



2.20

Health risk factors and future challenges

	Prevalence of smoking		Incidence of tuberculosis	Prevalence of diabetes	Prevalence of HIV						Condom use	
	%				Total % of population ages 15–49	Female % of total population with HIV	Youth % of population ages 15–24		% of population ages 15–24			
	Male	Female					Male	Female				
										2008	2008	2000–07 ^a	2000–07^{a}
	2008	2008	2007	2007	1990	2007	2001	2007	2007	2007	2000–07 ^a	2000–07 ^a
Afghanistan	..	..	..	..	..	..	..	..	..	..	..	..
Albania	41	4	17	4.5	..	..	..	..	..	..	..	..
Algeria	27	0 ^b	57	8.4	..	0.1	25.0	28.6	0.1	0.1	..	..
Angola	..	..	287	3.3	0.3	2.1	60.9	61.1	0.2	0.3	..	..
Argentina	34	24	31	5.6	0.2	0.5	25.0	26.7	0.6	0.3	..	..
Armenia	55	4	72	7.7	..	0.1	<27.8	<41.7	0.2	0.1	32	7
Australia	28	22	6	5.0	0.1	0.2	<7.1	6.7	0.2	<0.1	..	..
Austria	46	40	12	7.9	<0.1	0.2	27.3	29.6	0.2	0.1	..	..
Azerbaijan	..	1	77	7.3	..	0.2	..	16.7	0.3	0.1	25	1
Bangladesh	43	1	223	5.3	..	..	..	16.7	..	..	..	..
Belarus	64	21	61	7.6	..	0.2	27.5	30.0	0.3	0.1	..	..
Belgium	30	24	12	5.2	0.1	0.2	26.2	27.3	0.2	0.1	..	..
Benin	..	..	91	4.4	0.1	1.2	63.3	62.7	0.3	0.9	39	10
Bolivia	34	26	155	5.8	0.1	0.2	24.6	27.8	0.2	0.1	29	10
Bosnia and Herzegovina	49	35	51	7.0	..	<0.1	..	..	..	..	..	..
Botswana	..	..	731	5.2	4.7	23.9	59.3	60.7	5.1	15.3	..	..
Brazil	20	13	48	6.2	0.4	0.6	34.4	33.8	1.0	0.6	..	..
Bulgaria	48	28	39	7.6	..	..	..	..	..	..	..	..
Burkina Faso	14	1	226	3.7	1.9	1.6	45.4	50.8	0.5	0.9	54	17
Burundi	16	11	367	1.7	1.7	2.0	59.2	58.9	0.4	1.3	..	..
Cambodia	38	6	495	5.0	0.7	0.8	25.8	28.6	0.8	0.3	31	3
Cameroon	10	1	192	3.7	0.8	5.1	61.2	60.0	1.2	4.3	52	24
Canada	19	18	5	7.4	0.2	0.4	26.5	27.4	0.4	0.2	..	..
Central African Republic	..	..	345	4.4	1.8	6.3	66.7	65.0	1.1	5.5	..	..
