

Levels & Trends in
**Child
Mortality**

Report 2011

Estimates Developed by the
UN Inter-agency Group for
Child Mortality Estimation



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PROGRESS TOWARDS MILLENNIUM DEVELOPMENT GOAL 4: KEY FACTS AND FIGURES

- Overall, substantial progress has been made towards achieving MDG 4. The number of under-five deaths worldwide has declined from more than 12 million in 1990 to 7.6 million in 2010. Nearly 21,000 children under five died every day in 2010—about 12,000 fewer a day than in 1990.
- Since 1990 the global under-five mortality rate has dropped 35 percent—from 88 deaths per 1,000 live births in 1990 to 57 in 2010. Northern Africa, Eastern Asia, Latin America and the Caribbean, South-eastern Asia, Western Asia and the developed regions have reduced their under-five mortality rate by 50 percent or more.
- The rate of decline in under-five mortality has accelerated—from 1.9 percent a year over 1990–2000 to 2.5 percent a year over 2000–2010—but remains insufficient to reach MDG 4, particularly in Sub-Saharan Africa, Oceania, Caucasus and Central Asia, and Southern Asia.
- The highest rates of child mortality are still in Sub-Saharan Africa—where 1 in 8 children dies before age 5, more than 17 times the average for developed regions (1 in 143)—and Southern Asia (1 in 15). As under-five mortality rates have fallen more sharply elsewhere, the disparity between these two regions and the rest of the world has grown.
- Under-five deaths are increasingly concentrated in Sub-Saharan Africa and Southern Asia, while the share of the rest of the world dropped from 31 percent in 1990 to 18 percent in 2010.
- In Sub-Saharan Africa the average annual rate of reduction in under-five mortality has accelerated, doubling from 1990–2000 to 2000–2010. Six of the fourteen best-performing countries are in Sub-Saharan Africa, as are four of the five countries with the largest absolute reductions (more than 100 deaths per 1,000 live births).
- About half of under-five deaths occur in only five countries: India, Nigeria, Democratic Republic of the Congo, Pakistan and China. India (22 percent) and Nigeria (11 percent) together account for a third of all under-five deaths.
- Over 70 percent of under-five deaths occur within the first year of life.
- The proportion of under-five deaths that occur within the first month of life (the neonatal period) has increased about 10 percent since 1990 to more than 40 percent.
- Almost 30 percent of neonatal deaths occur in India. Sub-Saharan Africa has the highest risk of death in the first month of life and has shown the least progress.
- Globally, the four major killers of children under age 5 are pneumonia (18 percent), diarrhoeal diseases (15 percent), preterm birth complications (12 percent) and birth asphyxia (9 percent). Undernutrition is an underlying cause in more than a third of under-five deaths. Malaria is still a major killer in Sub-Saharan Africa, causing about 16 percent of under-five deaths.

Introduction

Only four years remain to achieve Millennium Development Goal 4 (MDG 4), which calls for reducing the under-five mortality rate by two-thirds between 1990 and 2015. Since 1990 the under-five mortality rate has dropped 35 percent, with every developing region seeing at least a 30 percent reduction. However, at the global level progress is behind schedule, and the target is at risk of being missed by 2015. The global under-five mortality rate needs to be halved from 57 deaths per 1,000 live births to 29—that implies an average rate of reduction of 13.5 percent a year, much higher than the 2.2 percent a year achieved between 1990 and 2010.

Child mortality is a key indicator not only of child health and nutrition but also of the implementation of child survival interventions and, more broadly, of social and economic development. As global momentum and investment for accelerating child survival grow, monitoring progress at the global and country levels has become even more critical. The United Nations Inter-agency Group for Child Mortality Estimation (IGME) updates child mortality estimates annually for monitoring progress. This report presents the IGME's latest estimates of under-five, infant and neonatal mortality and assesses progress towards MDG 4 at the country, regional and global levels.



The UN Inter-agency Group for Child Mortality Estimation

The IGME was formed in 2004 to share data on child mortality, harmonize estimates within the UN system, improve methods for child mortality estimation, report on progress towards the Millennium Development Goals and enhance country capacity to produce timely and properly assessed estimates of child mortality. The IGME, led by the United Nations Children's Fund (UNICEF) and the World Health Organization (WHO), also includes the World Bank and the United Nations Population Division of the Department of Economic and Social Affairs as full members.

The IGME's independent Technical Advisory Group, comprising leading academic scholars and independent experts in demography and biostatistics, provides guidance on estimation methods, technical issues and strategies for data analysis and data quality assessment.

