

4 Child health

A key indicator of children's health status is the infant mortality rate. The rate in Asia and the Pacific is only half that in Africa but almost twice that in Latin America and the Caribbean. Deaths can be reduced substantially through immunization against common diseases.

The infant mortality rate (IMR) is the number of children, per thousand live births, who die before reaching their first birthday. Countries with higher levels of economic development generally have low IMRs: within Asia and the Pacific, the IMR in high-income economies is only 4 deaths per 1,000 live births, compared with 38 in middle-income economies and 66 in low-income economies. However, some countries have demonstrated that specific interventions can yield good results even at lower levels of development. Geographically, the IMR is the lowest in East and North-East Asia (19) and highest in South and South-West Asia (60).

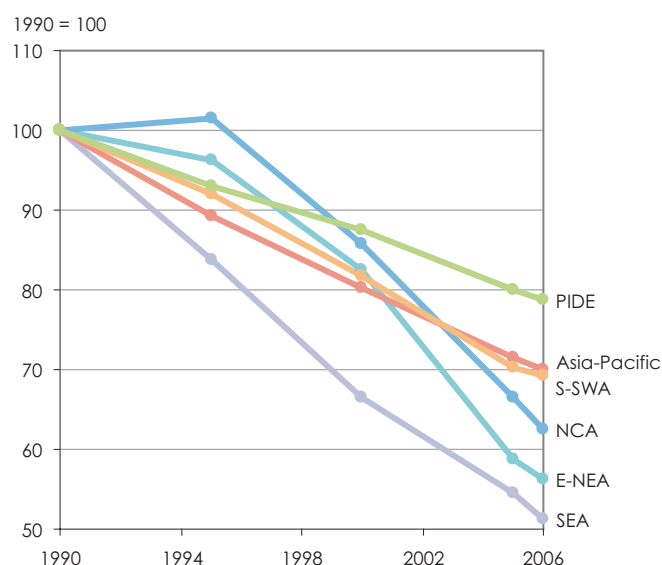
Between 1990 and 2006, the IMR in Asia and the Pacific fell from 62 to 43, a decline of 32 per cent. Perhaps unexpectedly, the smallest percentage reductions were in those subregions that had the highest infant mortalities in 1990. The reduction in South and South-West Asia, for example, was 30 per cent, and in the Pacific developing economies only 21 per cent – compared with 44 per cent in East and North-East Asia and 48 per cent in South-East Asia.

Subregional averages, however, obscure important differences between countries. Some have achieved good results. In Mongolia, for example, infant mortality increased in 1990 following the transition to a market economy but subsequently declined by 57 per cent. Other countries were also able to achieve reductions of more than 50 per cent over the 16-year period: Armenia (55 per cent), Indonesia (57 per cent), Thailand (73 per cent) and Viet Nam (60 per cent).

The results in South and South-West Asia are mixed. Bangladesh reduced the IMR by 48 per cent, from a high level. Turkey reduced the IMR by

Figure 4.1

Index of change in infant mortality rates, selected groups of Asia-Pacific countries or areas, 1990-2006



