

9 Health risks and causes of death

As countries develop economically and socially, they undergo epidemiological transitions – as the chief causes of death change from communicable to non-communicable diseases.

Measuring the relative importance of a disease involves estimating the number of years of life lost to each cause of death. Years of life lost take into account the expectation of life and the age at which a death occurs, using standard life tables so as to produce results that are comparable between countries. For example, if the life expectancy of a person at age 60 is an additional 20 years, the death of that person from a particular disease when they are 60 years old results in the loss of 20 years of life. However, the standard WHO methodology also makes additional adjustments, notably giving greater weight to deaths occurring at younger ages and lower weight to deaths occurring at older ages.

The complexity of the calculations and the need for complete and accurate reporting of cause of death mean that preparing estimates for aggregate populations, such as for the Asia-Pacific region, is not feasible. However, the results for individual countries give a strong indication of the general issues. In 2002, in numerous countries in South-East Asia and in South and South-West Asia, as well as in Papua New Guinea, more than half the years lost were to communicable diseases. Conversely, in such highly developed countries as Australia, Japan, New Zealand, the Republic of Korea, the Russian Federation and Singapore less than 10 per cent of lives lost were to communicable diseases.

On the other hand, in highly developed countries most of the years of life were lost to non-communicable diseases, including cancer, and cardiovascular and pulmonary diseases. These are clearly the main causes of death in more developed countries where they can account for more than 70 per cent years of life lost.

Several countries are in the midst of an epidemiological transition, with roughly comparable numbers of years of life lost to communicable and

non-communicable diseases. These include the Democratic People's Republic of Korea, Mongolia, Indonesia, the Philippines, Thailand and Viet Nam.

A third main category of causes of death is injuries. These include workplace accidents, road accidents, homicides and civil violence. Years of life lost to injuries are typically higher in countries that are undergoing rapid industrialization but have yet to develop adequate labour standards and road safety measures. Countries in which in 2002 the proportion years of years of life lost to injuries exceeded 20 per cent included Brunei Darussalam, China, the Islamic Republic of Iran, Kazakhstan, the Republic of Korea, the Russian Federation and Sri Lanka. A second tier of countries, in which the proportion was between 15 and 20 per cent, included both such highly industrialized countries as Australia and Japan, and such rapidly industrializing countries as Thailand and Viet Nam.

The third category includes suicide. Both the reporting of suicide and suicide itself are often culture specific. In the Asia-Pacific region, the countries reporting the highest levels of suicide are the Russian Federation, Sri Lanka, Kazakhstan, Japan and the Republic of Korea. In every country the suicide rate for males is at least double that for females. In both Kazakhstan and the Russian Federation, the suicide rate for males is more than five times that for females.