Generating accurate estimates of child mortality poses a considerable challenge because of the limited availability of high-quality data for many developing countries. Complete vital registration systems are the preferred source of data on child mortality because they collect information as events occur and they cover the entire population. However, many developing countries lack fully functioning vital registration systems that accurately record all births and deaths. Therefore, household surveys, such as the UNICEF-supported Multiple Indicator Cluster Surveys and the US Agency for International Development-supported Demographic and Health Surveys, are the primary sources of data on child mortality in developing countries.

The IGME seeks to compile all available national-level data on child mortality, including data from vital registration systems, population censuses, household surveys and sample registration systems. To estimate the under-five mortality trend series for each country, a statistical model is fitted to data points that meet quality standards established by the IGME and then used to predict a trend line that is extrapolated to a common reference year, set at 2010 for the estimates in this report. To predict infant mortality rates, model life tables are used to transform under-five mortality rates. To predict neonatal mortality rates, a

statistical model is used to transform under-five mortality rates.

Changes to data sources and methodology

The IGME updates its child mortality estimates annually after reviewing newly available data and assessing data quality. In preparing the estimates in this report, the IGME recalculated direct estimates from all available Demographic and Health Surveys for calendar year periods, using single calendar years for reference periods shortly before the survey and then gradually increasing the number of years for reference periods further in the past. For a given survey the cut-off points for shifting from estimates for single calendar years to two years, or two years to three and so on are based on the coefficients of variation (a measure of sampling uncertainty) of the estimates. The Technical Advisory Group suggested this recalculation because the sample sizes of many household surveys have grown in recent years, allowing for shorter reference periods. The recalculated direct estimates with shorter reference periods replace the five-year periods used in previous estimations, thereby increasing the number of data points for more recent years.

In addition, a substantial amount of newly available data has been incorporated: data from the most recent surveys and censuses for about 30 countries, new data from vital registration systems for more than 50 countries and data from more than 70 surveys and censuses conducted before 2000 for about 20 countries. The increased data availability has resulted in substantial changes in the estimates for some countries from previous years. Because the fitted under-five mortality rate trend line is based on the entire time series of data available for each country and because model life tables and a statistical model are used to derive estimates of infant and neonatal mortality rates based on under-five mortality rates, the estimates presented in this report may differ from and not be comparable with previous sets of IGME estimates and the most recent underlying country data. Furthermore, this year the IGME used a different curve-fitting methodology. More details on the data and methods used in deriving the estimates are available in the IGME's child mortality database, CME Info (www.childmortality.org).

Support for data collection at country level

Modelled estimates of child mortality can only be as good as the underlying data. The IGME members, including UNICEF, the WHO and other UN agencies, are actively involved at the country level in strengthening national capacity in data collection, estimation techniques and interpretation of results.

Population-based survey data are critical for developing sound estimates for countries lacking functioning vital registration systems. The UNICEF-supported Multiple Indicator Cluster Surveys programme has been working since 1995 to build country-level capacity for survey implementation, data analysis and dissemination. The surveys are government owned and implemented, and UNICEF provides financial and technical support through workshops, technical consultations and peer-to-peer mentoring. More than 230 surveys have been conducted in more than 100 countries. In addition to population-based surveys, the WHO and the UN Statistics Division work with countries to strengthen vital registration systems. UNICEF supports this work by promoting birth registration and monitoring its progress. The United Nations Population Fund provides technical assistance for population censuses, another important source of child mortality data.

The IGME strengthens capacity by working with countries to improve understanding of child

mortality data and estimation. CME Info (www.childmortality.org), a comprehensive data portal on child mortality funded by UNICEF and launched by the IGME, is a powerful platform for sharing underlying data and collaborating with national partners on child mortality estimates. Since 2008 a series of regional workshops has been held, training more than 250 participants from 94 countries in the use of CME Info as well as the demographic techniques and modelling methods underlying the estimates. In the last three years UNICEF and the IGME have sent experts to about 10 countries to conduct training on child mortality estimation. As part of the data review process, UNICEF's network of field offices provides opportunities to assess the plausibility of estimates by engaging in a dialogue about the estimates and the underlying data. WHO also engages its Member States in a country consultation process through which governments provide feedback on the estimates and their underlying data.

Guiding this capacity strengthening work is a fundamental principle: child mortality estimation is not simply an academic exercise but a fundamental part of effective policies and programming. UNICEF works with countries to ensure that child mortality estimates are used effectively at the country level, in conjunction with other data on child health, to improve child survival programmes and stimulate action through advocacy. This work involves partnering with other agencies, organizations, and initiatives such as the Countdown to 2015.