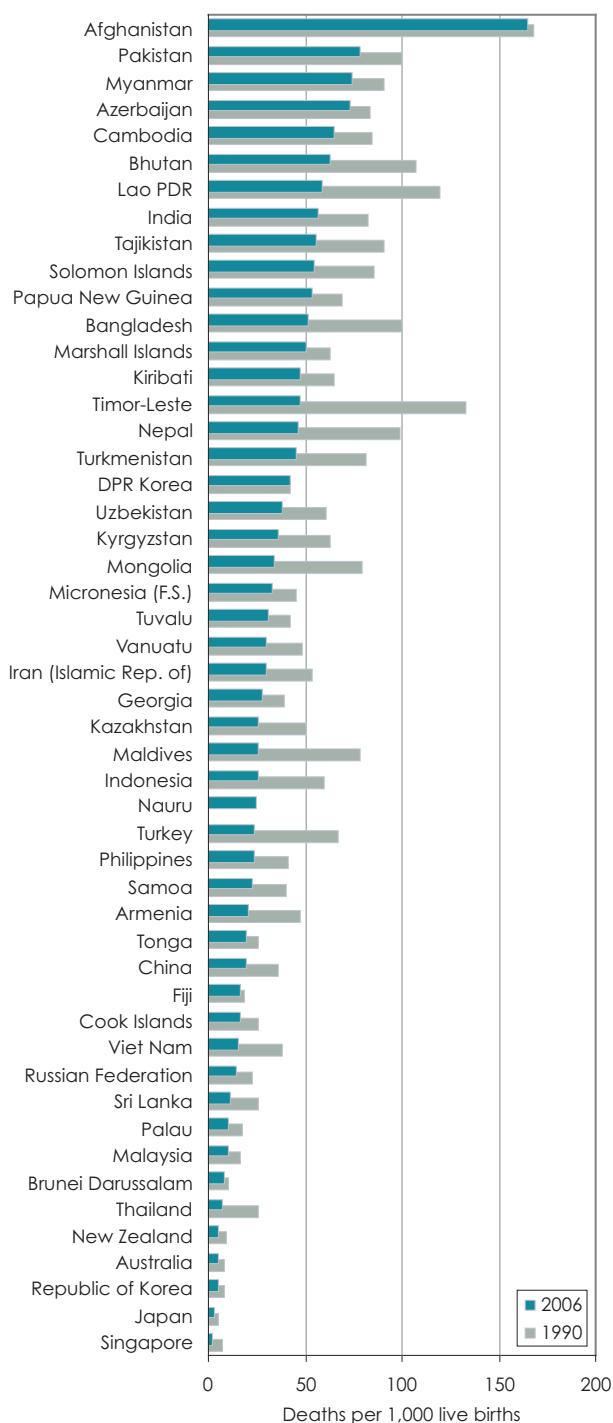
64 per cent from a relatively high level and Sri Lanka achieved a 58 per cent reduction from a low level. On the other hand, the IMR in India declined by only 30 per cent, from a relatively high level, and that in Pakistan declined by only 22 per cent from a high level.

The under-five mortality rate is the number of children who die before reaching their fifth birthday – also expressed as deaths per 1,000 live births in a particular year. It thus includes infant mortality. In 2006, the average under-five mortality rate in Asia and the Pacific was 56, compared with a global average of 72. As with infant mortality, the under-five mortality rate is lower in the more developed countries. In the Asia-Pacific region in 2006, the under-five mortality rate was only 5 in the high-income economies, but 49 in the middle-income economies and 88 in the low-income economies. Again, however, some countries have made good progress even at lower levels of development. By geographical subregion, the under-five mortality rate was the highest in South and South-West Asia, and

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Figure 4.2

Infant mortality, Asia and the Pacific, 1990 and 2006



lower than the regional average in each of the other subregions. As with infant mortality, the highest relative reductions were not among the countries that had the highest rates in 1990.

The United Nations Millennium Declaration aimed to reduce the under-five mortality rate by two-thirds between 1990 and 2015. If the decline in the under-five mortality rate from 1990 had been linear, then countries should by 2006 have reduced the rate by 43 per cent. Globally, however, there has

only been a 23 per cent decline. Asia and the Pacific has done better than average, with a 35 per cent decline, but will still need to increase the pace of reduction if it is to meet the target. Within South and South-West Asia, however, several countries are on track to achieve the MDG target. Between 1990 and 2006, Bangladesh reduced the under-five mortality rate by 54 per cent, the Islamic Republic of Iran by 53 per cent, Sri Lanka by 59 per cent and Turkey by 68 per cent.

Some countries in South-East Asia have had similar declines – 63 per cent in Indonesia, 54 per cent in the Lao People’s Democratic Republic, 48 per cent in the Philippines, 74 per cent in Thailand, and 68 per cent in Viet Nam. However in two countries with high levels of under-five mortality, the declines were modest – only 29 per cent in Cambodia and 20 per cent in Myanmar.

