9	4.3	4.1	14.3	-	-	-	-	1.4	1.7	1.6	5.3
A6. Pancreas	12.3	-	-	-	-	2.1	2.9	2.7	8.0	-	-	-	-	1.1	1.4	1.3	4.2
A7. Lung	54.4	-	-	-	-	1.3	13.0	16.0	46.4	-	-	-	-	1.9	2.9	2.7	7.9
A8. Breast	40.7	-	-	-	-	-	-	-	-	-	-	1.9	5.6	14.9	9.5	8.9	40.7
A9. Cervix	63.0	-	-	-	-	-	-	-	-	-	2.3	6.9	27.0	13.9	13.0	63.0	
A10. Ovary	14.0	-	-	-	-	-	-	-	-	-	-	2.4	3.7	3.5	3.3	14.0	
A11. Prostate	25.0	-	-	-	-	2.3	11.6	11.1	25.0	-	-	-	-	-	-	-	2.0
A12. Bladder	12.4	-	-	-	-	1.7	4.2	4.0	10.3	-	-	-	-	1.2	4.0	3.7	10.7
A13. Lymphoma	29.5	-	1.9	1.2	1.8	2.3	5.6	5.3	18.8	-	-	-	-	1.8	1.7	10.2	
A14. Leukemia	26.7	1.2	3.5	1.1	1.7	1.3	3.4	3.2	15.5	3.6	-	-	1.4	-	1.8	1.7	10.2
B. Diabetes mellitus	144.5	-	-	3.6	2.4	15.3	26.7	15.1	63.0	-	-	2.9	2.0	20.1	36.9	19.6	81.5
C. Nutritional/endocrine	187.5	35.6	2.1	13.7	15.7	6.4	4.8	7.1	85.3	46.5	8.0	10.3	4.4	10.9	9.9	12.1	102.1
C1. Protein-energy malnutrition	61.8	18.8	1.4	-	-	-	-	2.2	25.0	29.6	1.7	-	-	-	1.6	2.6	36.8
C2. Anaemia	44.3	6.4	1.3	1.7	-	1.5	1.4	1.7	14.4	5.3	7.2	3.5	1.0	4.1	4.2	4.6	29.9
D. Neuro-psychiatric	178.9	11.6	18.9	11.8	12.6	19.6	13.4	15.5	103.3	17.0	16.0	11.3	4.8	5.5	7.0	14.0	75.6
D1. Psychoses	12.1	-	-	-	1.0	2.4	1.6	2.0	7.4	-	-	-	-	-	-	2.7	4.7
D2. Epilepsy	31.2	1.3	4.3	3.4	3.4	3.7	1.5	-	18.3	1.7	3.4	4.2	1.4	-	-	-	12.9
D3. Alcohol dependence	6.8	-	-	1.0	1.5	2.1	-	-	5.9	3.3	1.3	-	-	-	1.9	5.7	13.8
D4. Alzheimer & other dementias	29.8	1.9	1.7	-	-	2.9	3.4	5.0	15.9	-	-	-	-	-	-	-	-
D5. Parkinson disease	8.4	-	-	-	-	1.6	3.5	5.6	-	-	-	-	-	-	1.9	5.7	13.8
D6. Multiple sclerosis	7.6	-	-	-	-	1.7	-	4.1	-	-	-	-	-	1.0	-	3.5	-
E. Cardiovascular diseases	2,385.9	16.5	5.9	15.6	58.2	222.7	344.7	553.0	1,216.6	22.2	14.4	19.7	32.7	159.9	299.2	621.1	1,169.3
E1. Rheumatic diseases	141.3	-	-	-	3.5	10.1	13.8	12.6	41.5	-	1.1	2.6	4.8	25.5	39.1	26.1	99.8
E2. Ischaemic heart disease	785.2	-	-	1.1	14.5	87.2	142.4	201.7	447.0	-	-	3.7	35.4	92.5	203.8	336.3	636.3
E3. Cerebrovascular diseases	619.2	1.5	-	1.9	8.1	34.0	67.1	166.1	279.6	1.8	1.9	4.1	8.3	38.7	74.7	210.0	339.6
E4. Inflammatory cardiac disease	527.5	11.1	3.7	9.6	25.2	64.6	77.3	97.5	288.9	16.5	9.3	8.9	11.5	39.7	55.8	97.0	238.7
F. Respiratory	272.4	22.3	8.8	4.2	6.1	19.9	30.5	60.5	152.3	29.3	6.3	7.7	5.2	19.9	17.7	34.0	120.1
F1. Chronic obstructive lung disease	140.8	3.2	-	-	1.4	12.3	23.0	46.9	88.0	3.3	-	-	-	11.9	12.9	22.4	52.7
F2. Asthma	32.6	1.4	4.3	1.6	1.6	2.2	1.6	2.2	14.8	1.7	3.3	3.2	2.0	3.6	1.8	2.3	17.9
G. Digestive	353.3	24.9	4.0	8.4	30.6	59.1	41.0	37.8	205.8	43.1	7.3	8.1	15.4	30.2	22.5	20.8	147.5
G1. Peptic ulcer disease	41.8	-	-	1.3	4.6	8.9	6.1	5.7	26.8	1.3	1.2	2.5	6.7	4.5	3.4	3.1	15.0
G2. Cirrhosis	135.7	-	-	2.8	18.7	39.0	24.1	10.0	96.0	2.4	6.5	6.9	3.4	16.8	19.7	18.0	73.8
H. Genito-urinary	144.5	3.4	6.1	2.5	3.8	11.9	13.1	29.9	70.7	2.4	6.5	6.9	3.4	16.8	19.7	18.0	73.8
H1. Nephritis/nephrosis	74.6	1.4	5.6	2.0	2.7	8.8	7.7	11.9	40.1	-	6.1	3.9	2.1	6.7	8.7	6.0	34.5
I. Musculo-skeletal	24.4	-	-	-	-	-	-	2.3	4.1	-	-	1.8	1.4	2.4	2.8	5.8	15.5
J. Congenital	181.3	83.1	4.3	3.6	1.4	-	-	-	93.3	75.0	4.4	4.0	3.2	1.2	-	-	88.0

A dash (-) indicates less than 1000 deaths.

Estimated deaths (in thousands) by age, sex and cause, 1990: China

Cause of Death (ICD 9)	No. of deaths (in thousands)																
	Males						Females										
	Both sexes	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages
Population (in millions)	1,133.7	60.2	97.0	184.1	122.2	72.7	31.4	17.6	585.2	57.9	90.4	171.6	112.5	64.4	30.1	21.5	548.5
All Causes	8,895.0	505.0	86.0	279.0	347.0	746.0	1,061.0	1,805.0	4,829.0	565.0	63.0	231.0	233.0	462.0	695.0	1,807.0	4,056.0
<i>I. Communicable, maternal & perinatal</i>	1,342.5	333.1	12.1	23.0	38.3	81.8	78.0	121.8	688.2	377.7	11.8	36.9	33.9	41.0	48.9	104.1	654.4
<i>A. Infectious & parasitic</i>	612.9	58.1	8.0	21.0	37.3	77.6	70.1	89.7	361.8	62.1	8.4	15.8	25.0	37.0	40.4	62.5	251.1
A1. Tuberculosis	356.1	3.6	-	8.7	23.2	59.7	56.7	67.4	222.1	3.9	2.5	9.3	18.8	30.2	31.2	38.1	134.0
A2. Syphilis	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A3. HIV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A4. Diarrhoeal diseases	95.3	22.9	1.5	1.6	1.3	1.7	5.1	11.3	45.5	29.6	1.3	-	1.2	1.2	2.3	13.5	49.8
a. Acute watery	59.4	11.5	1.1	1.3	1.0	1.4	4.1	9.1	29.4	14.8	-	-	-	1.7	10.1	30.0	11.4
b. Persistent	19.5	8.0	-	-	-	-	-	-	8.1	10.4	-	-	-	-	-	-	2.7
c. Dysentery	16.4	3.4	-	-	-	-	1.0	2.3	7.9	4.4	-	-	-	-	-	-	8.5
A5. Pertussis	12.9	5.9	-	-	-	-	-	-	6.6	5.7	-	-	-	-	-	-	6.3
A6. Measles	8.7	4.0	-	-	-	-	-	-	4.4	3.8	-	-	-	-	-	-	4.3
A7. Tetanus	21.9	8.7	-	-	-	-	-	-	11.9	7.0	-	-	-	-	-	-	9.9
A8. Meningitis	22.4	6.5	2.0	1.5	-	1.1	-	-	12.9	3.7	-	1.6	-	-	-	-	9.5
A9. Malaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A10. Trypanosomiasis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A11. Chagas disease	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A12. Schistosomiasis	1.3	-	-	-	-	-	-	-	1.2	-	-	-	-	-	-	-	-
A13. Leishmaniasis	3.0	-	-	-	-	-	-	-	1.8	-	-	-	-	-	-	-	1.1
A14. Onchocerciasis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>B. Respiratory infections</i>	410.7	136.1	4.2	2.1	1.0	4.2	7.9	32.0	187.4	165.0	3.5	1.4	1.0	2.3	8.5	41.6	223.3
<i>C. Maternal causes</i>	29.3	-	-	-	-	-	-	-	-	-	-	19.7	7.9	1.7	-	-	29.3
C1. Haemorrhage	14.4	-	-	-	-	-	-	-	-	-	-	9.7	3.9	-	-	-	14.4
C2. Sepsis	1.8	-	-	-	-	-	-	-	-	-	-	1.2	-	-	-	-	1.8
C3. Eclampsia	2.1	-	-	-	-	-	-	-	-	-	-	1.4	-	-	-	-	2.1
C4. Hypertension	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C5. Obstructed labour	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C6. Abortion	2.9	-	-	-	-	-	-	-	-	-	-	2.0	-	-	-	-	2.9
<i>D. Perinatal causes</i>	289.5	138.9	-	-	-	-	-	-	138.9	150.6	-	-	-	-	-	-	150.6
<i>III. Injuries</i>	1,023.3	77.1	43.3	151.1	112.7	81.2	54.1	70.6	590.0	72.4	28.3	114.0	58.2	49.9	35.8	74.9	433.3
<i>A. Unintentional</i>	629.8	72.2	39.8	97.2	69.1	51.2	29.6	42.1	401.2	63.4	25.0	36.0	21.4	22.3	17.1	43.3	228.6
A1. Road traffic accidents	135.4	4.0	6.1	26.5	27.9	16.5	8.8	6.9	96.7	2.9	5.8	9.5	6.1	7.6	3.4	3.5	38.7
A2. Poisoning	65.4	5.1	1.6	6.4	6.9	9.0	3.5	5.5	38.0	1.6	2.3	9.2	5.3	2.3	2.6	4.1	27.4
A3. Falls	65.0	2.4	-	5.9	3.7	4.5	5.1	-	32.2	3.7	-	-	1.0	3.3	4.9	18.1	32.8
A4. Fires	24.1	2.7	-	2.3	1.7	1.1	-	4.8	13.6	1.9	-	-	-	1.0	1.1	4.0	10.5
A5. Drowning	149.0	31.0	22.7	20.0	6.2	4.4	2.7	5.1	92.2	26.2	11.3	7.4	2.8	2.1	2.1	4.9	56.8
A6. Occupational	23.9	-	-	5.8	8.6	4.6	-	-	19.4	-	-	-	2.0	1.4	-	-	4.5
<i>B. Intentional</i>	393.5	4.9	3.5	53.9	43.6	29.9	24.5	28.5	188.9	9.0	3.2	77.9	36.7	27.6	18.7	31.6	204.7
B1. Self-inflicted	342.7	-	2.5	41.4	36.5	27.3	22.9	28.1	158.6	-	1.8	75.6	33.0	26.0	17.6	30.2	184.1
B2. Homicide and violence	50.8	4.9	1.0	12.5	7.1	2.7	1.6	-	30.3	9.0	1.4	2.3	3.7	1.6	1.1	1.4	20.6
B3. War	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

A dash (-) indicates less than 1000 deaths.