Levels and Trends in Child Mortality, 1990–2010

Under-five mortality

The latest estimates of under-five mortality from the UN Inter-agency Group for Child Mortality estimation (IGME) show a 35 percent decline in the under-five mortality rate globally, from 88 deaths per 1,000 live births in 1990 to 57 in 2010 (table 1 and figure 1). Over the same period, the total number of under-five deaths in the world has declined from more than 12 million in 1990 to 7.6 million in 2010 (table 2).

Five of nine developing regions show reductions in under-five mortality of more than 50 percent over 1990–2010 (figure 2). Northern Africa has achieved MDG 4, with a 67 percent reduction, and Eastern Asia is close, with a 63 percent reduction.

Sub-Saharan Africa and Oceania have achieved only around a 30 percent reduction in under-five mortality, less than half that required to reach MDG 4. However, Sub-Saharan Africa—also combating the HIV/AIDS pandemic that has affected countries in the region more than elsewhere in the world—has doubled its average rate of reduction from 1.2 percent a year over 1990–2000 to 2.4 percent a year over 2000–2010.

A major reason for the limited progress in reducing child mortality at the global level, despite more than half the regions having already achieved reductions of more than 50 percent, is the large and growing share of under-five deaths that occur in Sub-Saharan Africa and Southern Asia (82 percent; figures 3 and 4). Of the 26 countries with under-five mortality rates above 100 deaths per 1,000 live births in 2010, 24 are in Sub-Saharan Africa (map 1). Thus, to achieve MDG 4, substantial progress is needed in both regions.

Fourteen of sixty-six countries with at least 40 under-five deaths per 1,000 live births in 2010 reduced their under-five mortality rate by at least half between 1990 and 2010 (figure 5). Timor-Leste, Bangladesh, Nepal, the Lao People's

Democratic Republic, Madagascar and Bhutan recorded declines of at least 60 percent, or more than 4.5 percent a year on average. In absolute terms the greatest reductions were in Niger, Malawi, Liberia, Timor-Leste and Sierra Leone (surpassing 100 deaths per 1,000 live births during the period). That 9 of the 14 countries are from Sub-Saharan Africa and Southern Asia, the two regions most in need of a faster reduction of the under-five mortality rate, shows that substantial progress can be made in these regions.

Among developed regions under-five mortality rates exceeded 10 deaths per 1,000 live births in 2010 in the Republic of Moldova, Albania, Romania, Ukraine, Bulgaria, Russian Federation and The former Yugoslav Republic of Macedonia.

Some 70 percent of the world's under-five deaths in 2010 occurred in only 15 countries, and about half in only five countries: India, Nigeria, Democratic Republic of the Congo, Pakistan and China (figure 6). India (22 percent) and Nigeria (11 percent) together account for a third of under-five deaths worldwide.

Overall, substantial progress has been made towards achieving MDG 4. About 12,000 fewer children died every day in 2010 than in 1990, the baseline year for measuring progress. Improvement in child survival is evident in all regions. The number of countries with under-five mortality rates of 100 deaths per 1,000 live births or higher has been halved from 52 in 1990 to 26 in 2010. In addition, no country had an under-five mortality rate above 200 deaths per 1,000 live births in 2010, compared with 13 countries in 1990. The rate of decline has accelerated from 1.9 percent a year over 1990–2000 to 2.5 percent a year over 2000–2010. Moreover, in Sub-Saharan Africa, the region with the greatest burden of under-five deaths, the rate of decline doubled. But these rates are still insufficient to achieve MDG 4 by 2015: only 6 of 10 regions are on track to achieve the MDG 4.

TABLE 1 Levels and trends in the under-five mortality rate, by Millennium Development Goal region, 1990–2010 (deaths per 1,000 live births)