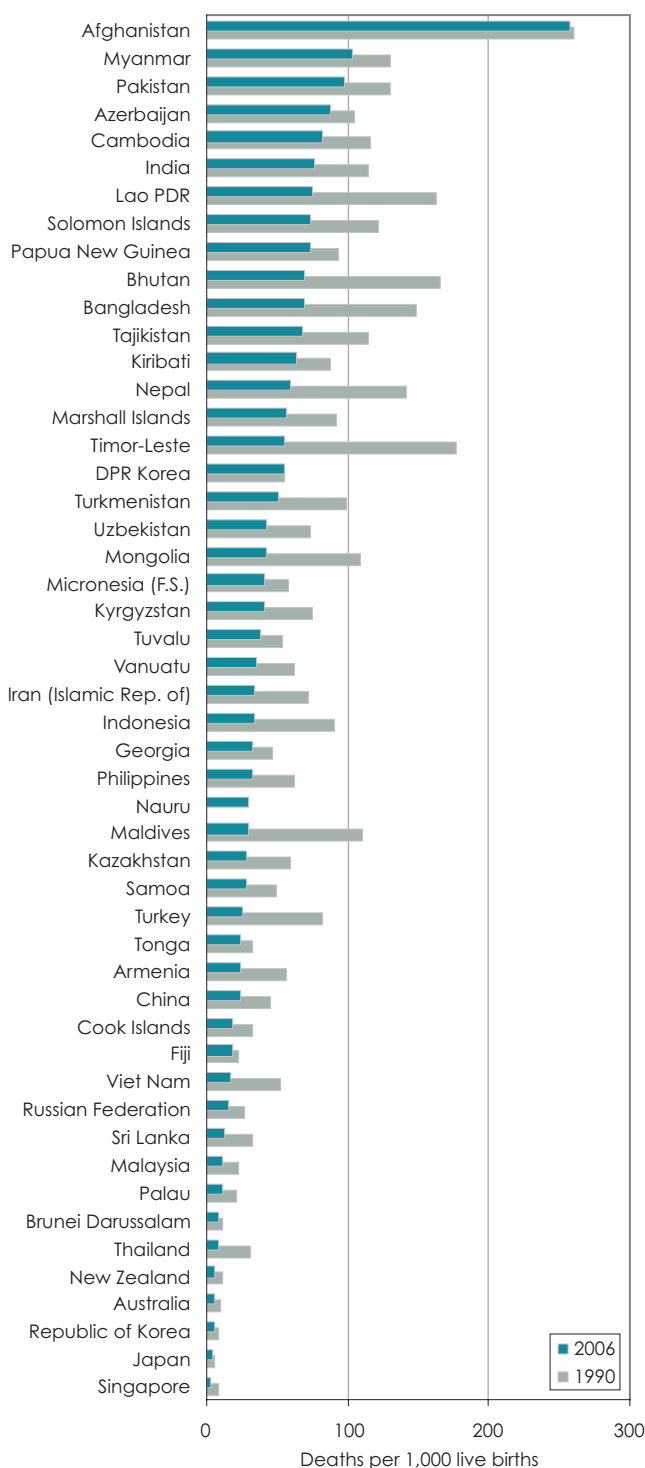
A major contributor to child mortality is malnutrition. A number of countries with high rates of malnutrition also have high rates of under-five mortality – including Afghanistan, Bangladesh, Cambodia, India, the Lao People’s Democratic Republic, Myanmar, Nepal, Pakistan, Tajikistan and Timor-Leste. Although the available data do not permit a thorough analysis of trends, it seems malnutrition is coming down more slowly than infant or under-five mortality. This may be because mortality can be reduced through relatively inexpensive public health measures, such as immunizing children, providing clean water and sanitation, and offering oral rehydration therapy, whereas eliminating child malnutrition may require raising the incomes of poor people through broadly based economic development.

