



## 2.18 Mortality

	Life expectancy at birth		Infant mortality rate		Under-five mortality rate		Child mortality rate		Adult mortality rate		Survival to age 65	
	years		per 1,000 live births		per 1,000		Male	Female	Male	Female	Male	Female
	1980	1998	1980	1998	1980	1998	per 1,000	per 1,000	per 1,000	per 1,000	% of cohort	% of cohort
Albania	69	72	47	25	57	31	15	15	171	95	72	83
Algeria	59	71	98	35	139	40	..	..	158	123	72	79
Angola	41	47	154	124	261	204	..	..	416	358	36	42
Argentina	70	73	35	19	38	22	..	..	163	79	73	86
Armenia	73	74	26	15	..	18	..	..	162	79	74	86
Australia	74	79	11	5	13	6	..	..	110	56	83	91
Austria	73	78	14	5	17	6	..	..	122	60	81	90
Azerbaijan	68	71	30	17	..	21	..	..	209	99	68	83
Bangladesh	48	59	132	73	211	96	37	47	283	306	54	54
Belarus	71	68	16	11	..	14	..	..	332	116	55	81
Belgium	73	78	12	6	15	6	..	..	130	60	80	90
Benin	48	53	116	87	214	140	89	90	367	308	44	51
Bolivia	52	62	118	60	170	78	26	26	265	215	57	64
Bosnia and Herzegovina	70	73	31	13	..	..	..	..	165	93	74	85
Botswana	58	46	71	62	94	105	18	16	617	576	25	29
Brazil	63	67	70	33	80	40	8	9	279	139	59	76
Bulgaria	71	71	20	14	25	15	..	..	222	107	67	82
Burkina Faso	44	44	121	104	..	210	107	110	547	522	28	31
Burundi	47	42	122	118	193	196	101	114	554	496	26	31
Cambodia	39	54	201	102	330	143	..	..	357	309	45	51
Cameroon	50	54	103	77	173	150	69	75	336	303	47	51
Canada	75	79	10	5	13	7	..	..	106	52	83	91
Central African Republic	46	44	117	98	..	162	63	64	576	488	26	34
Chad	42	48	123	99	235	172	106	99	454	388	36	42
Chile	69	75	32	10	35	12	3	2	142	73	77	87
China	..	70	42	31	65	36	10	11	171	135	71	77
Hong Kong, China	74	79	11	3	..	..	..	..	109	56	83	91
Colombia	66	70	41	23	58	28	7	7	211	115	67	80
Congo, Dem. Rep.	49	51	112	90	210	141	..	..	422	367	39	45
Congo, Rep.	50	48	89	90	125	143	..	..	503	408	32	42
Costa Rica	73	77	19	13	29	15	..	..	115	69	81	88
Côte d'Ivoire	49	46	108	88	170	143	71	58	526	513	31	32
Croatia	70	73	21	8	23	10	..	..	216	87	68	86
Cuba	74	76	20	7	22	9	..	..	124	79	80	87
Czech Republic	70	75	16	5	19	6	..	..	177	84	73	87
Denmark	74	76	8	5	10	..	..	..	138	78	78	87
Dominican Republic	64	71	76	40	92	47	13	13	153	96	73	81
Ecuador	63	70	74	32	101	37	12	9	182	105	70	81
Egypt, Arab Rep.	56	67	120	49	175	59	22	28	195	171	66	71
El Salvador	57	69	84	31	120	36	17	20	207	119	67	79
Eritrea	44	51	..	61	..	90	89	78	511	447	34	41
Estonia	69	70	17	9	25	12	..	..	300	95	59	84
Ethiopia	42	43	155	107	213	173	..	..	562	529	26	29
Finland	73	77	8	4	9	5	..	..	139	60	78	90
France	74	78	10	5	13	5	..	..	127	51	80	92
Gabon	48	53	116	86	194	132	..	..	384	342	43	48
Gambia, The	40	53	159	76	216	..	83	79	408	344	42	49
Georgia	71	73	25	15	..	20	..	..	194	82	70	86
Germany	73	77	12	5	16	6	..	..	132	66	79	89
Ghana	53	60	94	65	157	96	63	62	282	230	55	62
Greece	74	78	18	6	23	8	..	..	114	61	82	90
Guatemala	57	64	84	42	..	52	22	24	297	195	56	69
Guinea	40	47	185	118	299	184	122	112	404	404	38	39
Guinea-Bissau	39	44	169	128	290	205	..	..	471	419	31	36
Haiti	51	54	123	71	200	116	59	58	432	339	40	50
Honduras	60	69	70	36	103	46	..	..	196	121	68	78