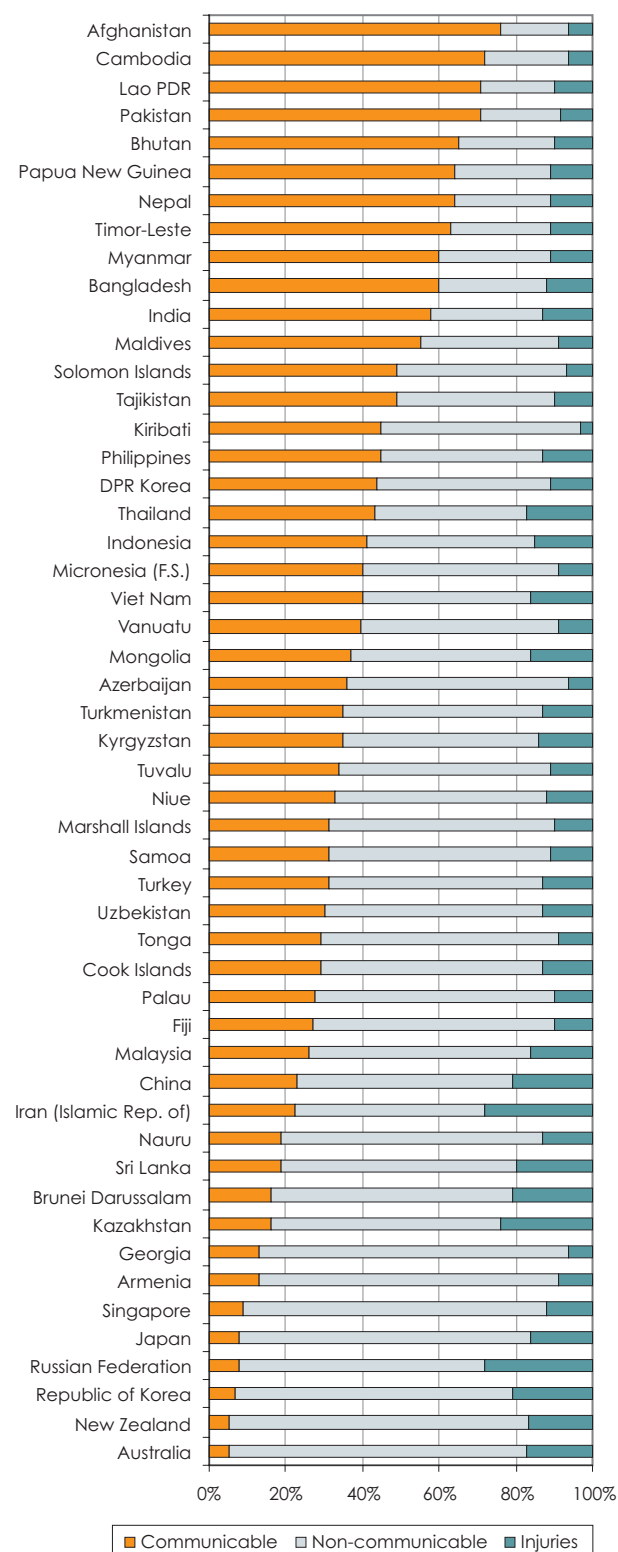
One of the most significant preventable causes of poor health in the region is smoking. The prevalence of smoking reflects both income and culture factors but also shows striking sex differences – far more men smoke than women. Among males in the region 47.7 per cent are smokers, compared with a global average of only 41.3 per cent. The proportions are especially high for East and North-East Asia (58.1 per cent) and North and Central Asia (60.3 per cent). The highest percentage of smokers among males in any country in the region is found in the Russian Federation, 70.1 per cent.

The proportion of women in the region who smoke, at 6.1 per cent, is lower than the global

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Figure 9.1

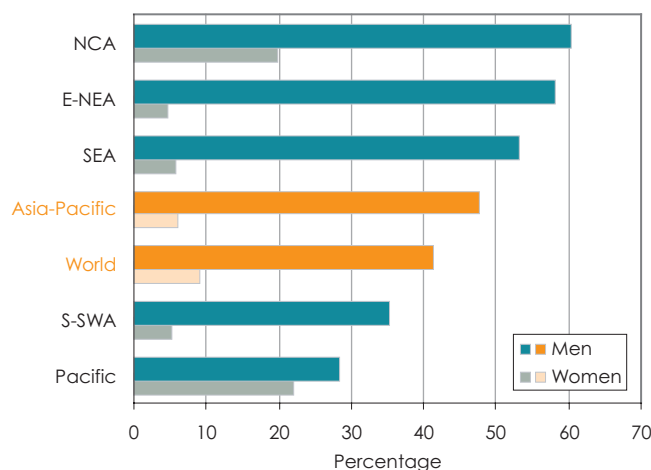
Proportions of years of life lost to communicable and non-communicable diseases and injuries, Asia and the Pacific, 2002



average of 9 per cent. But it is much higher in North and Central Asia, at 19.8 per cent and in the Pacific at 22.1 per cent – reflecting high rates in the Russian Federation (26.5 per cent), Australia (21.8 per cent) and New Zealand (27.5 per cent). The rates are also high in Nepal (26.4 per cent) and Turkey (19.2 per cent).

Figure 9.2

Prevalence of smoking, women and men, Asia-Pacific subregions, 2005



A particular concern is smoking among adolescents. The proportion of 13-15 year-olds who are smokers is especially high in the Pacific. In Tuvalu, it is 36 per cent, and it exceeds 45 per cent in the Cook Islands, the Federated States of Micronesia and Papua New Guinea.

For alcohol, per capita consumption in the Asia-Pacific region as a whole is modest – 3.2 litres per adult. But the level varies significantly by subregion and country – affected by a combination of income and culture factors. It is low in all countries in South and South-West Asia and in most of the countries in South-East Asia. Higher levels are found in the Russian Federation and in the Pacific, but the latter average is high largely because of high consumption in Australia and New Zealand.