Chad	13	1	299	3.6	0.7	3.5	60.7	61.1	2.0	2.8	18	7
Chile	42	31	12	5.6	<0.1	0.3	26.0	28.1	0.3	0.2	..	..
China	60	4	98	4.1	..	0.1 ^c	25.5 ^c	29.0 ^c	0.1 ^c	0.1 ^c	..	..
Hong Kong, China	22	4	62	8.2	..	..	..	..	..	..	..	..
Colombia	27	11	35	5.0	0.1	0.6	26.9	29.4	0.7	0.3	..	23
Congo, Dem. Rep.	11	1	392	3.0	..	..	..	..	..	..	..	..
Congo, Rep.	10	0 ^b	403	5.0	5.1	3.5	58.4	58.9	0.8	2.3	36	16
Costa Rica	26	7	11	9.3	0.1	0.4	27.5	28.1	0.4	0.2	..	..
Côte d'Ivoire	12	1	420	4.6	2.2	3.9	58.2	59.5	0.8	2.4	..	..
Croatia	39	29	40	7.1	..	<0.1	..	..	..	..	..	..
Cuba	36	26	6	9.3	..	0.1	<43.5	29.0	0.1	0.1	..	..
Czech Republic	37	25	9	7.6	..	..	<38.5	<33.3	<0.1	..	..	..
Denmark	36	31	8	5.5	0.1	0.2	..	22.9	0.2	0.1	..	..
Dominican Republic	16	11	69	8.7	0.6	1.1	54.0	50.8	0.3	0.6	58	19
Ecuador	24	6	101	5.7	0.1	0.3	25.8	28.4	0.4	0.2	..	..
Egypt, Arab Rep.	25	1	21	11.0	..	..	26.8	28.9	..	..	..	..
El Salvador	22	3	40	9.0	0.1	0.8	25.7	28.5	0.9	0.5	..	..
Eritrea	16	1	95	2.3	0.1	1.3	60.0	60.0	0.3	0.9	..	2
Estonia	50	28	38	7.6	..	1.3	<28.6	24.2	1.6	0.7	..	..
Ethiopia	7	1	378	2.3	0.7	2.1	59.5	59.6	0.5	1.5	18	2
Finland	32	24	6	5.9	..	0.1	<50.0	<41.7	0.1	<0.1	..	..
France	37	27	14	5.9	0.1	0.4	25.0	27.1	0.4	0.2	..	..
Gabon	..	..	406	4.9	0.9	5.9	58.3	58.7	1.3	3.9	..	..
Gambia, The	17	1	258	4.1	..	0.9	59.0	60.0	0.2	0.6	..	..
Georgia	57	6	84	7.4	..	0.1	20.0	37.0	0.1	0.1	..	..
Germany	37	26	6	7.9	<0.1	0.1	27.3	28.8	0.1	0.1	..	..
Ghana	7	1	203	4.2	0.1	1.9	58.3	60.0	0.4	1.3	45	19
Greece	64	40	18	5.9	0.1	0.2	26.5	27.3	0.2	0.1	..	..
Guatemala	25	4	63	8.6	<0.1	0.8	97.9	98.1	..	1.5	..	..
Guinea	..	9	287	4.1	0.2	1.6	59.6	59.3	0.4	1.2	35	10
Guinea-Bissau	..	..	220	3.8	0.2	1.8	59.2	58.0	0.4	1.2	..	..
Haiti	..	4	306	9.0	1.2	2.2	45.7	52.7	0.6	1.4	28	20