Region	1990	1995	2000	2005	2009	2010	MDG target 2015	Decline (percent) 1990–2010	Average annual rate of reduction (percent) 1990–2010	Progress towards Millennium Development Goal 4 target 2010
Developed regions	15	11	10	8	7	7	5	53	3.8	On track
Developing regions	97	90	80	71	64	63	32	35	2.2	Insufficient progress
Northern Africa	82	62	47	35	28	27	27	67	5.6	On track
Sub-Saharan Africa	174	168	154	138	124	121	58	30	1.8	Insufficient progress
Latin America and the Caribbean	54	44	35	27	22	23	18	57	4.3	On track
Caucasus and Central Asia	77	71	62	53	47	45	26	42	2.7	Insufficient progress
Eastern Asia	48	42	33	25	19	18	16	63	4.9	On track
Excluding China	28	36	30	19	18	17	9	39	2.5	On track
Southern Asia	117	102	87	75	67	66	39	44	2.9	Insufficient progress
Excluding India	123	107	91	80	73	72	41	41	2.7	Insufficient progress
South-eastern Asia	71	58	48	39	34	32	24	55	4.0	On track
Western Asia	67	57	45	38	33	32	22	52	3.7	On track
Oceania	75	68	63	57	53	52	25	31	1.8	Insufficient progress
World	88	82	73	65	58	57	29	35	2.2	Insufficient progress

a "On track" indicates that under-five mortality is less than 40 deaths per 1,000 live births in 2010 or that the average annual rate of reduction is at least 4 percent over 1990–2010; "insufficient progress" indicates that under-five mortality is at least 40 deaths per 1,000 live births in 2010 and that the average annual rate of reduction is at least 1 percent but less than 4 percent over 1990–2010. These standards may differ from those in other publications by Inter-agency Group for Child Mortality Estimation members.

TABLE 2 Levels and trends in the number of deaths of children under age five, by Millennium Development Goal region, 1990–2010 (thousands)

Region	1990	1995	2000	2005	2009	2010	Decline (percent) 1990–2010	Share of global under-five deaths (percent) 2010
Developed regions	227	151	129	112	102	99	56	1.3
Developing regions	11,782	10,550	9,446	8,355	7,654	7,515	36	98.7
Northern Africa	304	210	153	121	100	95	69	1.2
Sub-Saharan Africa	3,734	3,977	4,006	3,956	3,752	3,709	1	48.7
Latin America and the Caribbean	623	511	397	305	237	249	60	3.3
Caucasus and Central Asia	155	119	86	80	79	78	50	1.0
Eastern Asia	1,308	845	704	423	349	331	75	4.3
Excluding China	29	46	30	16	17	17	41	0.2
Southern Asia	4,521	3,930	3,354	2,829	2,588	2,526	44	33.2
Excluding India	1,443	1,233	1,060	875	837	830	42	10.9
South-eastern Asia	853	696	530	453	368	349	59	4.6
Western Asia	270	247	201	173	167	165	39	2.2
Oceania	14	15	15	14	14	14	0	0.2
World	12,010	10,702	9,575	8,467	7,756	7,614	37	100.0

FIGURE 1 Under-five mortality declined in all regions between 1990 and 2010

Under-five mortality rate, by Millennium Development Goal region, 1990 and 2010 (deaths per 1,000 live births)

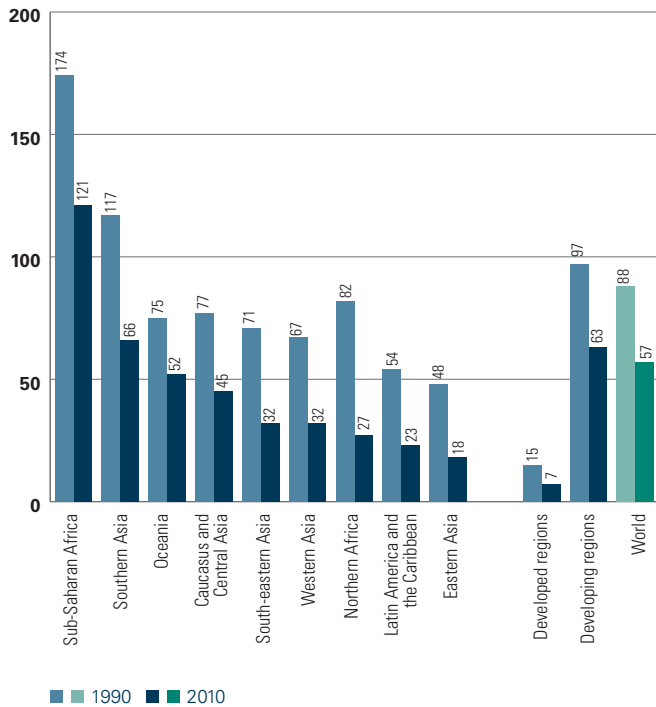


FIGURE 2 Many regions have reduced the under-five mortality rate by at least 50 percent between 1990 and 2010

Decline in under-five mortality rate, by Millennium Development Goal region, 1990–2010 (percent)