For immunization against common diseases, Asia and the Pacific has performed slightly below the world average. In 2006, in the world as a whole 80 per cent of one-year-old children had received at least one dose of measles vaccine, but in Asia and the Pacific the proportion was 78 per cent. However, there is substantial variation among subregions. The lowest levels are in South and South-West Asia. And those in the Pacific developing economies are also below average. On the other hand, the measles immunization level is above average in South-East Asia and well over 90 per cent in East and North-East Asia and in North and Central Asia.

In South and South-West Asia, India’s low measles immunization rate (59 per cent) reduces the average for the subregion and has a significant impact on the average for Asia and the Pacific as a whole. Indeed, the rate in India is only slightly

Figure 4.3

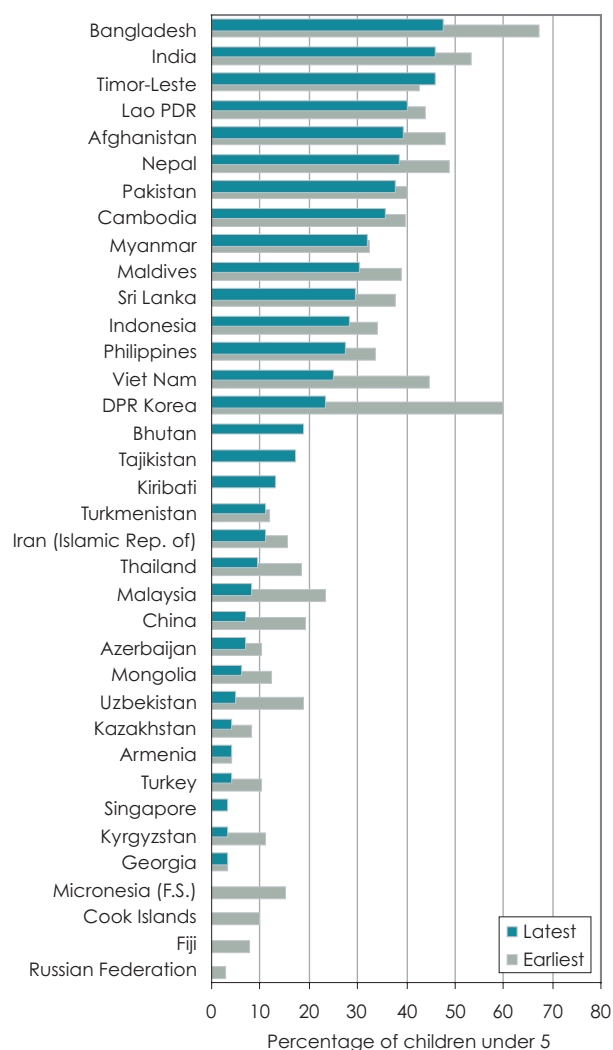
Under-five mortality, Asia and the Pacific, 1990 and 2006



above the 1990 level, far below the peak of 72 per cent reached in 1995. Other countries in the subregion have done better: Bangladesh has achieved 81 per cent and the rates in Sri Lanka and Turkey are close to 100 per cent.

Figure 4.4

Prevalence of moderately or severely underweight children, Asia and the Pacific, 1990 and 2006



Immunization with the combination, DPT3 vaccine against diphtheria, pertussis and typhoid follows a similar pattern. India's low level again pulls down the averages both for the subregion and Asia and the Pacific as a whole. What is alarming is that the latest recorded rate in India is substantially lower than in 1990. Among the smaller countries, immunization rates are lowest in the Lao People's Democratic Republic – 48 per cent for measles and 57 per cent for DPT3.

Low levels of child immunization are not necessarily the result of low national income. Two low-income economies have performed strongly: Mongolia (99 per cent) and Viet Nam (94 per cent) also have high levels of immunization against measles.