Health risk factors and future challenges

2.20 PEOPLE

	Prevalence of smoking		Incidence of tuberculosis	Prevalence of diabetes	Prevalence of HIV						Condom use		
	% of adults				per 100,000 people	% of population ages 20–79	Total % of population ages 15–49		Female % of total population with HIV	Youth % of population ages 15–24		% of population ages 15–24	
	Male 2008	Female 2008					1990	2007		Male 2007	Female 2007	Male 2000–07 ^a	Female 2000–07 ^a
Honduras	..	3	59	9.1	1.3	0.7	25.7	28.5	0.7	0.4	..	7	
Hungary	46	34	17	7.6	..	0.1	<35.7	<30.3	0.1	<0.1	..	..
India	28	1	168	6.7	0.1	0.3	38.5	38.3	0.3	0.3	..	..
Indonesia	62	4	228	2.3	..	0.2	10.8	20.0	0.3	0.1	..	1	
Iran, Islamic Rep.	24	2	22	7.8	..	0.2	26.7	28.2	0.2	0.1	..	..
Iraq	..	..	..	..	..	..	..	..	..	..	..	..
Ireland	27	26	13	5.1	..	0.2	26.1	27.3	0.2	0.1	..	..
Israel	31	18	8	6.9	<0.1	0.1	60.0	59.2	<0.1	0.1	..	..
Italy	33	19	7	5.8	0.4	0.4	25.7	27.3	0.4	0.2	..	..
Jamaica	19	8	7	10.3	0.3	1.6	26.4	29.2	1.7	0.9	..	..
Japan	44	14	21	4.9	..	..	22.2	24.0	..	..	..	..
Jordan	62	10	7	9.8	..	..	..	..	..	..	..	4
Kazakhstan	43	10	129	5.6	..	0.1	<29.4	27.5	0.2	0.1	..	..
Kenya	24	1	353	3.3	..	..	..	..	..	..	39	9
Korea, Dem. Rep.	59	..	344	5.2	..	..	..	..	..	..	..	..
Korea, Rep.	53	6	90	7.8	..	<0.1	26.5	27.7	<0.1	<0.1	..	..
Kuwait	34	2	24	14.4	..	..	..	..	..	..	..	..
Kyrgyz Republic	47	2	121	5.1	..	0.1	<50	26.2	0.2	0.1	..	..
Lao PDR	61	14	151	3.1	..	0.2	<45.5	24.1	0.2	0.1	..	..
Latvia	54	24	53	7.6	..	0.8	<23.8	27.0	0.9	0.5	..	..
Lebanon	29	7	19	7.7	<0.1	0.1	<45.5	<33.3	0.1	0.1	..	..
Lesotho	48	34	637	3.8	0.8	23.2	58.3	57.7	5.9	14.9	44	26	
Liberia	..	..	277	4.6	0.4	1.7	59.1	59.4	0.4	1.3	19	9
Libya	32	2	17	4.4	..	..	..	..	..	..	..	..