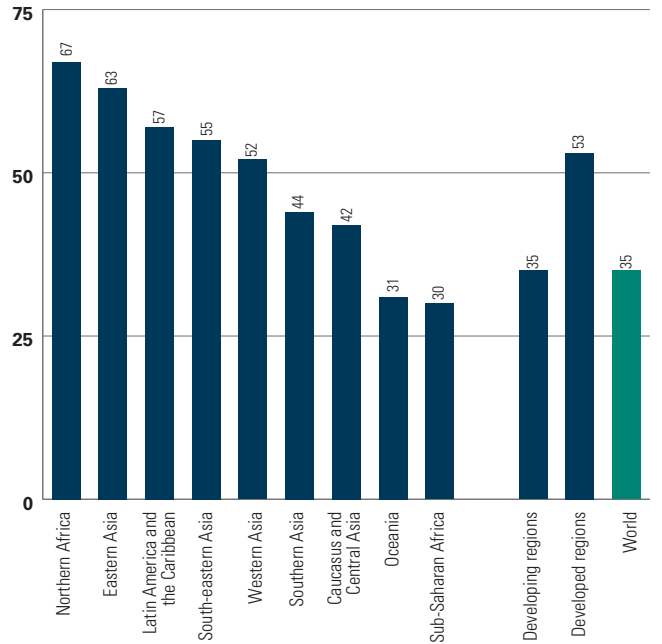


FIGURE 3 In 2010, 7.6 million children died before their fifth birthday

Number of under-five deaths, by Millennium Development Goal region, 2010 (thousands)

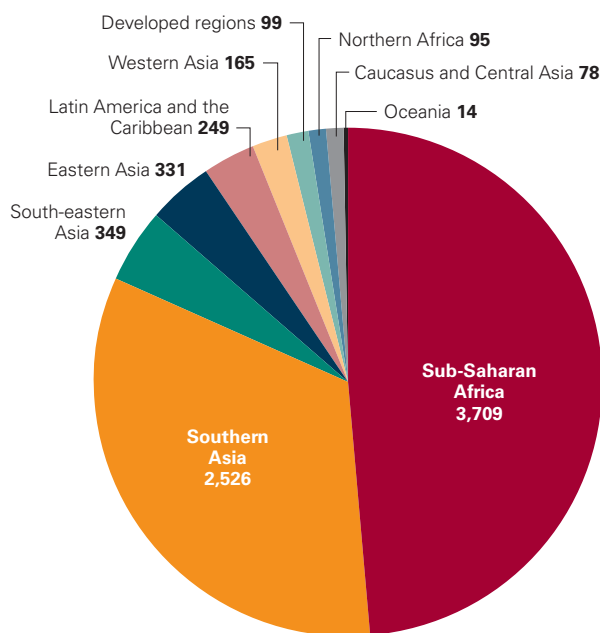
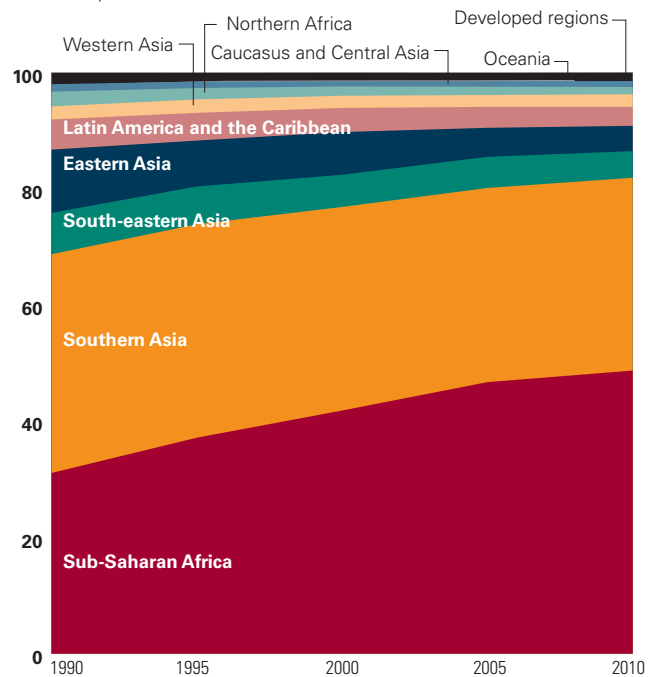