Estimated deaths (in thousands) by age, sex and cause, 1990: China

Cause of Death (ICD 9)	No. of deaths (in thousands)																	
	Both sexes						Males						Females					
	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages		
<i>I. Noncommunicable</i>	6,519.2	94.8	30.6	104.9	196.0	583.0	928.9	1,612.6	3,550.8	114.9	22.9	80.1	141.0	371.1	610.3	1,628.0	2,968.4	
A. Malignant neoplasms	1,408.0	4.8	10.2	28.2	80.6	231.9	284.9	245.2	885.9	6.2	5.1	19.3	48.8	122.8	147.5	172.3	522.1	
A1. Mouth and oropharynx	34.8	-	-	1.1	4.8	6.3	6.3	4.9	23.8	-	-	-	1.7	3.2	3.0	2.3	11.0	
A2. Oesophagus	182.7	-	-	-	6.1	29.2	44.9	42.9	123.9	-	-	-	-	11.1	24.0	22.4	58.8	
A3. Stomach	307.9	-	-	1.1	8.7	51.5	74.9	64.9	201.2	-	-	2.1	8.4	20.9	32.9	42.0	106.7	
A4. Colorectal	80.1	-	-	2.2	4.1	9.9	13.1	15.1	44.3	-	-	-	3.2	8.4	10.5	12.6	35.8	
A5. Liver	279.4	-	-	5.2	38.1	71.6	53.6	33.0	202.3	-	-	1.5	8.9	21.7	21.1	23.5	77.0	
A6. Pancreas	31.1	-	-	-	-	3.8	6.6	7.1	18.9	-	-	-	1.7	4.5	5.5	12.2	12.2	
A7. Lung	210.7	-	-	1.9	3.0	32.7	58.1	50.2	146.6	-	-	-	1.8	14.7	19.7	27.2	64.1	
A8. Breast	24.9	-	-	-	-	-	-	-	-	-	-	5.8	7.8	5.0	6.0	24.9	24.9	
A9. Cervix	20.6	-	-	-	-	-	-	-	-	-	-	2.3	6.3	6.0	5.4	20.6	20.6	
A10. Ovary	10.1	-	-	-	-	-	-	-	-	-	-	1.8	2.9	1.8	2.2	10.1	10.1	
A11. Prostate	4.7	-	-	-	-	-	2.1	2.2	4.7	-	-	-	-	-	-	-	-	
A12. Bladder	18.2	-	-	-	-	1.9	5.7	6.2	14.3	-	-	-	-	1.5	1.8	3.9	3.9	
A13. Lymphoma	21.8	-	-	2.4	-	3.3	4.7	2.8	14.5	-	-	-	-	2.6	1.5	1.9	7.3	
A14. Leukemia	63.4	2.7	5.1	7.7	5.6	5.7	3.0	2.9	32.8	2.9	2.7	7.1	6.0	5.1	3.2	3.8	30.7	
B. Diabetes mellitus	59.5	-	-	-	2.6	5.7	8.0	9.2	26.6	-	-	1.1	1.7	6.3	11.0	12.4	33.0	
C. Nutritional/endocrine	79.0	10.4	1.5	2.7	1.2	1.8	3.0	5.4	26.0	24.5	3.0	3.0	4.5	1.5	4.3	12.2	53.0	
C1. Protein-energy malnutrition	37.4	8.0	-	-	-	-	1.5	11.2	11.2	18.3	-	-	-	-	-	5.8	26.1	
C2. Anaemia	26.9	1.6	-	1.9	-	-	1.4	1.8	8.8	4.8	2.3	1.5	3.0	-	2.4	3.3	18.1	
D. Neuro-psychiatric	97.5	2.1	1.9	13.2	10.0	5.4	5.1	14.4	52.1	1.7	-	6.8	6.8	4.9	6.3	18.1	45.4	
D1. Psychoses	15.4	-	-	2.5	3.6	-	-	2.5	10.0	-	-	1.1	1.4	-	-	1.0	5.3	
D2. Epilepsy	16.0	-	-	3.8	2.7	-	-	9.1	9.1	-	-	2.5	2.0	-	-	6.9	6.9	
D3. Alcohol dependence	6.5	-	-	1.0	1.4	2.0	-	1.2	4.7	-	-	-	-	1.8	7.3	11.0	11.0	
D4. Alzheimer & other dementias	19.0	-	-	-	-	-	-	-	8.0	-	-	-	-	-	-	-	-	
D5. Parkinson disease	7.2	-	-	-	-	-	-	-	3.2	-	-	-	-	-	-	2.5	3.3	
D6. Multiple sclerosis	5.5	-	-	-	-	-	-	1.9	1.9	-	-	-	1.2	-	-	3.6	3.6	
E. Cardiovascular diseases	2,566.2	9.8	4.1	27.9	46.7	191.3	338.0	704.4	1,322.1	7.2	2.3	25.3	42.6	143.1	253.2	770.4	1,244.1	
E1. Rheumatic diseases	162.8	-	-	9.5	7.0	12.7	12.4	26.0	68.3	-	-	8.5	11.6	19.4	16.8	36.8	94.5	
E2. Ischaemic heart disease	441.8	1.4	-	5.3	13.2	36.4	57.4	119.8	234.2	-	-	3.0	5.8	16.3	42.3	139.3	207.6	
E3. Cerebrovascular diseases	1,271.1	2.1	1.7	6.8	18.2	97.5	186.3	358.8	671.4	1.7	-	5.1	13.8	71.2	136.6	370.6	599.6	
E4. Inflammatory cardiac disease	92.0	1.5	-	2.0	2.2	8.6	12.2	22.9	49.8	1.3	-	1.9	2.4	5.8	7.5	23.1	42.3	
F. Respiratory	1,584.9	10.8	-	5.2	11.5	71.2	207.3	521.7	828.8	14.9	-	1.5	11.1	47.8	135.5	544.6	756.2	
F1. Chronic obstructive lung disease	1,320.3	1.5	-	-	8.9	60.1	182.8	456.8	710.7	1.7	-	-	9.6	39.7	118.2	440.2	609.6	
F2. Asthma	56.2	-	-	1.9	-	3.2	5.4	10.4	22.9	-	-	-	-	3.6	6.4	20.8	33.3	
G. Digestive	414.9	16.0	3.9	10.1	32.5	57.4	57.4	65.6	242.9	18.0	3.3	8.7	12.6	30.3	33.1	65.9	171.9	
G1. Peptic ulcer disease	81.2	-	-	2.5	4.8	11.9	12.6	19.5	52.5	-	-	2.8	2.4	3.6	3.6	15.6	28.7	
G2. Cirrhosis	187.0	1.6	-	3.8	23.8	37.2	33.6	22.6	123.3	-	-	2.4	6.0	17.1	17.6	19.5	63.7	
H. Genito-urinary	123.5	1.5	1.7	8.7	8.6	11.3	13.6	27.7	73.2	1.7	1.1	4.8	7.9	8.2	11.0	15.5	50.3	
H1. Nephritis/nephrosis	98.2	1.2	1.7	8.6	7.9	9.6	10.9	17.0	56.8	1.7	1.1	4.5	7.4	6.6	8.4	11.7	41.4	
I. Musculo-skeletal	36.0	-	-	-	-	1.1	4.6	10.3	17.3	-	-	1.1	1.9	1.9	2.3	11.0	18.7	
J. Congenital	99.4	37.0	4.7	5.3	-	-	-	-	48.0	38.2	5.0	6.5	1.3	-	-	-	51.4	

A dash (-) indicates less than 1000 deaths.

Estimated deaths (in thousands) by age, sex and cause, 1990: Other Asia and Islands