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	1980	1998	1980	1998	1980	1998	per 1,000	per 1,000	per 1,000	per 1,000	% of cohort	% of cohort
Hungary	70	71	23	10	26	12	..	..	255	105	64	83
India	54	63	115	70	177	83	29	42	215	204	62	65
Indonesia	55	65	90	43	125	52	19	20	237	186	62	70
Iran, Islamic Rep.	60	71	87	26	126	33	..	..	161	150	72	76
Iraq	62	59	80	103	95	125	..	..	197	171	59	63
Ireland	73	76	11	6	14	7	..	..	135	73	79	88
Israel	73	78	16	6	19	8	..	..	110	68	83	89
Italy	74	78	15	5	17	6	..	..	117	53	81	91
Jamaica	71	75	33	21	39	24	..	..	140	86	77	86
Japan	76	81	8	4	11	5	..	..	98	45	85	93
Jordan	..	71	41	27	..	31	4	7	158	119	73	80
Kazakhstan	67	65	33	22	..	29	10	5	382	167	49	74
Kenya	55	51	75	76	115	124	36	38	442	418	39	42
Korea, Dem. Rep.	67	63	32	54	43	68	..	..	267	200	58	67
Korea, Rep.	67	73	26	9	27	11	..	..	204	94	69	85
Kuwait	71	77	27	12	35	13	..	..	125	65	80	89
Kyrgyz Republic	65	67	43	26	..	41	10	11	303	140	57	77
Lao PDR	45	54	127	96	200	..	..	..	376	320	43	50
Latvia	69	70	20	15	26	19	..	..	301	102	58	83
Lebanon	65	70	48	27	..	30	..	..	176	132	71	78
Lesotho	53	55	119	93	168	144	..	..	320	286	48	54
Libya	60	70	70	23	80	27	6	5	185	129	70	79
Lithuania	71	72	20	9	24	12	..	..	264	87	63	86
Macedonia, FYR	..	73	54	16	69	18	..	..	162	104	74	83
Madagascar	51	58	119	92	216	146	75	68	273	231	53	59
Malawi	44	42	169	134	265	229	126	114	464	483	31	31
Malaysia	67	72	30	8	42	12	4	4	186	113	71	82
Mali	42	50	184	117	..	218	136	138	404	325	39	47
Mauritania	47	54	120	90	175	140	..	..	345	294	46	52
Mauritius	66	71	32	19	40	22	..	..	202	96	69	84
Mexico	67	72	51	30	74	35	15	17	165	84	72	84
Moldova	66	67	35	18	..	22	..	..	315	176	57	74
Mongolia	58	66	82	50	..	60	..	..	201	165	65	71
Morocco	58	67	99	49	152	61	21	19	203	147	65	74
Mozambique	44	45	145	134	..	213	84	82	408	364	36	40
Myanmar	52	60	109	78	134	118	..	..	270	223	55	62
Namibia	53	54	90	67	114	112	30	34	383	364	45	48
Nepal	48	58	132	77	180	107	..	..	273	309	54	53
Netherlands	76	78	9	5	11	7	..	..	121	62	81	90
New Zealand	73	77	13	5	16	7	..	..	120	65	81	89
Nicaragua	59	68	84	36	143	42	12	11	208	139	66	76
Niger	42	46	135	118	317	250	184	202	453	352	34	43
Nigeria	46	53	99	76	196	119	118	202	401	339	43	50
Norway	76	78	8	4	11	6	..	..	112	58	82	91
Oman	60	73	41	18	95	25	..	..	141	106	76	82
Pakistan	55	62	127	91	161	120	22	37	172	152	64	68
Panama	70	74	32	21	36	25	..	..	139	82	77	85
Papua New Guinea	51	58	78	59	..	76	28	21	348	331	49	53
Paraguay	67	70	50	24	61	27	10	12	203	129	68	79
Peru	60	69	81	40	126	47	19	20	199	123	67	78
Philippines	61	69	52	32	81	40	21	19	197	149	68	75
Poland	70	73	26	10	..	11	..	..	208	85	69	86
Portugal	71	75	24	8	31	8	..	..	151	71	76	88
Puerto Rico	74	76	19	10	..	..	..	..	156	61	75	89
Romania	69	69	29	21	36	25	7	5	256	122	62	80
Russian Federation	67	67	22	17	..	20	3	2	364	128	52	79