Years of potential life lost to communicable diseases, non-communicable diseases, and injuries (percentage of total)

The number of premature deaths multiplied by a standard life expectancy at the age at which death occurs due to communicable diseases, non-communicable diseases, and injuries. The standard life expectancy used for years of life lost at each age is the same for deaths in all regions of the world. **Aggregates:** None. **Source:** WHO Statistical Information System (WHOSIS) (online database, accessed on 5 September 2008).

Suicide rates, women and men (per 100,000 population)

The total number of suicides in a given year divided by the respective mid-year population, expressed per 100,000 population. Suicide is the act of deliberately killing oneself. Risk factors for suicide include mental disorder (such as depression, personality disorder, alcohol dependence, or schizophrenia), and some physical illnesses, such as neurological disorders, cancer, and HIV infection. Data are disaggregated by sex. Suicides are often underreported and the reported rates are not necessarily internationally comparable. **Aggregates:** None. **Source:** World Health Organization, Mental Health programme (online database, accessed on 3 September 2008).

Prevalence of smoking: female and male (% of women)

The prevalence of current tobacco smoking (including cigarettes, cigars, pipes or any other smoked tobacco

products) among women. Current smoking includes both daily and non-daily or occasional smoking. **Aggregates:** Averages are calculated using the population of women aged 15 and above as weight. **Source:** WHO Statistical Information System (WHOSIS) (online database, accessed on 8 September 2008).

Prevalence of smoking in adolescents (% of population aged 13-15)

The prevalence among boys and girls aged 13-15 of tobacco use, including smoking, oral tobacco and snuff, on more than one occasion in the 30 days preceding the survey. **Aggregates:** None. **Source:** WHO Statistical Information System (WHOSIS) (online database, accessed in July 2008).

Alcohol consumption (litres per adult aged 15 and above)

Litres of pure alcohol per capita, computed as the sum of alcohol production and imports, less alcohol exports, divided by the adult population (aged 15 years and older). **Aggregates:** Averages are calculated using population aged 15 and above as weight. **Source:** World Health Organization Global Information System on Alcohol and Health (online database, accessed on 5 September 2008).

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9.1 Causes of deaths

	Years of potential life lost to			Suicide rates	
	Communicable diseases	Non-communicable diseases	Injuries	Per 100,000 population	
	2002	Percentage of total 2002	2002	Female	Male
East and North-East Asia					
China	23	56	21	14.8 (99)	13.0 (99)
DPR Korea	44	46	11		
Hong Kong, China				12.4 (04)	25.2 (04)
Japan	8	76	16	12.8 (04)	35.6 (04)
Macao, China					
Mongolia	37	47	16		
Republic of Korea	7	72	21	15.0 (04)	32.5 (04)
South-East Asia					
Brunei Darussalam	16	63	21		
Cambodia	72	22	6		
Indonesia	41	44	15		
Lao PDR	71	19	10		
Malaysia	26	58	16		
Myanmar	60	29	11		
Philippines	45	42	13	1.7 (93)	2.5 (93)
Singapore	9	79	12	7.6 (03)	12.5 (03)
Thailand	43	40	17	3.8 (02)	12.0 (02)
Timor-Leste	63	26	11		
Viet Nam	40	44	16		
South and South-West Asia					
Afghanistan	76	18	6		
Bangladesh	60	28	12		
Bhutan	65	25	10		
India	58	29	13	9.1 (98)	12.2 (98)
Iran (Islamic Rep. of)	22	49	28	0.1 (91)	0.3 (91)
Maldives	55	36	9		
Nepal	64	25	11		
Pakistan	70	21	8		
Sri Lanka	19	61	20	16.8 (91)	44.6 (91)
Turkey	31	56	13		
North and Central Asia					
Armenia	13	78	9	0.5 (03)	3.2 (03)
Azerbaijan	36	58	6	0.5 (02)	1.8 (02)
Georgia	13	81	6	1.1 (01)	3.4 (01)
Kazakhstan	16	60	24	8.9 (03)	51.0 (03)
Kyrgyzstan	35	51	14	3.0 (04)	15.0 (04)
Russian Federation	8	64	28	10.7 (04)	61.6 (04)
Tajikistan	49	41	10	2.3 (01)	2.9 (01)
Turkmenistan	35	52	13	3.5 (98)	13.8 (98)
Uzbekistan	30	57	13	3.0 (03)	8.1 (03)
Pacific					
Australia	5	77	17	4.7 (03)	17.1 (03)
American Samoa					
Cook Islands	29	57	13		
Fiji	27	63	10		
French Polynesia					
Guam					
Kiribati	45	52	3		
Marshall Islands	31	59	10		
Micronesia (F.S.)	40	51	9		
Nauru	19	68	13		
New Caledonia					
New Zealand	5	79	17	4.2 (00)	19.8 (00)
Niue	33	55	12		
Northern Mariana Is.					
Palau	28	63	10		
Papua New Guinea	64	25	11		
Samoa	31	58	11		
Solomon Islands	49	44	7		
Tonga	29	62	9		
Tuvalu	34	55	11		
Vanuatu	39	51	9		
Asia and the Pacific					
LLDC					
LDC					
ASEAN					
ECO					
SAARC					
Central Asia					
Pacific island dev. econ.					
Low-income					
Middle-income					
High-income					
Other world regions					
Africa					
Europe					
Latin America & Carib.					
North America					
Other countries/areas					
World					