Cause of Death (ICD 9)	No. of deaths (in thousands)																
	Males						Females										
	Both sexes	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages
Population (in millions)	682.5	43.8	84.0	99.2	61.6	34.1	13.1	7.1	343.0	42.0	80.2	98.0	61.6	35.1	14.0	8.7	339.6
All Causes	5,519.0	899.0	2,290.0	2,050.0	2,460.0	3,980.0	4,210.0	6,370.0	3,035.0	7,140.0	1,710.0	1,560.0	1,830.0	2,780.0	3,140.0	668.0	2,484.0
I. Communicable, maternal & perinatal	2,306.4	778.0	1,244.0	51.6	57.2	86.7	75.8	74.5	1,248.2	617.8	101.1	85.7	81.3	45.3	49.6	77.5	1,058.3
A. Infectious & parasitic	1,217	495.1	97.9	44.9	52.6	80.4	41.3	22.5	691.8	291.3	75.7	46.2	44.2	38.3	18.4	11.5	525.7
A1. Tuberculosis	353.2	5.6	16.7	30.3	41.8	70.8	36.8	19.8	221.9	4.8	15.9	30.4	28.9	29.1	13.8	8.4	131.3
A2. Syphilis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A3. HIV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A4. Diarrhoeal diseases	432.3	199.5	19.9	4.8	3.3	2.6	-	-	231.5	170.3	17.3	4.6	4.4	2.7	-	-	200.8
a. Acute watery	232.9	98.7	15.8	3.9	2.7	2.0	-	-	124.3	84.2	13.6	3.8	3.6	2.1	-	-	108.7
b. Persistent	132.4	70.6	-	-	-	-	-	-	71.4	60.3	-	-	-	-	-	-	61.0
c. Dysentery	66.9	30.3	3.3	-	-	-	-	-	35.8	25.8	2.9	-	-	-	-	-	31.1
A5. Pertussis	33.0	15.9	2.7	-	-	-	-	-	18.7	12.2	2.1	-	-	-	-	-	14.4
A6. Measles	122.8	56.5	9.7	-	-	-	-	-	66.1	48.2	8.4	-	-	-	-	-	56.6
A7. Tetanus	64.5	30.7	2.3	-	-	-	-	-	34.7	26.0	2.0	-	-	-	-	-	29.8
A8. Meningitis	39.8	11.9	14.0	-	-	-	-	-	27.8	6.7	3.1	-	-	-	-	-	12.0
A9. Malaria	74.3	4.9	14.4	7.2	5.0	3.8	1.5	-	37.5	4.2	12.5	7.0	6.6	3.9	1.6	-	36.7
A10. Trypanosomiasis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A11. Chagas disease	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A12. Schistosomiasis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A13. Leishmaniasis	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A14. Onchocerciasis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B. Respiratory infections	691.3	227.6	26.5	6.6	4.6	6.3	34.5	52.1	358.2	194.3	22.9	6.5	6.1	6.2	31.2	66.0	333.2
C. Maternal causes	67.3	-	-	-	-	-	-	-	-	2.4	33.0	31.0	-	-	-	-	67.3
C1. Haemorrhage	20.2	-	-	-	-	-	-	-	-	-	-	9.9	9.3	-	-	-	20.2
C2. Sepsis	13.5	-	-	-	-	-	-	-	-	-	-	6.6	6.2	-	-	-	13.5
C3. Eclampsia	6.7	-	-	-	-	-	-	-	-	-	-	3.3	3.1	-	-	-	6.7
C4. Hypertension	8.7	-	-	-	-	-	-	-	-	-	-	4.3	4.0	-	-	-	8.7
C5. Obstructed labour	6.7	-	-	-	-	-	-	-	-	-	-	3.3	3.1	-	-	-	6.7
C6. Abortion	3.4	-	-	-	-	-	-	-	-	-	-	1.7	1.6	-	-	-	3.4
D. Perinatal causes	330.4	198.2	-	-	-	-	-	-	198.2	132.2	-	-	-	-	-	-	132.2
III. Injuries	476.8	27.9	43.9	127.0	88.0	47.4	18.3	15.5	368.1	20.9	16.0	25.4	15.6	11.9	7.0	12.0	108.7
A. Unintentional	343.3	26.0	40.0	89.9	56.4	33.0	13.0	11.7	263.9	18.9	14.3	15.0	8.9	7.7	4.9	9.7	79.4
A1. Road traffic accidents	122.3	4.2	12.4	38.9	23.7	11.7	4.4	3.0	98.3	2.9	5.4	6.8	3.3	2.6	1.5	1.5	24.0
A2. Poisoning	20.9	1.5	-	3.6	5.0	3.4	-	-	16.0	-	-	1.0	-	-	-	-	4.9
A3. Falls	24.1	1.2	1.4	3.6	3.1	3.0	1.6	2.8	16.5	-	-	-	-	-	-	-	7.5
A4. Fires	11.3	2.3	1.2	1.2	1.1	-	-	-	7.3	1.6	-	-	-	-	-	-	4.0
A5. Drowning	43.8	5.5	11.0	9.9	4.2	2.1	-	-	34.2	3.5	3.0	1.3	-	-	-	-	9.6
A6. Occupational	18.0	-	-	4.3	3.5	-	-	-	15.3	-	-	-	1.3	-	-	-	2.6
B. Intentional	133.5	1.9	3.9	43.1	31.6	14.5	5.4	3.8	104.1	2.0	1.7	10.4	6.7	4.2	2.1	2.3	29.3
B1. Self-inflicted	81.5	-	2.0	23.2	19.0	10.5	4.3	3.3	62.4	-	-	7.1	4.5	3.2	1.7	1.8	19.1
B2. Homicide and violence	43.1	1.3	1.6	17.0	10.8	3.7	-	-	35.8	1.3	-	2.2	1.6	-	-	-	7.4
B3. War	8.8	-	-	2.8	1.7	-	-	-	5.9	-	-	1.0	-	-	-	-	2.9

A dash (-) indicates less than 1000 deaths.

Estimated deaths (in thousands) by age, sex and cause, 1990: Other Asia and Islands

Cause of Death (ICD 9)	No. of deaths (in thousands)																	
	Both sexes						Males						Females					
	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages		
<i>I. Noncommunicable</i>	2,735.8	93.1	60.6	26.5	100.8	263.9	326.9	547.0	1,418.8	75.3	53.9	44.9	86.0	220.9	257.4	578.5	1,317.0	
A. Malignant neoplasms	540.6	2.0	10.4	4.8	16.9	75.4	92.9	108.7	311.0	2.8	1.7	7.0	26.5	67.0	54.9	69.8	229.6	
A1. Mouth and oropharynx	63.2	-	-	-	1.9	4.8	14.9	17.5	40.0	-	-	-	2.0	2.7	7.8	9.9	23.2	
A2. Oesophagus	21.0	-	-	-	-	3.6	4.8	5.7	14.5	-	-	-	1.7	1.9	2.4	6.4	6.4	
A3. Stomach	52.0	-	-	-	1.4	9.1	10.5	12.3	33.7	-	-	-	1.3	4.7	5.2	6.6	18.3	
A4. Colorectal	37.3	-	-	-	1.0	2.3	7.5	8.7	19.9	-	-	-	1.3	2.6	5.8	7.3	17.4	
A5. Liver	57.8	-	-	-	2.9	15.2	10.5	12.3	42.2	-	-	-	1.1	4.3	4.3	5.5	15.7	
A6. Pancreas	8.9	-	-	-	-	1.2	1.8	2.2	5.5	-	-	-	-	1.1	1.1	1.3	3.3	
A7. Lung	79.9	-	-	-	1.4	14.5	20.4	23.9	60.7	-	-	-	-	4.5	6.0	7.6	19.1	
A8. Breast	24.8	-	-	-	-	-	-	-	-	-	1.1	4.0	9.8	4.4	5.6	24.8	24.8	
A9. Cervix	29.8	-	-	-	-	-	-	-	-	-	1.0	3.9	13.1	5.2	6.6	29.8	29.8	
A10. Ovary	9.0	-	-	-	-	-	-	-	-	-	-	2.3	2.6	1.5	1.9	9.0	9.0	
A11. Prostate	13.0	-	-	-	-	-	5.5	6.5	13.0	-	-	-	-	-	-	-	-	
A12. Bladder	10.4	-	-	-	-	1.2	2.9	3.4	7.7	-	-	-	-	-	1.2	2.7	2.7	
A13. Lymphoma	20.4	-	-	-	1.2	1.5	3.4	3.9	12.1	-	-	-	1.0	1.0	2.5	3.2	8.3	
A14. Leukemia	19.8	-	-	-	1.6	-	1.9	2.2	11.6	-	-	-	1.8	-	1.5	1.9	8.2	
B. Diabetes mellitus	87.0	-	-	-	1.2	1.4	8.4	14.2	8.5	33.6	-	1.7	1.3	13.2	22.9	14.3	53.4	
C. Nutritional/endocrine	82.8	15.9	2.0	3.8	8.5	3.2	2.5	4.7	40.4	11.7	5.3	4.7	3.3	5.5	4.2	7.7	42.4	
C1. Protein-energy malnutrition	23.4	8.3	1.4	-	-	-	-	1.3	12.2	7.3	1.1	-	-	-	-	1.5	11.2	
C2. Anaemia	22.4	2.9	1.2	-	-	-	-	1.3	7.6	1.4	4.6	1.6	-	2.0	1.7	2.8	14.9	
D. Neuro-psychiatric	119.2	5.7	18.2	3.7	7.8	10.3	8.1	14.5	68.3	4.7	11.0	5.7	4.0	4.3	4.9	16.4	50.9	
D1. Psychoses	4.3	-	-	-	-	-	-	-	2.3	-	-	-	-	-	-	-	2.0	
D2. Epilepsy	19.6	-	4.2	1.1	2.2	2.0	-	-	11.7	-	2.3	2.1	1.2	-	-	-	7.9	
D3. Alcohol dependence	2.9	-	-	-	-	-	-	-	2.5	-	-	-	-	-	-	-	-	
D4. Alzheimer & other dementias	22.6	-	1.6	-	-	1.5	2.1	4.8	11.5	-	-	-	-	-	1.4	6.7	11.0	
D5. Parkinson disease	7.5	-	-	-	-	-	1.0	3.3	4.6	-	-	-	-	-	-	2.3	2.9	
D6. Multiple sclerosis	5.3	-	-	-	-	-	-	-	2.5	-	-	-	-	-	-	-	2.8	
E. Cardiovascular diseases	1,351.6	8.1	6.9	6.5	38.4	114.8	163.2	327.0	665.0	6.3	10.8	11.3	27.3	90.6	137.3	403.0	686.7	
E1. Rheumatic diseases	33.6	-	-	-	1.1	2.1	2.4	2.9	9.2	-	-	-	2.3	6.5	7.1	6.9	24.5	
E2. Ischaemic heart disease	589.2	-	-	-	16.1	59.5	82.4	156.8	316.0	-	-	-	5.8	30.1	56.4	179.8	273.2	
E3. Cerebrovascular diseases	350.4	-	-	-	5.0	21.6	39.5	86.0	155.2	-	2.0	2.4	6.6	26.4	40.9	116.3	195.2	
E4. Inflammatory cardiac disease	129.6	3.4	3.1	2.5	8.4	13.2	13.4	22.7	66.8	3.3	4.7	3.2	5.5	10.1	10.2	25.7	62.8	
F. Respiratory	138.1	8.7	7.2	1.1	3.2	8.8	13.8	34.6	77.5	6.6	3.7	3.1	3.6	9.6	8.6	25.4	60.7	
F1. Chronic obstructive lung disease	76.3	1.2	-	-	-	5.5	10.4	26.8	45.6	-	-	-	-	5.7	6.3	16.7	30.8	
F2. Asthma	17.5	-	3.5	-	-	-	-	1.2	8.2	-	1.9	1.3	1.4	1.7	-	1.7	9.3	
G. Digestive	203.6	11.3	4.1	2.8	20.3	34.3	22.7	25.9	121.4	10.7	5.0	4.0	12.0	18.4	12.5	19.5	82.2	
G1. Peptic ulcer disease	26.3	-	-	-	3.0	5.2	3.4	3.9	16.1	-	-	-	1.8	2.8	1.9	2.9	10.2	
G2. Cirrhosis	83.0	-	-	-	12.4	22.5	12.9	7.4	57.1	-	-	-	1.2	5.2	9.1	4.8	4.5	
H. Genito-urinary	84.6	1.6	5.9	-	2.6	6.2	6.7	17.8	41.8	-	4.3	3.3	2.9	9.2	9.0	13.4	42.8	
H1. Nephritis/nephrosis	50.1	-	5.4	-	2.0	4.7	4.3	8.4	26.3	-	4.0	1.9	1.9	4.4	4.7	6.6	23.8	
I. Musculo-skeletal	15.0	-	-	-	-	-	1.2	2.6	5.3	-	-	-	1.1	1.4	1.4	4.0	9.7	
J. Congenital	84.5	38.7	4.0	-	-	-	-	-	45.0	30.6	4.0	1.9	2.3	-	-	-	39.6	

A dash (-) indicates less than 1000 deaths.