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Figure 4.5

Index of change in measles immunization of one-year-olds in selected groups of Asian and Pacific countries, 1990-2006

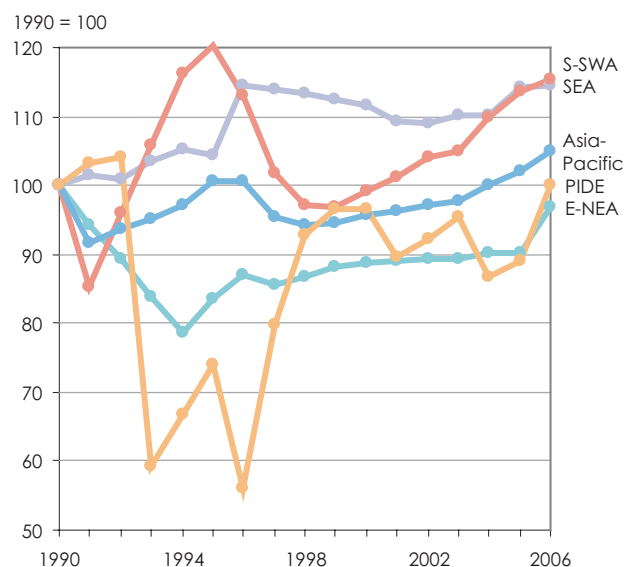
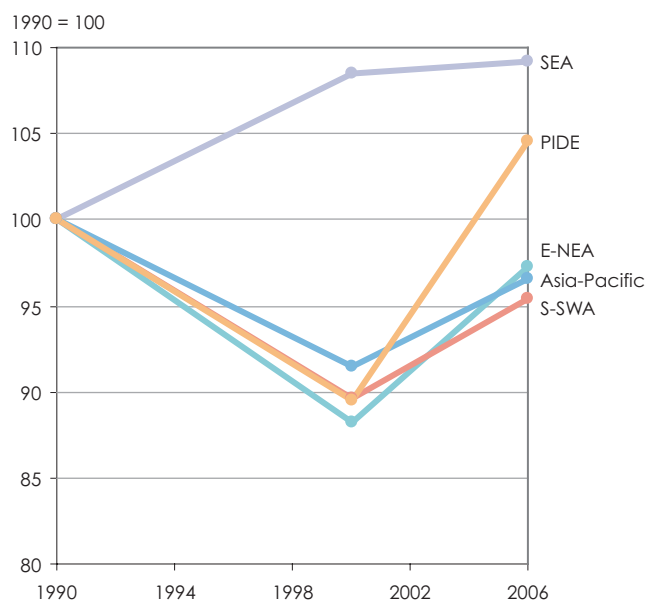


Figure 4.6

Index of change in DPT3 immunization of one-year-olds in selected groups of Asia-Pacific countries, 1990-2006



Infant mortality rate (MDG) (deaths per 1,000 live births)

The infant mortality rate is the probability (expressed as a rate per 1,000 live births) of a child born in a specified year dying before reaching the age of one if subject to current age-specific mortality rates. **Aggregates:** Averages were calculated using the number of live births as weight. **Source:** United Nations Millennium Development Goals Indicators (online database, accessed on 17 July 2008).

Under-five mortality rate (MDG) (deaths per 1,000 live births)

The under-five mortality rate is the probability (expressed as a rate per 1,000 live births) of a child born in a specified year dying before reaching the age of five if subject to current age-specific mortality rates. **Aggregates:** Averages are calculated using total number of live births as weight. **Source:** United Nations Millennium Development Goals Indicators (online database, accessed on 17 July 2008).

Prevalence of underweight children (% of children under 5)

Percentage of children aged 0-59 months who fall below minus 2 standard deviations from the median weight for age of the international reference population as adopted by the World Health Organization (WHO). **Aggregates:** None. **Source:** United Nations Millennium Development Goals Indicators (online database, accessed on 1 August 2008).

Children immunized against measles (MDG) (percentage)

Proportion of 1 year old children immunized against measles. Measles vaccine is recommended to be given at 9 months, except in specified countries where it is recommended to be given between 12 and 15 months for which the indicator is calculated as the proportion of children aged 24 months having received one dose of measles-containing vaccine. **Aggregates:** Averages are calculated using the population of children aged one as weight. **Source:** United Nations Millennium Development Goals Indicators (online database, accessed on 17 July 2008).