Lithuania	45	21	68	7.6	..	0.1	<35.7	<45.5	0.1	0.1	..	..
Macedonia, FYR	40	32	29	7.1	..	<0.1	..	..	..	..	..	..
Madagascar	..	..	251	3.0	..	0.1	23.8	26.2	0.2	0.1	8	2
Malawi	19	2	346	2.1	2.1	11.9	56.4	58.3	2.4	8.4	32	9	
Malaysia	51	3	103	10.7	0.1	0.5	23.3	26.6	0.6	0.3	..	..
Mali	14	1	319	4.1	0.2	1.5	60.5	60.2	0.4	1.1	29	4	
Mauritania	16	1	318	4.6	<0.1	0.8	25.8	27.9	0.9	0.5	..	..
Mauritius	36	1	22	11.1	<0.1	1.7	<27.8	29.2	1.8	1.0	..	..
Mexico	37	12	20	10.6	0.2	0.3	27.1	28.5	0.3	0.2	..	..
Moldova	46	6	141	7.6	..	0.4	<50.0	29.5	0.4	0.2	55	22	
Mongolia	46	7	205	1.9	..	0.1	..	<20.0	0.1	..	..	..
Morocco	26	0 ^b	92	8.1	..	0.1	27.5	28.1	0.1	0.1	..	..
Mozambique	20	2	431	3.7	1.4	12.5	59.4	57.9	2.9	8.5	27	12	
Myanmar	44	12	171	3.2	0.4	0.7	33.4	41.7	0.7	0.6	..	..
Namibia	36	9	767	4.2	1.2	15.3	60.7	61.1	3.4	10.3	65	42	
Nepal	29	26	173	4.2	<0.1	0.5	21.8	25.0	0.5	0.3	24	8	
Netherlands	38	30	8	5.2	0.1	0.2	25.6	27.2	0.2	0.1	..	..
New Zealand	30	28	7	6.4	0.1	0.1	<16.7	<35.7	0.1	..	..	..
Nicaragua	..	5	49	10.1	<0.1	0.2	25.6	28.0	0.3	0.1	..	7	
Niger	41	11	174	3.7	0.1	0.8	29.3	30.4	0.9	0.5	..	..
Nigeria	9	0 ^b	311	4.5	0.7	3.1	60.0	58.3	0.8	2.3	38	8	
Norway	34	30	6	3.6	<0.1	0.1	<41.7	<33.3	0.1	0.1	..	..
Oman	24	0 ^b	13	13.1	..	..	..	..	..	..	..	..
Pakistan	30	3	181	9.6	..	0.1	26.0	28.7	0.1	0.1	..	..
Panama	52	20	47	9.7	0.4	1.0	26.9	28.9	1.1	0.6	..	..
Papua New Guinea	46	28	250	2.9	..	1.5	34.7	39.6	0.6	0.7	..	..
Paraguay	33	14	58	4.8	<0.1	0.6	26.4	29.0	0.7	0.3	..	..
Peru	43	23	126	6.0	0.1	0.5	26.8	28.4	0.5	0.3	..	9	
Philippines	39	9	290	7.6	..	..	<50	26.8	..	..	13	3
Poland	44	27	25	7.6	..	0.1	26.0	28.9	0.1	0.1	..	..
Portugal	41	31	30	5.7	0.2	0.5	26.6	27.6	0.5	0.3	..	..
Puerto Rico	..	..	4	10.7	..	..	..	..	..	..	..	..