Estimated deaths (in thousands) by age, sex and cause, 1990: Sub-Saharan Africa

Cause of Death (ICD 9)	No. of deaths (in thousands)															
	Both sexes					Males					Females					
	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages
Population (in millions)	510.3	47.5	70.3	66.8	37.0	20.3	3.5	252.3	47.0	69.8	67.4	36.8	22.1	8.1	4.6	258.0
All Causes	7,937.0	2,142.0	369.0	391.0	321.0	332.0	359.0	4,172.0	1,834.0	344.0	324.0	293.0	283.0	251.0	436.0	3,765.0
<i>I. Communicable, maternal & perinatal</i>	5,414.7	1,955.6	261.2	198.2	116.8	118.9	69.3	2,806.2	1,683.6	264.1	274.1	181.7	75.8	59.0	70.2	2,608.5
A. Infectious & parasitic	3,759.5	1,265.9	227.1	188.0	111.6	113.4	56.5	2,199.3	1,127.9	224.5	185.6	120.4	67.7	27.6	15.6	1,769.2
A1. Tuberculosis	535.5	12.7	27.5	71.2	52.9	83.5	44.4	21.9	314.1	11.5	31.5	66.2	42.9	41.1	18.0	221.4
A2. Syphilis	152.7	35.2	-	27.3	14.0	3.4	-	80.8	31.4	-	22.0	14.4	3.1	-	-	71.8
A3. HIV	217.8	27.8	4.5	42.0	21.4	6.5	2.0	105.3	25.4	4.7	45.7	29.6	5.2	1.1	-	112.4
A4. Diarrhoeal diseases	887.1	417.5	34.1	5.0	2.5	1.6	-	461.5	378.4	35.6	5.3	3.4	1.9	-	-	425.6
a. Acute watery	471.3	210.4	25.9	4.0	2.0	1.2	-	244.3	190.7	27.1	4.2	2.7	1.5	-	-	227.1
b. Dysentery	279.0	144.6	1.6	-	-	-	-	146.3	131.1	1.7	-	-	-	-	-	132.8
c. Typhoid	136.8	62.5	6.6	1.0	-	-	-	71.0	56.6	6.8	1.1	-	-	-	-	65.8
A5. Pertussis	133.7	62.7	10.2	-	-	-	-	72.9	51.2	9.5	-	-	-	-	-	60.7
A6. Measles	472.7	211.2	34.3	-	-	-	-	245.6	191.4	35.7	-	-	-	-	-	227.2
A7. Tetanus	174.5	85.6	4.2	-	-	-	-	92.4	74.6	4.4	-	-	-	-	-	82.1
A8. Meningitis	49.6	15.0	14.1	2.0	-	-	-	32.0	9.2	4.1	2.8	1.2	-	-	-	17.6
A9. Malaria	805.3	323.5	55.1	19.6	10.0	3.3	1.3	413.6	293.2	57.5	20.9	13.6	4.1	1.5	-	391.7
A10. Trypanosomiasis	55.1	1.5	10.2	7.1	3.6	4.8	-	28.2	2.7	9.1	6.8	4.4	3.2	-	-	26.8
A11. Chagas disease	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A12. Schistosomiasis	21.0	-	4.5	4.2	2.1	1.4	-	13.6	-	1.9	2.3	1.5	-	-	-	7.4
A13. Leishmaniasis	10.4	-	3.1	1.0	-	-	-	5.0	-	3.3	1.1	-	-	-	-	5.4
A14. Onchocerciasis	29.7	-	2.7	1.4	6.1	17.3	-	17.3	-	1.9	1.2	4.6	3.1	3.1	1.7	12.4
B. Respiratory infections	1,028.8	396.7	34.1	10.3	5.2	5.5	29.7	41.4	359.5	35.5	10.9	7.1	6.8	31.4	54.6	505.9
C. Maternal causes	137.2	-	-	-	-	-	-	522.9	4.0	77.6	54.2	1.4	-	-	-	137.2
C1. Haemorrhage	41.2	-	-	-	-	-	-	-	1.2	23.3	16.2	-	-	-	-	41.2
C2. Sepsis	27.4	-	-	-	-	-	-	-	15.5	10.8	-	-	-	-	-	27.4
C3. Eclampsia	13.7	-	-	-	-	-	-	-	7.8	5.4	-	-	-	-	-	13.7
C4. Hypertension	6.9	-	-	-	-	-	-	-	3.9	2.7	-	-	-	-	-	6.9
C5. Obstructed labour	13.7	-	-	-	-	-	-	-	7.8	5.4	-	-	-	-	-	13.7
C6. Abortion	20.6	-	-	-	-	-	-	-	11.6	8.1	-	-	-	-	-	20.6
D. Perinatal causes	489.3	293.0	-	-	-	-	-	293.0	196.2	-	-	-	-	-	-	196.2
<i>III. Injuries</i>	623.8	58.7	51.4	178.8	109.8	35.2	10.5	446.5	53.3	29.0	33.9	27.6	13.5	7.4	12.4	177.2
A. Unintentional	335.3	41.2	38.7	85.2	52.4	21.3	6.0	245.6	35.3	20.7	6.5	8.2	5.8	3.9	9.2	89.7
A1. Road traffic accidents	113.9	6.7	12.0	39.5	22.0	7.6	2.0	90.0	5.5	7.9	2.9	3.0	2.0	1.2	1.4	23.9
A2. Poisoning	19.5	2.4	-	3.7	4.7	2.2	-	14.4	1.8	-	-	-	-	-	-	5.1
A3. Falls	20.4	1.9	1.4	3.6	2.9	1.9	-	12.6	1.8	-	-	-	-	-	-	7.8
A4. Fires	13.0	3.7	1.1	1.2	-	-	-	7.7	3.0	1.2	-	-	-	-	-	5.4
A5. Drowning	48.3	8.8	10.7	10.1	3.9	1.4	-	35.2	6.5	4.4	-	-	-	-	-	13.0
A6. Occupational	15.5	-	-	4.3	6.8	2.3	-	13.5	-	-	-	-	-	-	-	2.0
B. Intentional	288.5	17.5	12.7	93.6	57.4	13.9	4.5	200.9	18.0	8.3	27.4	19.4	7.7	3.6	3.2	87.6
B1. Self-inflicted	66.0	-	1.9	23.6	17.7	6.8	2.0	52.2	-	-	-	-	-	-	-	13.8
B2. Homicide and violence	41.0	2.0	1.5	17.3	10.0	2.4	-	33.7	2.5	1.1	-	-	-	-	-	7.2
B3. War	181.6	15.5	9.3	52.8	29.7	4.6	2.1	115.0	15.5	6.2	23.4	13.7	4.6	2.0	1.1	66.6

A dash (-) indicates less than 1000 deaths.

Estimated deaths (in thousands) by age, sex and cause, 1990: Sub-Saharan Africa

Cause of Death (ICD 9)	No. of deaths (in thousands)																	
	Males						Females											
	Both sexes	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages	
<i>II. Noncommunicable</i>	1,898.5	127.6	56.4	13.9	94.4	178.0	161.3	287.6	919.2	97.1	50.9	16.0	83.7	193.7	184.6	353.4	979.3	
A. Malignant neoplasms	305.2	2.1	9.1	1.7	7.8	46.2	45.1	50.5	162.5	3.3	-	1.7	21.0	48.8	33.7	33.9	142.6	
A1. Mouth and oropharynx	20.1	-	-	-	-	1.7	4.5	5.1	12.0	-	-	-	-	1.1	2.9	2.9	8.1	
A2. Oesophagus	19.9	-	-	-	-	5.4	3.8	4.2	14.0	-	-	-	-	1.8	1.8	1.8	5.9	
A3. Stomach	27.8	-	-	-	-	5.1	4.6	5.1	15.4	-	-	-	1.2	4.9	3.1	3.1	12.4	
A4. Colorectal	13.1	-	-	-	-	1.0	2.4	2.7	6.5	-	-	-	-	1.0	2.4	2.4	6.6	
A5. Liver	43.8	-	-	-	3.3	12.1	6.0	6.7	29.2	-	-	-	2.8	4.7	3.4	3.4	14.7	
A6. Pancreas	6.0	-	-	-	-	1.2	-	-	3.2	-	-	-	-	1.1	-	-	2.8	
A7. Lung	16.9	-	-	-	-	4.2	3.7	4.2	12.5	-	-	-	-	1.7	1.2	1.2	4.4	
A8. Breast	16.7	-	-	-	-	-	-	-	-	-	-	-	2.8	6.4	3.6	3.6	16.7	
A9. Cervix	31.9	-	-	-	-	-	-	-	-	-	-	4.3	12.4	7.4	7.4	7.4	31.9	
A10. Ovary	7.1	-	-	-	-	-	-	-	-	-	-	1.4	2.6	1.5	1.5	1.5	7.1	
A11. Prostate	29.9	-	-	-	-	3.3	12.5	14.0	29.9	-	-	-	-	1.3	1.3	1.3	4.4	
A12. Bladder	12.1	-	-	-	-	1.9	2.6	3.0	7.7	-	-	-	-	1.5	1.2	1.5	7.0	
A13. Lymphoma	21.3	1.1	5.0	-	-	1.7	2.6	2.9	14.2	1.1	-	-	-	1.5	1.2	1.5	7.0	
A14. Leukemia	7.2	-	-	-	-	-	-	-	3.7	-	-	-	-	-	-	-	3.5	
B. Diabetes mellitus	24.6	-	-	-	-	2.2	3.5	2.1	8.2	-	-	-	-	4.3	7.4	4.1	16.4	
C. Nutritional/endocrine	89.3	23.6	1.6	3.5	11.8	2.3	1.2	2.1	46.0	16.5	5.3	2.0	3.8	6.5	3.8	5.2	43.2	
C1. Protein-energy malnutrition	29.8	12.6	1.4	-	-	-	-	-	15.8	10.6	1.2	-	-	-	-	-	1.1	14.0
C2. Anaemia	22.1	4.3	1.1	-	-	-	-	-	7.6	1.9	4.9	-	-	2.5	1.6	2.0	14.6	
D. Neuro-psychiatric	83.6	7.3	17.6	2.0	7.8	7.5	3.4	4.5	50.1	5.9	10.7	2.2	3.8	2.7	2.6	5.6	33.6	
D1. Psychoses	4.5	-	-	-	-	-	-	-	2.5	-	-	-	-	-	-	1.1	1.9	
D2. Epilepsy	15.1	-	4.1	-	2.1	1.3	-	-	9.4	-	2.3	-	1.1	-	-	-	5.7	
D3. Alcohol dependence	3.8	-	-	-	-	1.3	-	-	3.2	-	-	-	-	-	-	-	-	
D4. Alzheimer & other dementias	12.1	1.2	1.6	-	-	1.0	-	1.3	6.4	1.1	-	-	-	-	-	2.3	5.7	
D5. Parkinson disease	2.6	-	-	-	-	-	-	-	1.5	-	-	-	-	-	-	-	1.1	
D6. Multiple sclerosis	3.2	-	-	-	-	-	-	-	1.5	-	-	-	-	-	-	-	1.7	
E. Cardiovascular diseases	933.9	10.7	5.3	2.3	36.7	83.8	86.1	186.1	411.0	7.8	9.7	3.8	27.6	91.6	113.1	269.4	522.9	
E1. Rheumatic diseases	64.6	-	-	-	2.6	4.4	3.7	5.0	16.3	-	-	-	4.4	14.6	14.9	13.0	48.4	
E2. Ischaemic heart disease	109.1	-	-	-	3.6	12.5	12.8	26.4	55.4	-	-	-	1.1	6.8	11.7	34.0	53.7	
E3. Cerebrovascular diseases	389.1	1.2	-	-	6.7	27.4	36.8	86.9	160.1	-	1.5	-	7.5	35.7	51.1	131.8	229.0	
E4. Inflammatory cardiac disease	294.3	7.1	3.4	1.5	18.6	27.9	20.8	38.3	117.6	5.8	6.1	1.8	10.6	22.7	21.3	48.5	116.7	
F. Respiratory	102.6	13.5	7.7	-	3.8	6.9	7.1	17.2	56.7	9.0	3.7	1.4	3.8	9.9	5.8	12.4	45.9	
F1. Chronic obstructive lung disease	47.0	1.9	-	-	-	4.2	5.4	13.3	26.6	1.0	-	-	-	5.9	4.2	8.1	20.4	
F2. Asthma	15.2	-	3.7	-	-	-	-	-	7.5	-	1.9	-	1.5	1.8	-	-	7.7	
G. Digestive	159.9	16.7	3.8	2.1	21.9	22.7	10.3	12.3	89.8	15.3	4.9	1.6	14.0	17.2	8.5	8.5	70.1	
G1. Peptic ulcer disease	18.3	-	-	-	3.3	3.4	1.5	1.8	10.6	-	-	-	2.1	2.6	1.3	1.3	7.7	
G2. Cirrhosis	60.4	-	-	-	13.3	14.9	6.0	3.2	39.4	-	-	-	5.9	8.1	3.1	2.2	21.0	
H1. Genito-urinary	64.6	2.2	5.9	-	2.6	4.7	3.3	10.1	29.2	-	4.4	1.4	2.9	9.9	7.5	8.5	35.4	
H1. Nephritis/nephrosis	34.1	-	5.4	-	1.8	3.5	2.0	3.5	17.5	-	4.1	-	1.7	3.8	3.3	2.6	16.6	
I. Musculo-skeletal	10.1	-	-	-	-	-	-	1.4	3.2	-	-	-	1.1	1.2	1.0	2.5	6.9	
J. Congenital	100.1	50.0	3.6	-	-	-	-	-	55.4	36.7	3.4	-	3.0	-	-	-	44.6	