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	years		per 1,000 live births		per 1,000		Male	Female	Male	Female	Male	Female
	1980	1998	1980	1998	1980	1998	per 1,000	per 1,000	per 1,000	per 1,000	% of cohort	% of cohort
							1988-98 <sup>a</sup>	1988-98 <sup>a</sup>	1998	1998	1997	1997
Rwanda	46	41	128	123	..	205	87	73	578	527	24	28
Saudi Arabia	61	72	65	20	85	26	..	..	165	138	73	78
Senegal	45	52	117	69	..	121	76	74	456	385	38	46
Sierra Leone	35	37	190	169	336	283	..	..	544	483	23	28
Singapore	71	77	12	4	13	6	..	..	131	75	80	88
Slovak Republic	70	73	21	9	23	10	..	..	207	90	69	85
Slovenia	70	75	15	5	18	7	..	..	169	75	74	88
South Africa	57	63	67	51	91	83	..	..	282	194	57	68
Spain	76	78	12	5	16	7	..	..	124	56	81	91
Sri Lanka	68	73	34	16	48	18	10	9	153	97	75	84
Sudan	48	55	94	69	145	105	62	63	378	333	46	51
Sweden	76	79	7	4	9	5	..	..	104	54	84	91
Switzerland	76	79	9	4	11	5	..	..	106	50	83	92
Syrian Arab Republic	62	69	56	28	73	32	..	..	203	138	67	77
Tajikistan	66	69	58	23	..	33	..	..	233	142	64	77
Tanzania	50	47	108	85	176	136	59	52	521	482	31	35
Thailand	64	72	49	29	58	33	11	11	206	116	67	79
Togo	49	49	100	78	188	144	75	90	488	444	34	39
Trinidad and Tobago	68	73	35	16	40	18	4	3	161	101	74	83
Tunisia	62	72	69	28	100	32	19	19	166	142	72	77
Turkey	61	69	109	38	133	42	12	14	186	122	68	78
Turkmenistan	64	66	54	33	..	44	..	..	282	159	58	74
Uganda	48	42	116	101	180	170	82	72	579	615	25	23
Ukraine	69	67	17	14	..	17	..	..	351	135	53	79
United Arab Emirates	68	75	55	8	..	10	..	..	127	92	80	85
United Kingdom	74	77	12	6	14	7	..	..	122	66	81	89
United States	74	77	13	7	15	..	..	..	133	68	79	89
Uruguay	70	74	37	16	42	19	..	..	171	76	73	87
Uzbekistan	67	69	47	22	..	29	15	9	229	126	65	79
Venezuela, RB	68	73	36	21	42	25	..	..	157	89	74	84
Vietnam	63	68	57	34	105	42	..	..	225	153	65	75
West Bank and Gaza	..	71	..	24	..	26	10	7	167	109	72	81
Yemen, Rep.	49	56	141	82	198	96	33	36	335	333	48	50
Yugoslavia, FR (Serb./Mont.)	70	72	33	13	..	16	..	..	178	107	72	82
Zambia	50	43	90	114	149	192	96	93	521	545	29	28
Zimbabwe	55	51	80	73	108	125	26	26	470	417	37	43
<b>World</b>	<b>61 w</b>	<b>67 w</b>	<b>80 w</b>	<b>54 w</b>	<b>123 w</b>	<b>75 w</b>	<b>32 w</b>	<b>41 w</b>	<b>216 w</b>	<b>163 w</b>	<b>69 w</b>	<b>78 w</b>
<b>Low income</b>	..	63	97	68	150	92	37	48	235	208	64	69
Excl. China & India	51	57	114	83	177	125	62	78	329	292	52	58
<b>Middle income</b>	65	69	60	31	89	39	..	..	230	126	63	80
Lower middle income	64	68	62	35	..	44	15	15	244	137	61	78
Upper middle income	66	71	57	26	72	31	..	..	210	110	68	82
<b>Low &amp; middle income</b>	58	65	87	59	135	79	32	41	234	183	64	73
East Asia & Pacific	..	69	55	35	82	43	12	13	188	145	69	76
Europe & Central Asia	68	69	41	22	..	26	..	..	283	120	59	80
Latin America & Carib.	65	70	61	31	78	38	13	14	216	116	67	81
Middle East & N. Africa	59	68	95	45	136	55	..	..	187	159	68	73
South Asia	54	62	119	75	180	89	29	42	220	213	62	65
Sub-Saharan Africa	48	50	115	92	188	151	92	114	432	383	40	46
<b>High income</b>	74	78	12	6	15	6	..	..	123	61	81	90
Europe EMU	74	78	12	5	16	6	..	..	127	59	80	90

a. Data are for the most recent year available.