	Prevalence of smoking		Incidence of tuberculosis	Prevalence of diabetes	Prevalence of HIV						Condom use		
	%				per 100,000 people	% of population ages 20–79	Total		Female % of total population with HIV	Youth		% of population ages 15–24	
	of adults						% of population ages 15–49			ages 15–24		ages 15–24	
	Male	Female					1990	2007		Male	Female	Male	Female
	2008	2008	2007	2007	1990	2007	2001	2007	2007	2007	2000–07 ^a	2000–07 ^a	
Romania	41	25	115	7.6	..	0.1	50.7	50.0	0.2	0.2	..	..
Russian Federation	70	27	110	7.6	..	1.1	22.1	25.5	1.3	0.6	..	..
Rwanda	..	8	397	1.5	9.2	2.8	60.6	60.0	0.5	1.4	19	5	
Saudi Arabia	25	3	46	16.7	..	..	..	..	..	..	..	..
Senegal	14	1	272	4.6	0.1	1.0	60.9	59.4	0.3	0.8	48	5	
Serbia	44 ^d	44 ^d	32	7.1 ^d	<0.1	0.1	25.5	28.1	0.1	0.1	..	..
Sierra Leone	32	4	574	4.3	0.2	1.7	59.4	58.8	0.4	1.3	..	..
Singapore	26	5	27	10.1	..	0.2	<34.5	29.3	0.2	0.1	..	..
Slovak Republic	42	20	17	7.6	..	<0.1	..	..	..	..	..	..
Slovenia	32	21	13	7.6	..	<0.1	..	..	..	..	..	..
Somalia	..	..	249	2.8	<0.1	0.5	26.5	27.9	0.6	0.3	..	..
South Africa	25	8	948	4.4	0.8	18.1	58.7	59.3	4.0	12.7	57	46	
Spain	36	31	30	5.7	0.4	0.5	20.8	20.0	0.6	0.2	..	..
Sri Lanka	25	0 ^b	60	8.4	..	..	<33.3	37.8	<0.1	..	..	..
Sudan	24	2	243	4.0	0.8	1.4	56.0	58.6	0.3	1.0	..	..
Swaziland	13	3	1,198	4.0	0.9	26.1	60.7	58.8	5.8	22.6	66	44	
Sweden	20	25	6	5.2	0.1	0.1	43.4	46.8	0.1	0.1	..	..
Switzerland	31	22	6	7.9	0.4	0.6	33.2	36.8	0.4	0.5	..	..
Syrian Arab Republic	43	..	24	10.6	..	..	..	..	..	..	..	..
Tajikistan	..	..	231	4.9	..	0.3	<20.8	21.0	0.4	0.1	..	..
Tanzania	21	2	297	2.9	4.8	6.2	61.7	58.5	0.5	0.9	36	13	
Thailand	37	3	142	6.9	1.0	1.4	36.9	41.7	1.2	1.2	..	..
Timor-Leste	26	1	322	1.7	..	..	..	..	..	..	..	..
Togo	..	..	429	4.1	0.7	3.3	61.0	57.5	0.8	2.4	..	..
Trinidad and Tobago	32	6	11	11.5	0.2	1.5	57.5	59.2	0.3	1.0	..	..
Tunisia	47	1	26	5.2	..	0.1	<45.5	27.8	0.1	<0.1	..	..
Turkey	52	19	30	7.8	..	..	..	..	..	..	..	..
Turkmenistan	27	1	68	5.2	..	<0.1	..	..	..	..	..	1
Uganda	18	2	330	2.0	13.7	5.4	58.9	59.3	1.3	3.9	38	15	
Ukraine	64	23	102	7.6	..	1.6	35.7	44.2	1.5	1.5	..	..
United Arab Emirates	26	2	16	19.5	..	..	..	..	..	..	..	..
United Kingdom	37	35	15	2.9	<0.1	0.2	..	..	..	..	..	..
United States	26	22	4	7.8	0.5	0.6	18.0	20.9	0.7	0.3	..	..
Uruguay	37	28	22	5.6	0.1	0.6	25.4	28.0	0.6	0.3	..	..
Uzbekistan	24	1	113	5.1	..	0.1	<35.7	28.8	0.1	0.1	18	2	
Venezuela, RB	33	27	34	5.4	..	..	..	..	..	..	..	..
Vietnam	43	2	171	2.9	0.1	0.5	24.7	27.1	0.6	0.3	16	8	
West Bank and Gaza	41	3	20	8.4	..	..	..	..	..	..	..	..
Yemen, Rep.	77	29	76	2.9	..	..	..	..	..	..	..	..
Zambia	18	2	506	3.8	8.9	15.2	54.7	57.1	3.6	11.3	36	19	
Zimbabwe	21	2	782	4.0	14.2	15.3	58.8	56.7	2.9	7.7	52	9	
World	40 w	8 w	139 w	5.8 w	0.3 w	0.8 w	30.8 w	32.9 w	0.5 w	0.7 w			
Low income	29	4	269	4.7	1.5	2.1	37.5	40.6	0.7	1.6			
Middle income	44	6	129	5.9	0.1	0.6	30.8	32.6	0.4	0.5			
Lower middle income	44	3	134	5.5	0.1	0.3	30.7	32.7	0.3	0.3			
Upper middle income	41	18	108	7.4	..	1.7	31.1	32.2	1.0	1.4			
Low & middle income	41	6	162	5.6	0.4	0.9	32.1	34.2	0.5	0.8			
East Asia & Pacific	57	4	136	4.2	0.1	0.2	25.4	28.5	0.2	0.2			
Europe & Central Asia	56	21	84	7.3	..	0.6	28.6	30.5	0.8	0.5			
Latin America & Carib.	29	15	50	7.1	0.3	0.5	32.1	32.8	0.7	0.4			
Middle East & N. Africa	31	3	41	8.6	..	0.1	28.0	28.6	..	..	
South Asia	30	2	174	6.9	0.1	0.3	32.9	34.6	0.3	0.3			
Sub-Saharan Africa	15	2	369	3.6	2.1	5.0	57.0	56.9	1.1	3.3			
High income	34	22	16	6.8	0.3	0.3	23.3	24.9	0.5	0.2			
Euro area	37	27	13	6.4	0.2	0.3	25.8	26.9	0.3	0.2			