Children immunized against measles: Poorest and richest quintiles (percentage)

See definition of *children immunized against measles*. Disaggregation for the lowest and richest wealth quintile of the population. **Aggregates:** None. **Source:** WHO Statistical Information System (WHOSIS) (online database, accessed on 19 June 2008).

Immunized against DPT3 (percentage)

DTP3 immunization coverage is the percentage of one-year-olds who have received three doses of the combined diphtheria, tetanus toxoid and pertussis vaccine in a given year. **Aggregates:** Averages are calculated using the population of children aged one as weight. **Source:** WHO Statistical Information System (WHOSIS) (online database, accessed on 4 June 2008).

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	Infant mortality rate					Under-five mortality rate					Prevalence of overweight children	
	Deaths per 1,000 live births					Deaths per 1,000 live births					% of children under 5	
	1990	1995	2000	2005	2006	1990	1995	2000	2005	2006	Earliest	Latest
East and North-East Asia	34	33	28	20	19	43	41	35	24	23		
China	36	35	30	21	20	45	44	37	25	24	19.1 (90)	6.9 (05)
DPR Korea	42	42	42	42	42	55	55	55	55	55	60.0 (98)	23.4 (04)
Hong Kong, China												
Japan	5	4	3	3	3	6	6	5	4	4		
Macao, China												
Mongolia	79	62	48	36	34	109	83	62	45	43	12.3 (92)	6.3 (05)
Republic of Korea	8	6	5	5	5	9	6	5	5	5		
South-East Asia	53	44	35	29	27	77	61	47	37	36		
Brunei Darussalam	10	8	8	8	8	11	9	9	9	9		
Cambodia	85	89	78	67	65	116	123	104	85	82	39.8 (93)	35.6 (05)
Indonesia	60	48	36	28	26	91	66	48	36	34	34.0 (95)	28.2 (03)
Lao PDR	120	99	77	62	59	163	131	101	79	75	44.0 (93)	40.0 (00)
Malaysia	16	13	11	10	10	22	17	14	12	12	23.3 (93)	8.1 (05)
Myanmar	91	83	78	75	74	130	117	110	105	104	32.4 (90)	31.8 (03)
Philippines	41	35	30	25	24	62	49	40	33	32	33.5 (90)	27.6 (03)
Singapore	7	4	3	2	2	9	5	4	3	3		3.4 (00)
Thailand	26	17	11	8	7	31	20	13	8	8	18.6 (93)	9.3 (05)
Timor-Leste	133	118	85	52	47	177	154	107	61	55	42.6 (02)	45.8 (03)
Viet Nam	38	32	23	16	15	53	44	30	19	17	44.9 (94)	25.2 (05)
South and South-West Asia	85	76	68	61	60	119	105	92	81	79		
Afghanistan	168	165	165	165	165	260	257	257	257	257	48.0 (97)	39.3 (04)
Bangladesh	100	83	66	54	52	149	120	92	73	69	67.4 (92)	47.5 (04)
Bhutan	107	93	77	65	63	166	133	100	75	70		18.7 (99)
India	82	73	66	59	57	115	102	89	78	76	53.4 (93)	45.9 (05)
Iran (Islamic Rep. of)	54	43	36	31	30	72	55	44	36	34	15.7 (95)	10.9 (98)
Maldives	78	62	43	28	26	111	85	54	33	30	38.9 (94)	30.4 (01)