9.2 Tobacco and alcohol consumption

	Prevalence of smoking			Alcohol consumption per capita					
	Women	Men	Adolescents	Litres per adult aged 15 and above					
	% of women	% of men	% of population aged 13-15	1990	1995	2000	2001	2002	2003
East and North-East Asia	4.7	58.1		4.4	5.5	5.5	5.4	5.5	5.5
China	3.7	59.5	5.5 (05)	3.4	5.0	5.2	5.2	5.1	5.2
DPR Korea		58.6		3.7	3.9	3.7	2.5	3.2	3.3
Hong Kong, China									
Japan	14.3	44.3		8.0	7.9	7.6	7.6	7.6	7.6
Macao, China									
Mongolia	6.5	45.8	14.9 (03)	2.9	1.5	2.8	2.6	2.9	2.8
Republic of Korea	5.7	53.3	10.2 (05)	9.3	7.8	7.3	7.8	7.8	7.9
South-East Asia	5.8	53.3		1.3	1.6	1.6	1.6	1.5	1.5
Brunei Darussalam				2.7	0.7	0.4	0.5	0.1	0.1
Cambodia	6.5	40.5	5.1 (03)	0.4	0.3	1.5	1.9	1.4	1.5
Indonesia	4.5	65.9	13.5 (06)	0.1	0.1	0.1	0.1	0.1	0.1
Lao PDR	15.6	65.0	8.9 (03)	6.9	9.2	6.8	6.9	6.9	6.9
Malaysia	2.8	54.4	25.8 (03)	0.8	0.9	1.1	1.1	1.1	1.1
Myanmar	13.6	46.5	15.3 (07)	0.1	0.2	0.3	0.4	0.3	0.3
Philippines	9.8	42.0	22.6 (07)	3.7	3.8	3.8	3.8	3.6	3.5
Singapore			9.1 (00)	0.6	2.0	2.1	2.1	2.2	2.2
Thailand	3.4	39.8	15.7 (05)	5.0	5.0	5.2	5.8	5.8	5.6
Timor-Leste			41.0 (06)						
Viet Nam	2.5	45.7	2.2 (03)	0.2	0.3	0.7	0.7	0.9	0.9
South and South-West Asia	5.2	35.3		0.3	0.3	0.3	0.3	0.3	0.3
Afghanistan			9.8 (04)			0.0	0.0	0.0	0.0
Bangladesh	3.8	47.0	5.8 (04)	0.0	0.0	0.0	0.0	0.0	0.0
Bhutan			20.2 (06)	0.5	0.5	0.6	0.6	0.2	0.2
India	3.8	33.1	13.7 (06)	0.3	0.3	0.3	0.3	0.3	0.3
Iran (Islamic Rep. of)	5.5	29.6	26.6 (07)	0.0	0.0	0.0	0.0	0.0	0.0
Maldives	11.6	44.5	5.9 (07)						
Nepal	26.4	34.8	9.4 (07)	0.0	0.1	0.1	0.1	0.2	0.2
Pakistan	6.6	35.4	10.1 (03)	0.0	0.0	0.0	0.0	0.0	0.0
Sri Lanka	2.6	30.2	9.1 (07)	0.2	0.2	0.2	0.2	0.3	0.3
Turkey	19.2	51.6	8.4 (03)	0.8	1.5	1.4	1.4	1.4	1.4
North and Central Asia	19.8	60.3		6.8	7.3	8.1	8.0	8.0	8.0
Armenia	3.7	55.1	7.3 (04)		2.5	1.6	1.4	1.4	1.5
Azerbaijan	0.9				1.2	6.7	5.8	5.0	4.5
Georgia	6.3	57.1	24.6 (03)		6.8	1.8	1.7	1.6	1.5
Kazakhstan	9.7	43.2	11.4 (04)		4.7	3.4	2.8	3.7	3.0