A dash (-) indicates less than 1000 deaths.

Estimated deaths (in thousands) by age, sex and cause, 1990: Latin America and the Caribbean

Cause of Death (ICD 9)	No. of deaths (in thousands)																	
	Both sexes						Males						Females					
	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages		
Population (in millions)	444.3	28.7	52.1	64.1	40.2	22.2	8.8	5.4	221.6	27.7	50.7	63.2	40.9	23.4	9.9	7.0	222.7	
All Causes	2,992.0	401.0	72.0	150.0	165.0	227.0	218.0	411.0	1,644.0	304.0	54.0	96.0	111.0	170.0	176.0	437.0	1,348.0	
<i>I. Communicable, maternal & perinatal</i>	966.1	328.1	34.7	38.9	35.9	35.2	17.6	39.6	530.0	245.5	30.1	50.7	39.7	23.2	11.8	35.1	436.1	
A. Infectious & parasitic	490.2	117.4	24.8	35.2	31.8	30.7	12.8	21.9	274.7	96.4	21.7	28.7	26.0	18.5	7.9	16.2	215.5	
A1. Tuberculosis	111.5	1.7	2.9	13.5	14.8	19.8	6.0	11.2	69.9	1.6	3.1	9.8	11.6	8.3	2.1	5.0	41.6	
A2. Syphilis	11.5	1.6	-	2.5	1.6	-	-	-	6.2	1.5	-	2.0	1.4	-	-	-	5.2	
A3. HIV	28.9	1.0	-	11.5	7.5	2.3	-	-	23.6	1.0	-	2.3	1.5	-	-	-	5.3	
A4. Diarrhoeal diseases	170.8	73.6	7.4	1.4	1.2	1.4	1.3	4.0	90.4	59.6	6.8	3.5	2.2	1.9	1.5	4.9	80.4	
a. Acute watery	96.0	36.8	5.6	1.1	-	1.1	1.1	3.2	49.9	29.8	5.1	2.8	1.8	1.5	1.2	3.9	46.1	
b. Persistent	47.3	25.8	-	-	-	-	-	-	26.1	20.9	-	-	-	-	-	-	21.2	
c. Dysentery	27.5	11.0	1.5	-	-	-	-	-	14.4	8.9	1.4	-	-	-	-	-	13.1	
A5. Pertussis	17.9	8.7	-	-	-	-	-	-	9.6	7.5	-	-	-	-	-	-	8.3	
A6. Measles	11.1	4.3	1.2	-	-	-	-	-	5.6	3.9	1.2	-	-	-	-	-	5.5	
A7. Tetanus	7.6	2.7	-	-	-	-	-	-	4.0	2.6	-	-	-	-	-	-	3.6	
A8. Meningitis	21.4	7.1	2.5	-	-	-	-	-	11.6	5.3	2.1	1.2	-	-	-	-	9.8	
A9. Malaria	11.9	-	1.4	1.7	1.1	-	-	-	5.9	-	1.4	1.7	1.1	-	-	-	6.0	
A10. Trypanosomiasis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
A11. Chagas disease	23.1	-	-	-	2.7	3.4	2.3	2.2	11.5	-	-	1.1	3.2	3.6	1.9	1.8	11.6	
A12. Schistosomiasis	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
A13. Leishmaniasis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
A14. Onchocerciasis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
B. Respiratory infections	211.1	66.8	9.8	3.7	4.1	4.5	4.7	17.7	111.3	52.2	8.2	7.1	5.1	4.6	3.9	18.8	99.9	
C. Maternal causes	23.8	-	-	-	-	-	-	-	-	-	-	14.9	8.5	-	-	-	23.8	
C1. Haemorrhage	4.8	-	-	-	-	-	-	-	-	-	-	3.0	1.7	-	-	-	4.8	
C2. Sepsis	2.4	-	-	-	-	-	-	-	-	-	-	1.5	-	-	-	-	2.4	
C3. Eclampsia	5.0	-	-	-	-	-	-	-	-	-	-	3.3	1.6	-	-	-	5.0	
C4. Hypertension	2.4	-	-	-	-	-	-	-	-	-	-	1.5	-	-	-	-	2.4	
C5. Obstructed labour	2.4	-	-	-	-	-	-	-	-	-	-	1.5	-	-	-	-	2.4	
C6. Abortion	3.4	-	-	-	-	-	-	-	-	-	-	2.3	1.0	-	-	-	3.4	
D. Perinatal causes	240.9	143.9	-	-	-	-	-	-	144.0	96.9	-	-	-	-	-	-	96.9	
<i>III. Injuries</i>	293.0	14.0	18.3	82.0	57.3	29.8	13.0	13.9	228.4	10.4	7.3	14.3	9.9	7.5	4.9	10.3	64.6	
A. Unintentional	207.3	12.6	16.4	48.8	35.9	21.1	9.9	11.7	156.5	9.1	6.4	9.3	6.6	5.8	4.0	9.6	50.9	
A1. Road traffic accidents	80.0	2.6	6.4	21.1	16.1	9.0	3.9	3.2	62.3	1.7	2.8	4.2	3.1	2.7	1.6	1.6	17.7	
A2. Poisoning	3.1	-	-	-	-	-	-	-	1.9	-	-	-	-	-	-	-	1.2	
A3. Falls	14.0	-	-	1.7	1.6	1.3	-	2.4	8.7	-	-	-	-	-	-	3.7	5.3	
A4. Fires	5.7	-	-	-	-	-	-	-	3.5	-	-	-	-	-	-	-	2.3	
A5. Drowning	19.9	2.0	3.1	6.3	2.9	1.3	-	-	16.4	1.2	-	-	-	-	-	-	3.5	
A6. Occupational	13.3	-	-	3.0	5.5	2.6	-	-	11.2	-	-	-	-	-	-	-	2.0	
B. Intentional	85.7	1.4	1.9	33.2	21.3	8.7	3.1	2.2	71.9	1.3	-	4.9	3.4	1.7	-	-	13.7	
B1. Self-inflicted	17.2	-	-	4.5	3.4	2.3	1.3	1.2	13.0	-	-	1.5	1.1	-	-	-	4.3	
B2. Homicide and violence	55.0	-	1.1	24.4	15.2	6.1	1.6	-	49.8	-	-	2.0	1.4	-	-	-	5.2	
B3. War	13.4	-	-	4.3	2.8	-	-	-	9.2	-	-	1.4	-	-	-	-	4.3	

A dash (-) indicates less than 1000 deaths.

Estimated deaths (in thousands) by age, sex and cause, 1990: Latin America and the Caribbean