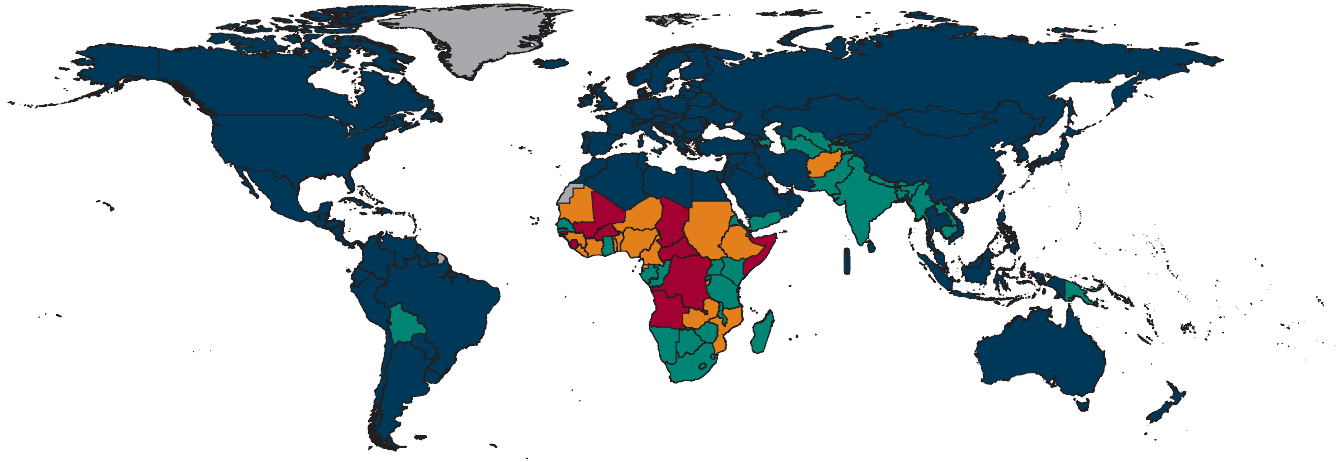
FIGURE 4 The global burden of under-five deaths is increasingly concentrated in Sub-Saharan Africa

Share of under-five deaths, by Millennium Development Goal region, 1990–2010 (percent)



MAP
1

Children in Southern Asia and Sub-Saharan Africa face a higher risk of dying before their fifth birthday



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

- Less than 40 ■ 100–149 ■ Data not available
- 40–99 ■ 150 or more

Note: Data for Sudan refer to the country as it was constituted in 2010, before South Sudan seceded on 9 July 2011.

FIGURE 5 Of the 66 countries with high under-five mortality, 14 have seen reductions of at least 50 percent between 1990 and 2010

Decline in under-five mortality rate, 1990–2010 (percent)

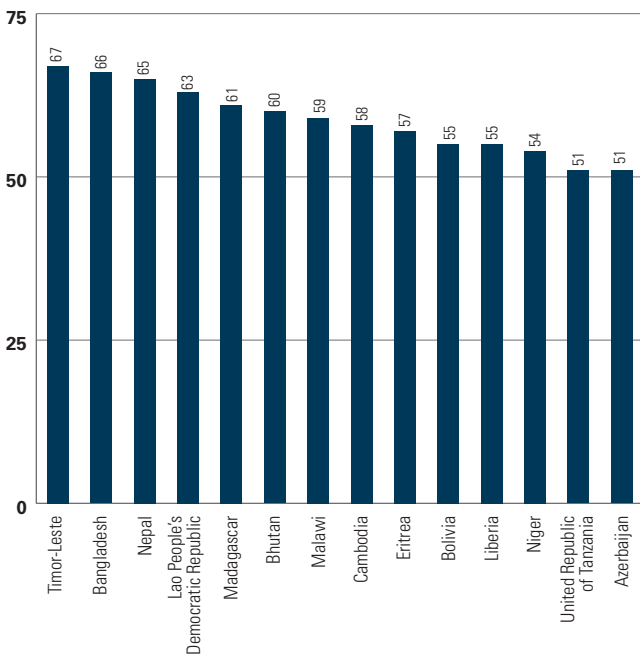
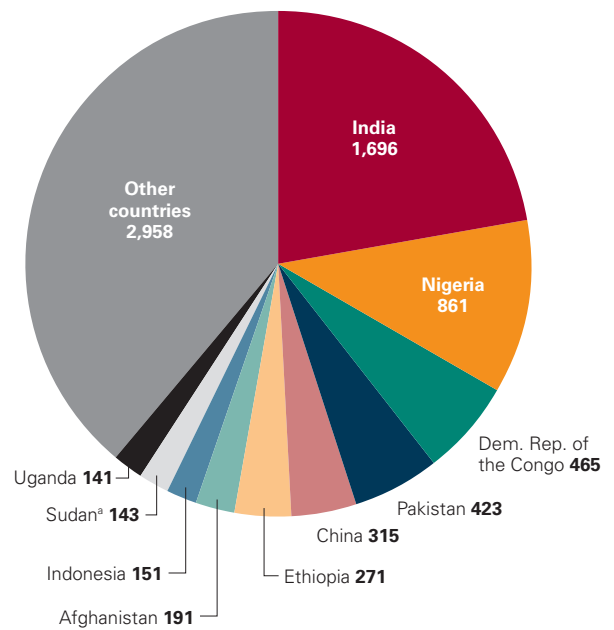