a. Data are for the most recent year available. b. Less than 0.5. c. Includes Hong Kong, China. d. Includes Montenegro.

About the data

The limited availability of data on health status is a major constraint in assessing the health situation in developing countries. Surveillance data are lacking for many major public health concerns. Estimates of prevalence and incidence are available for some diseases but are often unreliable and incomplete. National health authorities differ widely in capacity and willingness to collect or report information. To compensate for this and improve reliability and international comparability, the World Health Organization (WHO) prepares estimates in accordance with epidemiological models and statistical standards.

Smoking is the most common form of tobacco use and the prevalence of smoking is therefore a good measure of the tobacco epidemic (Corrao and others 2000). Tobacco use causes heart and other vascular diseases and cancers of the lung and other organs. Given the long delay between starting to smoke and the onset of disease, the health impact of smoking in developing countries will increase rapidly only in the next few decades. Because the data present a one-time estimate, with no information on intensity or duration of smoking, and because the definition of adult varies, the data should be used with caution.

Tuberculosis is one of the main causes of adult deaths from a single infectious agent in developing countries. In developed countries tuberculosis has reemerged largely as a result of cases among immigrants. The estimates of tuberculosis incidence in the table are based on an approach in which reported cases are adjusted using the ratio of case notifications to the estimated share of cases detected by panels of 80 epidemiologists convened by the WHO.

Diabetes, an important cause of ill health and a risk factor for other diseases in developed countries, is spreading rapidly in developing countries. Highest among the elderly, prevalence rates are rising among younger and productive populations in developing countries. Economic development has led to the spread of Western lifestyles and diet to developing countries, resulting in a substantial increase in diabetes. Without effective prevention and control programs, diabetes will likely continue to increase. Data are estimated based on sample surveys.

Adult HIV prevalence rates reflect the rate of HIV infection in each country's population. Low national prevalence rates can be misleading, however. They often disguise epidemics that are initially concentrated in certain localities or population groups and threaten to spill over into the wider population. In many developing countries most new infections

occur in young adults, with young women especially vulnerable.

The Joint United Nations Programme on HIV/AIDS (UNAIDS) and the WHO estimate HIV prevalence from sentinel surveillance, population-based surveys, and special studies. The estimates in the table are more reliable than previous estimates because of expanded sentinel surveillance and improved data quality. Findings from population-based HIV surveys, which are geographically more representative than sentinel surveillance and include both men and women, influenced a downward adjustment to prevalence rates based on sentinel surveillance. And assumptions about the average time people living with HIV survive without antiretroviral treatment were improved in the most recent model. Thus, estimates in this edition should not be compared with estimates in previous editions.

Estimates from recent Demographic and Health Surveys that have collected data on HIV/AIDS differ somewhat from those of UNAIDS and the WHO, which are based on surveillance systems that focus on pregnant women who attend sentinel antenatal clinics. Caution should be used in comparing the two sets of estimates. Demographic and Health Surveys are household surveys that use a representative sample from the whole population, whereas surveillance data from antenatal clinics are limited to pregnant women. Household surveys also frequently provide better coverage of rural populations. However, respondents who refuse to participate or are absent from the household add considerable uncertainty to survey-based HIV estimates, because the possible association of absence or refusal with higher HIV prevalence is unknown. UNAIDS and the WHO estimate HIV prevalence for the adult population (ages 15–49) by assuming that prevalence among pregnant women is a good approximation of prevalence among men and women. However, this assumption might not apply to all countries or over time. Other potential biases are associated with the use of antenatal clinic data, such as differences among women who attend antenatal clinics and those who do not.

Data on condom use are from household surveys and refer to condom use at last intercourse. However, condoms are not as effective at preventing the transmission of HIV unless used consistently. Some surveys have asked directly about consistent use, but the question is subject to recall and other biases. Caution should be used in interpreting the data.

For indicators from household surveys, the year in the table refers to the survey year. For more information, consult the original sources.

Definitions

- **Prevalence of smoking** is the percentage of men and women who smoke cigarettes. The age range varies, but in most countries is 18 and older or 15 and older.
- **Incidence of tuberculosis** is the estimated number of new tuberculosis cases (pulmonary, smear positive, extrapulmonary).
- **Prevalence of diabetes** refers to the percentage of people ages 20–79 who have type 1 or type 2 diabetes.
- **Prevalence of HIV** is the percentage of people who are infected with HIV. Total and youth rates are percentages of the relevant age group. Female rate is as a percentage of the total population with HIV.
- **Condom use** is the percentage of the population ages 15–24 who used a condom at last intercourse in the last 12 months.

Data sources

Data on smoking are from Omar Shafey, Michael Eriksen, Hana Ross, and Judith Mackay's *Tobacco Atlas*, 3rd edition (2009). Data on tuberculosis are from the WHO's *Global Tuberculosis Control Report 2009*. Data on diabetes are from the International Diabetes Federation's *Diabetes Atlas*, 3rd edition. Data on prevalence of HIV are from UNAIDS and the WHO's *2008 Report on the Global AIDS Epidemic*. Data on condom use are from Demographic and Health Surveys by Macro International.