Cause of Death (ICD 9)	No. of deaths (in thousands)																
	Males					Females											
	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages	
<i>II. Noncommunicable</i>	1,732.9	58.8	19.0	29.0	71.8	162.0	187.5	357.5	6885.6	48.1	16.6	31.0	61.3	139.2	159.3	391.7	847.3
A. Malignant neoplasms	341.0	1.8	4.9	5.6	10.7	35.6	44.6	65.5	1688	1.5	3.8	6.0	18.5	44.3	41.5	56.6	172.2
A1. Mouth and oropharynx	12.7	-	-	-	-	3.2	2.1	3.1	9.4	-	-	-	-	-	-	1.3	3.3
A2. Oesophagus	9.0	-	-	-	-	1.8	1.8	2.6	6.5	-	-	-	-	-	-	1.1	2.4
A3. Stomach	36.4	-	-	-	-	5.2	6.7	9.8	23.0	-	-	-	-	2.6	4.2	5.7	13.4
A4. Colorectal	22.8	-	-	-	-	2.3	3.2	4.7	11.1	-	-	-	-	2.5	3.6	4.8	11.7
A5. Liver	4.8	-	-	-	-	-	-	-	2.5	-	-	-	-	-	-	-	2.2
A6. Pancreas	6.5	-	-	-	-	-	1.1	1.6	3.6	-	-	-	-	-	-	1.3	2.8
A7. Lung	28.2	-	-	-	-	5.4	6.2	9.1	21.8	-	-	-	-	1.5	1.9	2.6	6.4
A8. Breast	31.1	-	-	-	-	-	-	-	-	-	1.5	4.6	11.1	5.9	8.0	31.1	80
A9. Cervix	25.5	-	-	-	-	-	-	-	-	-	1.7	5.2	9.1	4.0	5.5	25.5	25.5
A10. Ovary	5.0	-	-	-	-	-	-	-	-	-	-	-	-	1.6	-	1.2	5.0
A11. Prostate	22.8	-	-	-	-	1.4	8.6	12.7	22.8	-	-	-	-	-	-	-	-
A12. Bladder	9.7	-	-	-	-	1.3	2.4	3.6	7.5	-	-	-	-	-	-	-	2.2
A13. Lymphoma	15.4	-	-	-	-	1.3	1.7	1.5	2.2	-	-	-	-	1.3	1.4	1.9	6.7
A14. Leukemia	10.3	-	1.7	-	-	-	-	-	5.9	-	1.2	-	-	-	-	-	4.4
B. Diabetes mellitus	85.2	-	-	-	-	2.5	7.4	9.6	13.0	-	-	-	2.1	10.6	15.2	22.6	51.7
C. Nutritional/endocrine	79.6	16.2	2.3	1.8	2.4	2.8	3.2	10.3	39.1	13.4	2.1	2.2	2.3	3.3	3.5	13.9	40.6
C1. Protein-energy malnutrition	33.6	9.7	-	-	-	-	1.1	4.2	17.3	7.9	-	-	-	-	-	5.4	16.3
C2. Anaemia	15.7	1.5	-	-	-	-	-	2.4	7.3	1.1	-	-	-	-	-	3.0	8.5
D. Neuro-psychiatric	51.6	3.0	3.1	4.2	6.5	6.5	3.6	5.2	32.1	2.4	2.5	3.1	2.5	2.4	1.8	4.7	19.5
D1. Psychoses	3.9	-	-	-	-	-	-	-	2.2	-	-	-	-	-	-	-	1.7
D2. Epilepsy	8.8	-	-	1.4	1.1	-	-	-	4.8	-	-	1.3	-	-	-	-	4.0
D3. Alcohol dependence	9.9	-	-	-	2.9	3.1	1.3	-	8.7	-	-	-	-	-	-	-	1.2
D4. Alzheimer & other dementias	4.4	-	-	-	-	-	-	1.2	2.1	-	-	-	-	-	1.8	-	2.3
D5. Parkinson disease	2.7	-	-	-	-	-	-	-	1.7	-	-	-	-	-	-	-	-
D6. Multiple sclerosis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E. Cardiovascular diseases	786.7	4.0	2.6	7.6	26.4	71.2	90.0	193.2	394.9	3.1	2.4	8.7	21.3	53.6	70.9	231.9	391.8
E1. Rheumatic diseases	8.2	-	-	-	-	-	-	-	2.8	-	-	-	1.1	1.4	-	-	5.4
E2. Ischaemic heart disease	269.1	-	-	1.3	8.8	28.7	36.1	71.2	146.3	-	-	-	4.0	15.2	23.7	78.8	122.8
E3. Cerebrovascular diseases	224.1	-	-	1.9	7.6	20.5	25.2	51.6	107.7	-	-	2.5	7.7	19.0	22.4	64.0	116.4
E4. Inflammatory cardiac disease	121.9	2.5	1.5	3.7	7.5	12.4	12.6	24.1	64.3	2.7	1.3	2.8	5.3	8.7	9.4	27.4	57.6
F. Respiratory	118.2	8.9	1.4	1.9	3.2	7.8	12.5	31.0	66.7	7.4	1.3	2.0	2.9	6.0	8.1	23.9	51.5
F1. Chronic obstructive lung disease	67.4	1.3	-	-	-	4.8	9.4	24.0	40.6	-	-	-	-	3.5	5.9	15.7	26.8
F2. Asthma	11.9	-	-	-	-	-	-	1.1	5.4	-	-	-	1.1	1.1	-	1.6	6.6
G. Digestive	147.7	3.1	1.5	4.2	16.6	25.1	17.3	22.0	89.7	2.2	1.2	3.2	6.4	12.0	11.3	21.6	58.0
G1. Peptic ulcer disease	11.8	-	-	-	-	1.4	1.5	3.0	7.0	-	-	-	-	-	-	2.7	4.8
G2. Cirrhosis	60.5	-	-	1.7	10.9	16.1	8.7	6.4	44.1	-	-	-	-	5.3	3.9	3.5	16.4
H. Genito-urinary	55.4	1.4	-	1.3	2.2	3.9	5.0	13.6	28.3	1.1	-	2.4	3.1	4.3	4.5	10.8	27.1
H1. Nephritis/nephrosis	38.6	-	-	1.2	1.8	3.1	3.6	8.1	19.4	-	-	1.6	2.0	3.2	3.4	7.6	19.2
I. Musculo-skeletal	10.1	-	-	-	-	-	-	-	3.1	-	-	-	-	1.1	-	-	7.0
J. Congenital	42.0	19.3	1.4	-	-	-	-	-	22.6	16.2	1.3	-	-	-	-	-	19.4

A dash (-) indicates less than 1000 deaths.

Estimated deaths (in thousands) by age, sex and cause, 1990: Middle Eastern Crescent

Cause of Death (ICD 9)	No. of deaths (in thousands)																
	Both sexes		Males						Females								
	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages	
Population (in millions)	503.1	41.2	65.3	70.2	43.7	22.3	9.0	4.7	256.4	39.7	62.0	66.1	41.1	22.3	9.6	5.9	246.7
All Causes	4,384.0	938.0	148.0	124.0	142.0	247.0	267.0	436.0	2,302.0	891.0	134.0	108.0	107.0	169.0	206.0	467.0	2,082.0
<i>I. Communicable, maternal & perinatal</i>	2,025.6	786.2	67.5	19.9	23.5	38.6	37.5	39.6	1,012.7	758.6	77.4	54.4	35.7	19.3	25.0	42.4	1,012.9
<i>A. Infectious & parasitic</i>	1,032	736.5	52.1	17.3	21.6	36.0	19.7	10.8	522.5	376.1	57.9	27.2	18.1	16.3	8.6	6.0	510.2
A1. Tuberculosis	170.0	4.1	8.1	13.1	17.1	32.0	17.7	9.0	101.2	4.2	10.4	18.9	11.9	12.7	6.6	4.0	68.8
A2. Syphilis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A3. HIV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A4. Diarrhoeal diseases	455.0	200.6	13.3	2.4	2.9	1.8	-	-	222.2	206.9	15.5	3.5	3.7	1.8	-	-	232.8
a. Acute watery	238.2	99.6	9.7	1.7	2.4	1.4	-	-	115.9	102.8	11.3	2.6	3.1	1.4	-	-	122.3
b. Persistent	144.9	70.5	-	-	-	-	-	-	71.3	72.8	-	-	-	-	-	-	73.6
c. Dysentery	72.0	30.4	2.9	-	-	-	-	-	35.0	31.4	3.4	-	-	-	-	-	36.9
A5. Pertussis	41.9	17.9	2.5	-	-	-	-	-	20.4	18.5	3.0	-	-	-	-	-	21.5
A6. Measles	114.7	49.1	6.9	-	-	-	-	-	55.9	50.6	8.1	-	-	-	-	-	58.7
A7. Tetanus	75.7	34.7	1.6	-	-	-	-	-	37.3	35.3	1.9	-	-	-	-	-	38.4
A8. Meningitis	36.7	13.2	7.3	-	-	-	-	-	21.4	10.7	3.1	-	-	-	-	-	15.4
A9. Malaria	7.1	1.2	-	-	-	-	-	-	3.2	1.4	-	-	-	-	-	-	3.8
A10. Trypanosomiasis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A11. Chagas disease	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A12. Schistosomiasis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A13. Leishmaniasis	1.9	-	-	-	-	-	-	-	1.1	-	-	-	-	-	-	-	-
A14. Onchocerciasis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B. Respiratory infections	546.3	195.8	15.4	2.6	1.9	2.6	17.8	28.8	264.8	202.0	17.9	3.8	2.4	2.6	16.4	36.4	281.5
C. Maternal causes	40.7	-	-	-	-	-	-	-	-	1.6	23.4	15.2	-	-	-	-	40.7
C1. Haemorrhage	10.2	-	-	-	-	-	-	-	-	-	5.9	3.8	-	-	-	-	10.2
C2. Sepsis	8.1	-	-	-	-	-	-	-	-	-	4.7	3.0	-	-	-	-	8.1
C3. Eclampsia	4.1	-	-	-	-	-	-	-	-	-	2.3	1.5	-	-	-	-	4.1
C4. Hypertension	6.1	-	-	-	-	-	-	-	-	-	3.5	2.3	-	-	-	-	6.1
C5. Obstructed labour	4.1	-	-	-	-	-	-	-	-	-	2.3	1.5	-	-	-	-	4.1
C6. Abortion	4.1	-	-	-	-	-	-	-	-	-	2.3	1.5	-	-	-	-	4.1
D. Perinatal causes	405.9	225.4	-	-	-	-	-	-	225.4	180.5	-	-	-	-	-	-	180.5
<i>III. Injuries</i>	392.0	37.0	38.0	87.6	63.1	28.8	11.9	10.3	276.7	31.4	16.0	26.7	17.3	9.9	5.7	8.4	115.3
A. Unintentional	214.4	26.8	29.9	36.0	27.5	18.3	7.7	7.3	153.4	21.0	11.3	8.6	5.6	4.9	3.3	6.3	61.0
A1. Road traffic accidents	70.0	4.3	9.2	16.7	11.5	6.5	2.6	1.9	52.8	3.3	4.3	3.9	2.1	1.6	1.0	-	17.2
A2. Poisoning	12.7	1.6	-	1.6	2.5	1.9	-	-	9.1	1.1	-	-	-	-	-	-	3.6
A3. Falls	15.0	1.2	1.1	1.5	1.5	1.6	-	1.7	9.6	1.1	-	-	-	-	-	2.6	5.4
A4. Fires	8.6	2.4	-	-	-	-	-	-	5.2	1.8	-	-	-	-	-	-	3.4
A5. Drowning	30.5	5.7	8.2	4.3	2.0	1.2	-	-	22.3	3.9	2.4	-	-	-	-	-	8.2
A6. Occupational	9.1	-	-	1.8	3.6	2.0	-	-	7.5	-	-	-	-	-	-	-	1.6
B. Intentional	177.5	10.2	8.2	51.6	35.6	10.5	4.2	2.9	123.3	10.4	4.6	18.1	11.7	5.0	2.4	2.1	54.3
B1. Self-inflicted	43.1	-	1.5	9.9	9.3	5.9	2.6	2.1	31.2	-	-	4.1	2.9	2.0	1.1	1.2	11.9
B2. Homicide and violence	23.3	1.3	1.2	7.3	5.3	2.1	-	-	17.9	1.5	-	1.3	1.0	-	-	-	5.3
B3. War	111.2	8.9	5.6	34.4	21.1	2.5	1.1	-	74.1	8.9	3.5	12.7	7.8	2.5	1.0	-	37.1

A dash (-) indicates less than 1000 deaths.