Nepal	99	84	64	49	46	142	118	86	63	59	48.7 (95)	38.6 (06)
Pakistan	100	93	85	79	78	130	118	108	99	97	40.4 (91)	37.8 (02)
Sri Lanka	26	21	16	12	11	32	25	19	14	13	37.7 (93)	29.4 (00)
Turkey	67	52	38	26	24	82	63	44	29	26	10.4 (93)	3.9 (03)
North and Central Asia	43	44	37	29	27	52	53	45	33	32		
Armenia	47	41	32	23	21	56	48	36	26	24	3.9 (98)	4.0 (05)
Azerbaijan	84	80	77	74	73	105	98	93	89	88	10.1 (96)	6.8 (01)
Georgia	39	36	32	29	28	46	41	37	33	32	3.1 (99)	3.1 (99)
Kazakhstan	51	50	37	27	26	60	60	43	31	29	8.3 (95)	4.0 (06)
Kyrgyzstan	63	53	44	37	36	75	62	51	43	41	11.0 (97)	3.4 (06)
Russian Federation	23	23	20	15	14	27	27	24	17	16	3.0 (95)	
Tajikistan	91	90	75	59	56	115	114	93	71	68		17.4 (05)
Turkmenistan	81	71	59	47	45	99	88	71	54	51	12.0 (00)	11.0 (05)
Uzbekistan	61	57	52	40	38	74	68	62	46	43	18.8 (96)	5.1 (06)
Pacific	30	28	27	25	24	40	37	36	33	32		
Australia	8	6	5	5	5	10	7	6	6	6		
American Samoa												
Cook Islands	26	24	20	17	16	32	29	24	20	19	10.0 (97)	
Fiji	19	17	16	16	16	22	19	18	18	18	7.9 (93)	
French Polynesia												
Guam												
Kiribati	65	57	52	48	47	88	77	70	65	64		13.0 (99)
Marshall Islands	63	59	55	51	50	92	81	68	58	56		
Micronesia (F.S.)	45	41	37	34	33	58	52	47	42	41	15.0 (97)	
Nauru		25	25	25	25		30	30	30	30		
New Caledonia												
New Zealand	9	7	6	5	5	11	9	8	6	6		
Niue												
Northern Mariana Is.												
Palau	18	15	13	10	10	21	17	14	11	11		
Papua New Guinea	69	64	60	55	54	94	87	80	74	73		
Samoa	40	33	28	24	23	50	41	34	29	28		
Solomon Islands	86	75	65	56	55	121	103	88	75	73		
Tonga	26	24	22	20	20	32	29	26	24	24		
Tuvalu	42	38	35	31	31	54	48	43	38	38		
Vanuatu	48	40	38	31	30	62	50	48	38	36		
Asia and the Pacific	62	57	51	44	43	86	78	68	58	56		
LLDC	96	95	92	86	85	134	135	131	123	122		
LDC	105	94	83	75	74	155	137	118	106	104		
ASEAN	52	44	35	28	27	76	60	47	37	35		
ECO	86	81	76	70	69	113	107	101	93	92		
SAARC	88	78	70	64	62	123	109	96	85	83		
Central Asia	65	62	53	42	41	79	75	64	49	47		
Pacific island dev. econ.	63	58	55	50	49	85	79	73	67	66		
Low-income	90	83	74	67	66	126	114	101	90	88		
Middle-income	58	53	47	40	38	79	72	62	51	49		
High-income	6	5	4	4	4	8	6	5	5	5		
Other world regions												
Africa	103	100	93	89	88	170	166	155	147	145		
Europe	12	9	7	6	6	14	11	9	8	7		
Latin America & Carib.	43	36	29	23	23	55	44	35	28	26		
North America	10	8	7	7	6	12	9	9	8	8		
Other countries/areas	47	41	38	35	35	62	54	49	46	45		
World	64	60	55	50	49	93	88	80	73	72		

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4.2 Child immunization, one-year-olds