FIGURE 6 Half of under-five deaths occur in just five countries

Number of under-five deaths, by country, 2010 (thousands)



a. Data refer to Sudan as it was constituted in 2010, before South Sudan seceded on 9 July 2011.

As under-five mortality rates have fallen more sharply in richer developing regions, the disparity between Sub-Saharan Africa and other regions has grown. In 1990 a child born in Sub-Saharan Africa faced a probability of dying before age 5 that was 1.5 times higher than in Southern Asia, 3.2 times higher than in Latin America and the Caribbean, 3.6 times higher than in Eastern Asia and 11.6 times higher than in developed regions. By 2010 that probability was 1.8 times higher than in Southern Asia, 5.3 times higher than in Latin America and the Caribbean, 6.7 times higher than in Eastern Asia and 17.3 times higher than in developed regions. The disparity between Southern Asia and richer regions has also grown, though not as much.

Of the 66 countries with at least 40 deaths per 1,000 live births in 2010, only 11 are on track to achieve MDG 4 (map 2). But substantial advances have been made, particularly in Sub-Saharan Africa. Six of the fourteen best-performing countries are in Sub-Saharan Africa (see figure 5), as are four of the five countries with the largest absolute reductions in under-five mortality.

Thus, there is increasing evidence that MDG 4 can be achieved, but only if countries in Sub-Saharan

Africa and Southern Asia give high priority to reducing child mortality, particularly by targeting the major killers of children (including pneumonia, diarrhoea, malaria and undernutrition) with effective preventative and curative interventions.

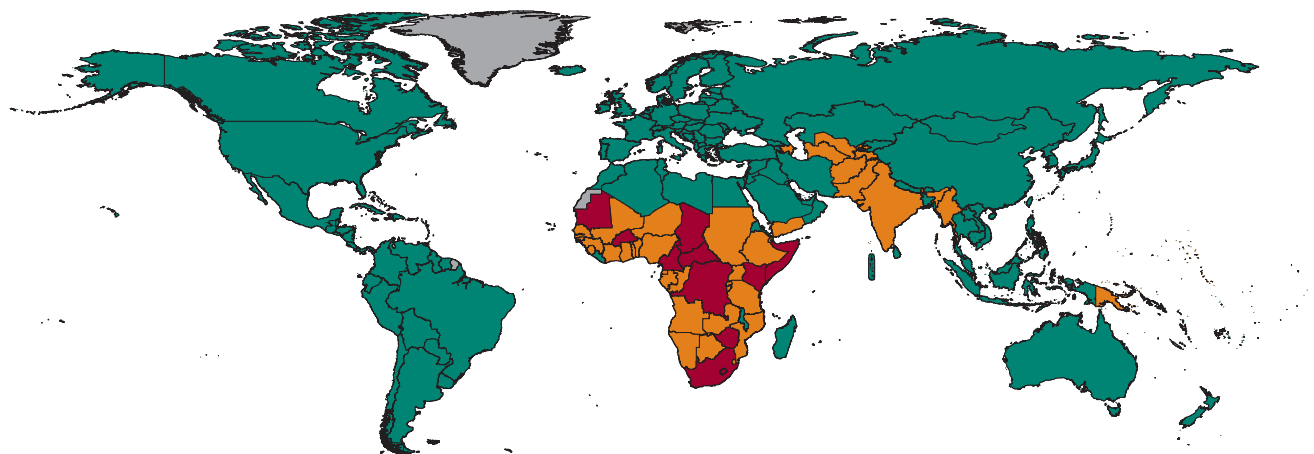
Neonatal mortality

Neonatal mortality, covering deaths in the first month after birth, is of interest because the health interventions needed to address the major causes of neonatal deaths generally differ from those needed to address other under-five deaths. Neonatal mortality is increasingly important because the proportion of under-five deaths that occur during the neonatal period is increasing as under-five mortality declines.