Estimated deaths (in thousands) by age, sex and cause, 1990: Middle Eastern Crescent

Cause of Death (ICD 9)	No. of deaths (in thousands)																	
	Both sexes						Males						Females					
	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages		
<i>I. Noncommunicable</i>	1,966.5	114.8	42.5	16.5	55.5	179.7	217.6	386.1	1,012.6	101.0	40.6	26.9	54.0	139.8	175.3	416.2	953.8	
A. Malignant neoplasms	327.4	2.3	7.1	2.9	10.1	46.0	55.1	64.8	188.2	3.3	1.3	3.7	15.9	37.6	34.7	42.7	139.1	
A1. Mouth and oropharynx	27.4	-	-	-	-	2.5	6.6	7.7	9.8	-	-	-	-	1.4	2.9	3.6	9.2	
A2. Oesophagus	16.2	-	-	-	-	2.7	3.1	3.6	9.8	-	-	-	-	1.8	1.8	2.2	6.3	
A3. Stomach	34.6	-	-	-	-	5.5	6.5	7.7	20.9	-	-	-	-	3.1	4.2	5.2	13.7	
A4. Colorectal	22.1	-	-	-	-	1.5	4.2	4.9	11.4	-	-	-	-	1.3	3.8	4.7	10.7	
A5. Liver	14.0	-	-	-	-	2.3	2.7	3.2	8.8	-	-	-	-	1.4	1.5	1.9	5.2	
A6. Pancreas	7.8	-	-	-	-	1.3	1.4	1.7	4.6	-	-	-	-	1.4	1.5	1.9	5.2	
A7. Lung	50.4	-	-	-	-	1.1	11.5	12.8	41.0	-	-	-	-	2.3	2.9	3.5	9.5	
A8. Breast	19.3	-	-	-	-	-	-	-	-	-	-	-	3.3	6.9	3.7	4.6	19.3	
A9. Cervix	12.5	-	-	-	-	-	-	-	-	-	-	-	1.7	4.8	2.5	3.1	12.5	
A10. Ovary	9.4	-	-	-	-	-	-	-	-	-	-	-	1.2	1.8	-	1.2	5.5	
A11. Prostate	5.5	-	-	-	-	-	3.9	4.6	9.4	-	-	-	-	-	-	-	-	
A12. Bladder	16.9	-	-	-	-	2.8	4.7	5.6	13.8	-	-	-	-	-	-	1.1	3.1	
A13. Lymphoma	12.9	-	1.3	-	-	1.1	2.1	2.5	8.7	-	-	-	-	1.1	1.3	4.2	4.2	
A14. Leukemia	16.3	-	2.4	-	-	1.0	1.8	2.1	9.2	1.1	-	-	1.3	-	1.5	1.8	7.1	
B. Diabetes mellitus	82.3	-	-	1.2	1.3	8.9	14.1	8.1	33.6	-	-	1.5	1.3	12.3	20.4	13.3	48.8	
C. Nutritional/endocrine	59.5	16.8	1.3	1.8	3.5	1.9	1.4	2.6	29.4	13.9	3.8	2.5	1.8	2.5	1.9	3.6	30.1	
C1. Protein-energy malnutrition	20.7	8.4	-	-	-	-	-	-	10.3	8.4	-	-	-	-	-	-	10.4	
C2. Anaemia	15.1	3.3	-	-	-	-	-	-	5.8	1.8	3.3	-	-	-	-	-	9.2	
D. Neuro-psychiatric	68.9	6.4	11.7	2.0	3.7	4.8	3.7	6.2	38.5	5.7	7.8	3.1	2.3	2.1	2.2	7.1	30.4	
D1. Psychoses	2.1	-	-	-	-	-	-	-	1.1	-	-	-	-	-	-	-	1.1	
D2. Epilepsy	11.7	-	2.7	-	-	1.1	-	-	6.7	-	1.7	1.1	-	-	-	-	4.9	
D3. Alcohol dependence	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
D4. Alzheimer & other dementias	12.0	1.0	1.1	-	-	-	-	2.1	6.1	1.1	-	-	-	-	2.9	2.9	5.9	
D5. Parkinson disease	3.3	-	-	-	-	-	-	1.4	2.0	-	-	-	-	-	-	-	1.3	
D6. Multiple sclerosis	2.6	-	-	-	-	-	-	-	1.2	-	-	-	-	-	-	-	1.4	
E. Cardiovascular diseases	992.3	14.5	6.2	4.5	22.7	84.3	111.2	246.1	489.4	12.2	9.2	7.6	18.4	60.1	93.5	301.9	502.9	
E1. Rheumatic diseases	29.7	-	-	-	-	2.1	2.2	2.9	8.6	-	-	-	1.7	5.2	6.1	6.7	21.1	
E2. Ischaemic heart disease	276.6	-	-	-	-	6.0	29.5	37.5	151.2	-	-	-	2.2	12.0	24.2	86.7	125.4	
E3. Cerebrovascular diseases	327.4	1.7	1.1	-	3.7	21.4	36.0	85.1	149.8	1.0	1.7	1.7	5.0	21.0	35.1	112.1	177.6	
E4. Inflammatory cardiac disease	123.3	6.1	2.8	1.9	6.3	13.1	12.2	22.5	64.9	6.5	4.0	2.2	4.2	8.0	8.8	24.8	58.5	
F. Respiratory	120.0	13.2	5.2	-	2.0	7.8	11.7	27.1	67.8	11.4	2.9	1.8	2.3	6.4	7.1	20.3	52.2	
F1. Chronic obstructive lung disease	62.1	1.9	-	-	-	4.8	8.8	21.0	37.6	1.3	-	-	-	3.8	5.1	13.4	24.5	
F2. Asthma	13.7	-	2.5	-	-	-	-	-	6.6	-	1.5	-	-	1.1	-	1.4	7.1	
G. Digestive	136.3	15.4	3.0	1.6	8.9	18.6	13.1	15.1	75.6	16.8	3.7	2.3	6.8	10.7	8.2	12.2	60.7	
G1. Peptic ulcer disease	15.0	-	-	-	1.3	2.8	2.0	2.3	8.7	-	-	-	1.0	1.6	1.2	1.8	6.2	
G2. Cirrhosis	36.5	-	-	-	4.6	9.1	5.4	3.4	23.8	-	-	-	2.7	4.1	2.2	2.0	12.6	
H. Genito-urinary	62.7	2.0	3.9	-	2.3	5.9	5.5	12.5	32.9	1.0	3.2	2.1	2.4	6.1	5.4	9.6	29.8	
H1. Nephritis/nephrosis	31.6	-	3.4	-	1.1	2.8	2.7	5.3	16.6	-	2.9	1.1	1.2	2.5	2.5	4.3	15.0	
I. Musculo-skeletal	10.3	-	-	-	-	-	-	-	3.7	-	-	-	-	-	-	-	6.7	
J. Congenital	87.7	42.9	2.8	-	-	-	-	-	47.0	35.1	2.9	1.0	1.2	-	-	-	40.7	

A dash (-) indicates less than 1000 deaths.

Estimated deaths (in thousands) by age, sex and cause, 1990: World

Cause of Death (ICD 9)	No. of deaths (in thousands)																
	Both sexes						Males					Females					
	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages	
Population (in millions)	5,267.4	321.3	551.2	735.9	514.0	312.4	136.8	82.0	2,653.7	309.3	525.5	702.7	496.0	311.1	150.9	118.3	2,613.7
All Causes	49,971.1	6,608.1	1,188.7	1,590.6	1,921.5	3,501.9	4,144.8	7,452.1	26,407.6	6,048.5	1,077.1	1,282.8	1,331.0	2,263.9	2,978.1	8,582.2	23,563.5
<i>I. Communicable, maternal & perinatal</i>	16,689.7	5,611.9	634.1	423.5	417.5	541.0	416.2	611.0	8,655.3	5,090.1	649.7	648.1	498.3	303.5	262.5	582.2	8,034.5
A. Infectious & parasitic	9,454.1	2,822.6	513.4	381.5	385.8	491.1	252.0	246.5	5,092.9	2,657.0	513.0	361.4	298.5	253.1	122.0	156.2	4,861.2
A1. Tuberculosis	2,015.5	34.4	66.8	166.7	222.7	378.1	199.8	181.3	1,249.8	37.3	84.6	160.9	153.0	165.7	81.0	83.1	765.7
A2. Syphilis	193.4	40.5	-	35.9	19.7	5.2	-	103.0	-	36.7	-	28.1	19.6	4.5	-	90.4	-
A3. HIV	290.8	30.2	4.8	59.4	47.5	17.7	3.2	2.7	165.5	27.8	5.0	49.5	34.3	6.4	1.3	-	125.4
A4. Diarrhoeal diseases	2,872.7	1,264.9	102.7	27.4	19.7	14.7	9.7	18.2	1,457.3	1,213.1	107.8	27.9	21.9	15.6	7.0	22.1	1,415.3
a. Acute watery	1,553.3	636.7	78.1	21.8	15.9	11.3	7.8	14.7	786.3	610.8	81.8	22.0	17.6	11.9	5.5	17.3	767.0
b. Persistent	871.5	439.3	4.9	-	-	-	-	444.2	-	421.2	5.2	-	-	-	-	4.1	427.3
c. Dysentery	447.9	188.9	19.8	5.6	3.8	3.4	1.9	3.4	226.9	181.1	20.9	5.8	4.2	3.6	1.4	4.1	221.1
A5. Pertussis	321.2	145.8	21.9	-	-	-	-	167.7	-	131.5	22.0	-	-	-	-	-	153.5
A6. Measles	1,006.4	441.9	69.2	-	-	-	-	511.3	-	420.8	74.0	-	-	-	-	-	495.1
A7. Tetanus	505.0	231.6	13.9	2.9	2.2	3.8	2.3	1.8	258.5	218.6	14.1	2.9	2.4	2.2	2.0	2.0	246.5
A8. Meningitis	241.8	73.1	50.2	9.2	4.8	5.8	3.6	2.1	148.	51.9	17.9	10.3	5.0	2.9	2.7	2.2	93.0
A9. Malaria	926.4	331.5	75.7	32.5	19.1	10.2	3.6	1.9	474.5	300.5	77.0	33.2	23.7	11.3	3.9	2.3	451.9
A10. Trypanosomiasis	55.1	1.5	10.2	7.1	3.6	4.8	-	28.2	-	2.7	9.1	6.8	4.4	3.2	-	2.6	26.8
A11. Chagas disease	23.1	-	-	2.7	3.4	2.3	2.2	11.5	-	-	1.1	3.2	3.6	1.9	1.8	1.1	11.6
A12. Schistosomiasis	37.6	-	4.7	4.6	9.1	2.5	1.8	23.8	-	-	2.0	2.5	1.6	6.6	-	-	13.8
A13. Leishmaniasis	53.7	4.1	13.0	7.0	4.6	1.2	-	30.2	-	3.1	11.4	4.6	3.1	1.1	-	-	23.5
A14. Onchocerciasis	29.8	-	2.7	1.4	6.1	4.8	2.4	17.4	-	-	1.9	1.2	4.6	3.1	1.7	12.4	-
B. Respiratory infections	4,314.4	1,383.6	120.7	42.0	31.7	49.8	164.3	364.5	2,156.6	1,348.4	124.3	43.1	32.2	43.2	140.5	426.0	2,157.8
C. Maternal causes	430.7	-	-	-	-	-	-	-	-	-	12.4	243.5	167.7	7.1	-	-	430.7
C1. Haemorrhage	129.6	-	-	-	-	-	-	-	-	-	3.6	73.8	49.8	2.4	-	-	129.6
C2. Sepsis	79.2	-	-	-	-	-	-	-	-	-	2.5	44.2	31.3	1.2	-	-	79.2
C3. Eclampsia	44.6	-	-	-	-	-	-	-	-	-	1.3	25.5	17.2	-	-	-	44.6
C4. Hypertension	31.7	-	-	-	-	-	-	-	-	-	-	17.6	12.7	-	-	-	31.7
C5. Obstructed labour	40.4	-	-	-	-	-	-	-	-	-	1.2	22.6	16.0	-	-	-	40.4
C6. Abortion	61.3	-	-	-	-	-	-	-	-	-	1.8	35.1	23.5	-	-	-	61.3
D. Perinatal causes	2,490.5	1,405.7	-	-	-	-	-	-	1,405.8	1,084.7	-	-	-	-	-	-	1,084.7
<i>III. Injuries</i>	4,226.7	266.5	273.2	855.9	657.9	389.2	180.5	211.7	2,835.0	241.7	157.2	323.1	199.3	149.8	96.8	223.9	1,391.7
A. Unintentional	2,794.4	228.5	237.5	510.4	393.0	262.7	118.4	150.3	1,900.9	199.8	133.6	150.2	96.3	86.1	58.6	168.9	893.5
A1. Road traffic accidents	855.8	30.0	61.1	227.1	163.0	90.5	39.3	35.9	647.1	23.8	38.7	48.0	30.5	27.5	16.9	23.3	208.7
A2. Poisoning	187.7	13.5	5.7	22.6	37.0	32.0	9.8	8.7	129.2	7.2	5.6	13.3	11.1	7.9	5.5	7.9	58.4
A3. Falls	264.8	10.8	8.5	22.5	21.4	23.7	16.3	39.7	143.0	12.2	4.6	3.1	3.5	2.4	1.6	78.5	121.9
A4. Fires	100.3	19.0	6.1	7.4	7.6	5.9	3.1	8.7	57.7	13.2	8.2	4.4	2.8	8.7	2.8	8.4	42.6
A5. Drowning	384.1	60.5	69.6	64.5	29.7	17.5	7.6	9.5	258.9	48.8	31.1	18.0	7.7	6.4	4.2	9.0	125.2
A6. Occupational	137.2	-	-	26.6	51.1	27.0	2.0	-	106.6	-	-	7.6	14.7	7.6	-	-	30.6
B. Intentional	1,432.3	37.9	35.8	345.5	264.9	126.5	62.1	61.4	934.1	41.9	23.6	172.9	103.0	63.7	38.2	55.0	498.2
B1. Self-inflicted	818.0	-	12.1	149.2	138.6	93.0	51.0	55.7	499.5	-	8.3	118.4	64.5	48.4	30.9	48.0	318.5
B2. Homicide and violence	292.4	11.4	7.5	99.9	69.7	25.7	7.6	3.9	225.7	15.3	4.8	15.1	14.9	7.5	4.0	5.1	66.7
B3. War	321.9	26.5	16.1	96.5	56.6	7.9	3.5	1.8	208.9	26.6	10.5	39.3	23.6	7.8	3.3	1.9	113.0