## Mortality 2.18

## About the data

Mortality rates for different age groups—infants, children, or adults—and overall indicators of mortality—life expectancy at birth or survival to a given age—are important indicators of the health status in a country. Because data on the incidence or prevalence of diseases (morbidity data) frequently are unavailable, mortality rates are often used to identify vulnerable populations. And they are among the indicators most frequently used to compare levels of socioeconomic development across countries.

The main sources of mortality data are vital registration systems and direct or indirect estimates based on sample surveys or censuses. A complete vital registration system—that is, a system covering at least 90 percent of the population—is the best source of age-specific mortality data. But such systems are fairly uncommon in developing countries. Thus estimates must be obtained from sample surveys or derived by applying indirect estimation techniques to registration, census, or survey data. Survey data are subject to recall error, and surveys estimating infant deaths require large samples, because households in which a birth or an infant death has occurred during a given year cannot ordinarily be pre-selected for sampling. Indirect estimates rely on estimated actuarial (“life”) tables that may be inappropriate for the population concerned. Because life expectancy at birth is constructed using infant mortality data and life tables, similar reliability issues arise for this indicator.

Life expectancy at birth and age-specific mortality rates for 1998 are generally estimates based on vital registration or the most recent census or survey avail-

able (see *Primary data documentation*). Extrapolations based on outdated surveys may not be reliable for monitoring changes in health status or for comparative analytical work.

Infant and child mortality rates are higher for boys than for girls in countries in which parental gender preferences are absent. Child mortality captures the effect of gender discrimination better than does infant mortality, as malnutrition and medical interventions are more important in this age group. Where female child mortality is higher, as in some countries in South Asia, it is likely that girls have unequal access to resources.

Adult mortality rates have increased in many countries in Sub-Saharan Africa as well as in Eastern Europe and the countries of the former Soviet Union. In Sub-Saharan Africa the increase stems from AIDS-related mortality and affects both men and women. In Europe and Central Asia the causes are more diverse and affect men more. They include a high prevalence of smoking, a high-fat diet, excessive alcohol use, and stressful conditions related to the economic transition.

The percentage of a cohort surviving to age 65 combines child and adult mortality rates. Like life expectancy, it is a synthetic measure that is based on current age-specific mortality rates and used in the construction of life tables. It shows that in countries where mortality is high, a certain share of the current birth cohort will live well beyond the life expectancy at birth, while in low-mortality countries close to 90 percent will reach at least age 65.

## Definitions

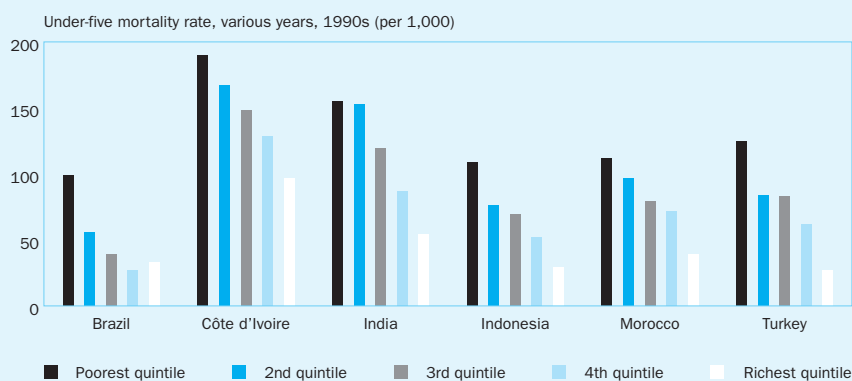
- **Life expectancy at birth** is the number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life.
- **Infant mortality rate** is the number of infants who die before reaching one year of age, per 1,000 live births in a given year.
- **Under-five mortality rate** is the probability that a newborn baby will die before reaching age five, if subject to current age-specific mortality rates.
- **Child mortality rate** is the probability of dying between the ages of one and five, if subject to current age-specific mortality rates.
- **Adult mortality rate** is the probability of dying between the ages of 15 and 60—that is, the probability of a 15-year-old dying before reaching age 60, if subject to current age-specific mortality rates between ages 15 and 60.
- **Survival to age 65** refers to the percentage of a cohort of newborn infants who would survive to age 65, if subject to current age-specific mortality rates.

## Data sources

The data in the table are from the United Nations Statistics Division's *Population and Vital Statistics Report*; demographic and health surveys from national sources and Macro International; and UNICEF's *State of the World's Children 2000*.

Figure 2.18

## Under-five mortality is dramatically higher among the poorest



**The national-level mortality indicators in table 2.18 obscure the large differences among wealth strata that exist in most countries. The under-five mortality rate in the poorest quintile is often at least twice that in the wealthiest.**