	Immunized against measles								Immunized against DPT3		
	Total				Poorest quintile		Richest quintile		Percentage		
	1990	1995	2000	2006	Percentage		Percentage		1990	2000	2006
				Earliest	Latest	Earliest	Latest				
East and North-East Asia	97	81	86	94					96	85	93
China	98	80	85	93					97	85	93
DPR Korea	98	67	78	96					98	56	89
Hong Kong, China											
Japan	73	93	96	99					90	85	99
Macao, China											
Mongolia	92	85	94	99					84	95	99
Republic of Korea	93	93	95	99					74	97	98
South-East Asia	72	75	80	82					75	81	82
Brunei Darussalam	99	99	99	97					93	99	99
Cambodia	34	62	65	78		70 (05)		82 (05)	38	50	80
Indonesia	58	63	72	72		60 (03)		85 (03)	60	75	70
Lao PDR	32	68	42	48					18	53	57
Malaysia	70	86	88	90					90	95	96
Myanmar	90	82	84	78					88	82	82
Philippines	85	72	81	92		70 (03)		89 (03)	88	80	88
Singapore	84	97	96	93					85	98	95
Thailand	80	91	94	96					92	97	98
Timor-Leste				64							67
Viet Nam	88	95	97	93		64 (02)		98 (02)	88	96	94
South and South-West Asia	58	70	58	67					69	62	66
Afghanistan	20	41	35	68					25	31	77
Bangladesh	65	79	76	81		60 (04)		91 (04)	69	83	88
Bhutan	93	85	76	90					96	92	95
India	56	72	52	59		40 (06)		85 (06)	70	56	55
Iran (Islamic Rep. of)	85	95	99	99					91	99	99
Maldives	96	96	99	97					94	97	98
Nepal	57	56	71	85		73 (06)		95 (06)	43	72	89
Pakistan	50	47	56	80	28 (91)			75 (91)	54	61	83
Sri Lanka	80	87	99	99					86	99	99
Turkey	78	65	86	98					84	85	90
North and Central Asia		87	97	97						96	97
Armenia		96	92	92		72 (05)		61 (05)		93	87
Azerbaijan		97	99	96						99	95
Georgia		61	73	95						80	87
Kazakhstan		95	99	99		74 (99)		76 (99)		97	99
Kyrgyzstan		97	98	97	82 (97)			81 (97)		99	92
Russian Federation		85	97	99						97	99
Tajikistan		70	87	87						83	86
Turkmenistan		92	97	99		91 (00)		80 (00)		97	98
Uzbekistan		91	99	95						96	95
Pacific	81	73	80	83					86	79	85
Australia	86	87	91	94					95	90	92
American Samoa											
Cook Islands	67	96	76	99					93	97	99
Fiji	84	94	85	99					97	89	81
French Polynesia											
Guam											
Kiribati	75	47	80	61					97	90	86
Marshall Islands	52	57	94	96					92	39	74
Micronesia (F.S.)	81	90	85	83					85	85	67
Nauru			8	99					74	44	72
New Caledonia											
New Zealand	90	84	85	82					90	90	89
Niue	99	34	99	99					99	99	99
Northern Mariana Is.											
Palau	98	99	83	98					99	96	98
Papua New Guinea	67	42	62	65					68	59	75
Samoa	89	96	93	54					90	99	56
Solomon Islands	70	68	87	84					77	82	91
Tonga	86	94	95	99					94	95	99
Tuvalu	95	94	81	84					99	82	97
Vanuatu	66	60	94	99					76	90	85
Asia and the Pacific	74	75	71	78					79	73	77
LLDC	43	70	71	83					37	70	86
LDC	62	71	70	78					63	73	85
ASEAN	72	75	80	82					75	81	82
ECO	61	65	70	87					66	72	88
SAARC	56	69	55	65					67	59	63
Central Asia		89	96	95						94	94
Pacific island dev. econ.	70	52	68	70					73	65	76
Low-income	63	68	70	82					65	72	86
Middle-income	76	76	70	76					82	72	74
High-income	81	92	95	98					86	89	97
Other world regions											
Africa	61	59	60	74					61	58	75
Europe	81	87	90	92					88	94	95
Latin America & Carib.	76	87	92	93					68	88	92
North America	90	89	91	93					90	94	96
Other countries/areas	80	79	87	84					87	86	84
World	73	74	72	80					76	73	79