A dash (-) indicates less than 1000 deaths.

Estimated deaths (in thousands) by age, sex and cause, 1990: World

Cause of Death (ICD 9)	No. of deaths (in thousands)																
	Males					Females											
	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages	0-4	5-14	15-29	30-44	45-59	60-69	70+	All ages	
<i>II. Noncommunicable</i>	29,054.7	729.8	281.3	311.3	846.0	2,571.7	3,548.0	6,629.3	14,917.4	716.6	270.2	311.6	633.4	1,810.7	2,618.7	7,776.2	14,137.3
A. Malignant neoplasms	6,128.7	18.6	55.3	68.7	195.8	826.7	1,074.3	1,281.3	3,520.6	28.8	16.4	57.1	213.6	601.2	665.7	1,025.2	2,608.1
A1. Mouth and oropharynx	365.7	-	1.0	4.7	14.8	45.9	92.2	91.8	250.7	-	-	2.7	9.0	18.7	39.7	44.0	115.0
A2. Oesophagus	389.4	-	-	1.7	9.8	68.8	91.2	91.8	263.6	-	-	1.3	3.8	27.4	44.2	49.1	125.8
A3. Stomach	766.1	-	-	3.9	19.6	120.7	159.7	176.4	480.7	-	-	3.9	18.2	56.1	78.5	128.4	285.4
A4. Colorectal	495.5	-	-	4.3	11.8	42.7	77.1	115.8	252.1	-	-	2.3	11.3	35.6	64.4	129.4	243.4
A5. Liver	463.4	-	1.7	7.4	46.3	114.4	88.8	70.7	329.8	-	-	2.3	13.9	35.6	36.5	44.3	133.6
A6. Pancreas	168.7	-	-	-	3.3	19.5	29.5	39.8	93.1	-	-	-	1.9	11.1	20.5	41.8	75.7
A7. Lung	966.9	-	-	4.4	17.7	175.1	257.4	275.5	731.1	-	-	1.5	7.6	47.8	73.1	105.5	235.8
A8. Breast	332.4	-	-	-	-	-	-	-	-	-	-	6.3	41.7	102.7	75.7	106.0	332.4
A9. Cervix	215.0	-	-	-	-	-	-	-	-	-	-	6.6	28.9	80.4	47.0	51.8	215.0
A10. Ovary	106.4	-	-	-	-	-	-	-	-	-	-	3.4	12.7	27.9	26.4	35.1	106.4
A11. Prostate	212.5	-	-	-	-	13.3	63.8	134.7	212.5	-	-	-	-	-	-	-	-
A12. Bladder	150.5	-	-	-	2.2	17.8	36.1	55.2	112.2	-	-	-	1.3	5.3	10.3	20.9	38.2
A13. Lymphoma	217.5	3.1	12.1	7.3	10.8	21.3	32.7	40.8	128.1	2.7	1.2	3.0	7.8	13.8	22.3	38.6	89.4
A14. Leukemia	219.4	7.0	19.3	13.0	14.4	16.0	20.9	29.8	120.4	10.2	6.5	10.3	14.5	13.7	16.0	27.9	99.0
B. Diabetes mellitus	659.7	-	-	8.4	13.6	57.5	92.6	94.5	267.1	-	-	9.0	10.5	74.3	134.9	162.9	392.5
C. Nutritional/endocrine	651.3	119.9	11.4	28.5	44.7	22.0	21.8	49.6	298.0	127.7	28.2	25.9	21.5	33.5	32.8	83.8	353.3
C1. Protein-energy malnutrition	212.9	65.8	5.9	2.2	2.3	2.7	3.0	12.2	94.1	82.1	5.6	2.1	1.4	1.7	5.1	20.8	118.8
C2. Anaemia	163.3	20.1	6.2	5.8	2.8	4.9	5.9	12.6	58.4	16.4	23.2	9.3	7.5	11.8	12.5	24.3	104.8
D. Neuro-psychiatric	831.9	38.4	73.3	44.1	61.0	71.8	53.7	115.5	457.8	39.3	50.2	35.4	29.6	30.7	36.5	152.4	374.1
D1. Psychoses	57.9	-	-	3.2	7.2	6.9	4.6	10.2	32.3	-	-	1.9	2.9	3.3	3.1	13.6	25.6
D2. Epilepsy	115.2	4.2	16.8	12.3	14.9	11.0	4.7	4.0	67.9	4.0	10.8	13.1	8.3	4.9	2.9	3.4	47.3
D3. Alcohol dependence	52.8	-	-	3.6	11.6	17.3	6.7	5.3	44.5	-	-	-	1.9	3.2	1.4	1.1	8.3
D4. Alzheimer & other dementias	194.6	5.9	6.4	1.6	3.3	9.3	13.8	45.7	86.0	7.2	3.8	1.8	1.9	5.0	11.4	77.5	108.6
D5. Parkinson disease	61.7	-	-	-	1.2	6.1	27.2	34.8	-	-	-	-	-	-	3.7	22.4	26.9
D6. Multiple sclerosis	33.2	-	-	-	3.5	5.1	3.2	2.1	14.8	-	-	-	1.1	5.0	5.4	3.8	18.4
E. Cardiovascular diseases	14,344.7	65.6	32.0	75.4	303.5	1,086.9	1,643.5	3,692.8	6,899.7	60.6	49.6	81.8	193.8	724.7	1,301.2	5,033.3	7,445.0
E1. Rheumatic diseases	486.0	-	2.3	12.1	18.0	37.6	38.9	53.7	163.3	1.9	4.1	14.3	27.8	80.2	92.8	101.5	322.6
E2. Ischaemic heart disease	5,147.0	1.8	1.2	11.6	100.8	444.5	667.4	1,406.2	2,633.5	1.0	-	6.6	28.6	165.6	414.0	1,897.2	2,513.5
E3. Cerebrovascular diseases	4,629.1	8.2	6.7	14.9	62.1	283.5	500.4	1,213.5	2,089.2	6.0	8.6	18.2	56.6	252.6	461.7	1,736.3	2,539.9
E4. Inflammatory cardiac disease	1,364.3	32.1	15.0	23.0	73.4	151.3	162.9	265.2	723.0	36.7	25.9	21.3	41.2	99.4	120.8	296.0	641.4
F. Respiratory	2,844.9	78.5	31.7	15.6	34.9	152.9	349.9	894.8	1,558.4	79.3	18.9	18.8	31.7	112.3	214.2	811.3	1,286.5
F1. Chronic obstructive lung disease	2,072.2	11.1	3.5	1.3	14.2	110.6	290.5	746.0	1,177.1	9.0	2.4	1.7	12.9	78.1	175.5	615.7	895.1
F2. Asthma	181.3	4.8	15.4	5.8	6.9	12.1	13.1	23.8	81.8	4.5	9.9	7.9	8.7	15.1	14.4	38.9	99.4
G. Digestive	1,842.9	89.1	20.7	32.0	152.3	275.4	218.6	269.8	1,057.9	107.3	25.8	29.4	75.1	142.4	130.9	274.0	785.0
G1. Peptic ulcer disease	240.6	-	1.4	5.3	19.3	38.5	33.0	49.7	148.0	1.2	-	5.4	10.3	17.1	14.9	43.1	92.6
G2. Cirrhosis	709.3	4.2	2.9	11.1	95.8	172.7	118.8	75.7	481.1	3.2	4.2	8.4	33.4	70.3	53.2	55.5	228.2
H. Genito-urinary	704.0	12.5	24.6	16.0	25.5	52.6	61.1	167.5	359.8	8.0	20.6	21.8	25.2	61.7	69.3	137.5	344.2
H1. Nephritis/nephrosis	427.1	6.1	22.4	14.3	20.0	38.5	39.6	85.1	225.9	4.6	19.1	14.5	17.9	31.3	38.1	75.6	201.2
I. Musculo-skeletal	143.0	-	2.7	2.1	1.8	5.1	12.0	27.6	51.9	1.2	3.2	6.4	8.2	11.5	13.6	47.0	91.2
J. Congenital	655.8	296.3	22.4	14.0	5.9	2.3	1.7	1.8	344.4	252.6	22.3	16.4	12.4	4.7	1.4	1.7	311.5

A dash (-) indicates less than 1000 deaths.