Kyrgyzstan	2.2	46.9	7.2 (04)	4.5	3.2	2.2	2.2	3.0	3.6
Russian Federation	26.5	70.1	27.3 (04)	7.1	11.2	10.5	10.4	10.3	10.3
Tajikistan			5.1 (04)		1.8	0.3	0.8	0.5	0.4
Turkmenistan					2.1	1.5	1.1	1.1	1.2
Uzbekistan	1.2	24.2			1.5	1.6	1.6	1.5	1.5
Pacific	22.1	28.4		8.7	8.1	7.8	7.8	7.6	7.6
Australia	21.8	27.7		10.5	9.7	9.5	9.3	9.2	9.0
American Samoa						0.2	0.1	0.1	0.2
Cook Islands	20.0	36.1	45.1 (03)			2.3	0.7	0.4	3.7
Fiji	5.1	23.6	11.5 (05)	2.2	1.7	2.1	2.0	2.0	1.7
French Polynesia				9.8	9.6	7.1	7.5	6.9	6.6
Guam				5.8	4.7	5.0	4.9	4.5	1.3
Kiribati						1.0	1.2	0.7	0.5
Marshall Islands									
Micronesia (F.S.)			46.2 (07)	0.0	0.7	0.2	0.2	1.8	1.2
Nauru	52.4	46.1				4.9	3.7	1.0	0.9
New Caledonia				8.7	9.8	7.6	9.2	10.2	10.0
New Zealand	27.5	29.7	20.1 (07)	11.5	10.4	8.8	8.5	9.8	9.7
Niue						9.0	10.9	6.0	9.5
Northern Mariana Is.									
Palau	9.7	38.1							
Papua New Guinea			47.7 (07)	1.1	1.0	2.1	2.3	1.8	1.6
Samoa	23.4	58.3	23.5 (07)	2.2	2.3	2.3	2.5	2.1	1.7
Solomon Islands				0.6	0.3	0.3	0.6	0.6	1.0
Tonga	15.8	61.8				0.7	0.8	0.8	0.8
Tuvalu			36.4 (06)			1.1	1.9	0.5	1.4
Vanuatu	8.1	49.1	25.6 (07)	1.3	1.8	0.9	0.8	0.8	0.8
Asia and the Pacific	6.1	47.7		2.8	3.2	3.2	3.2	3.2	3.2
LLDC	11.0	36.7			1.5	1.7	1.8	1.7	1.7
LDC	8.7	45.7		0.2	0.2	0.3	0.3	0.3	0.3
ASEAN	5.8	53.3		1.3	1.6	1.6	1.6	1.5	1.5
ECO	8.5	37.3		1.3	0.7	0.7	0.8	0.7	0.7
SAARC	4.5	34.8		0.3	0.2	0.2	0.2	0.2	0.2
Central Asia	3.8	35.8			2.4	2.3	2.4	2.2	2.2
Pacific island dev. econ.	9.3	35.6		1.9	1.4	2.5	2.3	2.0	2.0
Low-income	6.6	42.2		0.5	0.6	0.5	0.6	0.6	0.6
Middle-income	5.5	48.9		2.6	3.3	3.3	3.2	3.2	3.2
High-income	13.3	44.5		8.3	8.0	7.7	7.7	7.7	7.7
Other world regions									
Africa	2.6	19.7		2.8	3.5	3.4	3.4	3.3	3.3
Europe	27.4	38.5		10.7	10.1	10.0	10.1	10.0	10.0
Latin America & Carib.	17.5	34.2		5.7	5.7	5.3	5.4	5.4	5.4
North America	21.2	26.1		9.3	8.2	8.5	8.4	8.5	8.4
Other countries/areas	5.1	31.9		1.1	0.8	0.6	0.6	0.6	0.6
World	9.0	41.3		4.4	4.6	4.4	4.4	4.4	4.4