Over the last two decades almost all regions have seen slower declines in neonatal mortality than in under-five mortality. Globally, neonatal mortality has declined 28 percent from 32 deaths per 1,000 live births in 1990 to 23 in 2010—an average of 1.7 percent a year, much slower than for under-five mortality (2.2 percent per year) and for maternal mortality (2.3 percent per year). The fastest reduction was in Northern Africa (55 percent), followed by Eastern Asia and Latin America and the Caribbean (52 percent); the

MAP
2

Many countries were on track in 2010 to achieve Millennium Development Goal 4, but progress needs to accelerate in several regions, particularly in Southern Asia and Sub-Saharan Africa



■ On track: under-five mortality is less than 40 deaths per 1,000 live births in 2010 or the average annual rate of reduction of under-five mortality is at least 4 percent over 1990–2010.

■ Insufficient progress: under-five mortality is at least 40 deaths per 1,000 live births in 2010 and the average annual rate of reduction is at least 1 percent but less than 4 percent over 1990–2010.

■ No progress: under-five mortality is at least 40 deaths per 1,000 live births in 2010 and the average annual rate of reduction is less than 1 percent over 1990–2010.

■ Data not available.

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slowest reduction was in Oceania and Sub-Saharan Africa (19 percent; table 3).

Over the same period the share of neonatal deaths among under-five deaths has increased from about 37 percent to slightly above 40 percent worldwide and is expected to further increase as under-five mortality declines. While the relative increase is modest (9 percent) at the global level, there are differences across regions. The largest increases have been in Northern Africa (37 percent) and Eastern Asia (27 percent), the smallest in Oceania (7 percent; see table 3). In Eastern Asia, which had one of the largest declines in under-five mortality, neonatal deaths accounted for 57 percent of under-five deaths in 2010. Eastern Asia, Northern Africa and other richer developing regions will have to pay more attention to health interventions that address neonatal mortality in order to continue their success in reducing under-five mortality.

Southern Asia also needs to address neonatal mortality: neonatal deaths account for 50 percent of under-five deaths, and almost 30 percent of global neonatal deaths occurred in India. Sub-Saharan Africa, which accounts for more than a third of global neonatal deaths, has the highest neonatal mortality rate (35 deaths per

1,000 live births in 2010) and has shown the least progress in reducing that rate over the last two decades.

With the proportion of under-five deaths during the neonatal period increasing in every region and almost all countries, systematic action is required by governments and partners to reach women and babies with effective care. Highly cost-effective interventions are feasible even at the community level, and most can be linked with preventive and curative interventions for mothers and for babies. For example, early post-natal home visits are effective in promoting healthy behaviours such as breastfeeding and clean cord care as well as in reaching new mothers. Case management of neonatal infections can be provided alongside treatment of childhood pneumonia, diarrhoea and malaria. Care at birth brings a triple return on investment, preventing stillbirths and saving mothers and newborns.

Disparity in child mortality

Despite substantial progress in reducing under-five deaths, children from rural and poorer households remain disproportionately affected. Analyses based on data from household surveys for a subset of countries indicate that children in rural areas are about 1.7 times as likely to die

TABLE 3 Neonatal mortality rate, number of neonatal deaths and neonatal deaths as a share of under-five deaths, by Millennium Development Goal region, 1990 and 2010

Region	Neonatal mortality rate (deaths per 1,000 live births)			Number of neonatal deaths (thousands)		Neonatal deaths as a share of under-five deaths (percent)		Relative increase (percent) 1990–2010
	1990	2010	Decline (percent) 1990–2010	1990	2010	1990	2010	
Developed regions	7	4	43	106	53	47	53	15
Developing regions	36	25	31	4,319	3,019	37	40	10
Northern Africa	29	13	55	107	46	35	49	37
Sub-Saharan Africa	43	35	19	969	1,123	26	30	17
Latin America and the Caribbean	23	11	52	265	117	42	47	11
Caucasus and Central Asia	30	21	30	58	34	37	44	18
Eastern Asia	23	11	52	589	189	45	57	27
Excluding China	12	9	25	14	8	47	48	1
Southern Asia	48	32	33	1,875	1,256	41	50	20
Excluding India	48	33	31	576	381	40	46	15
South-eastern Asia	28	15	46	335	169	39	48	23
Western Asia	28	16	43	116	79	43	48	12
Oceania	26	21	19	5	5	37	40	7
World	32	23	28	4,425	3,072	37	40	9

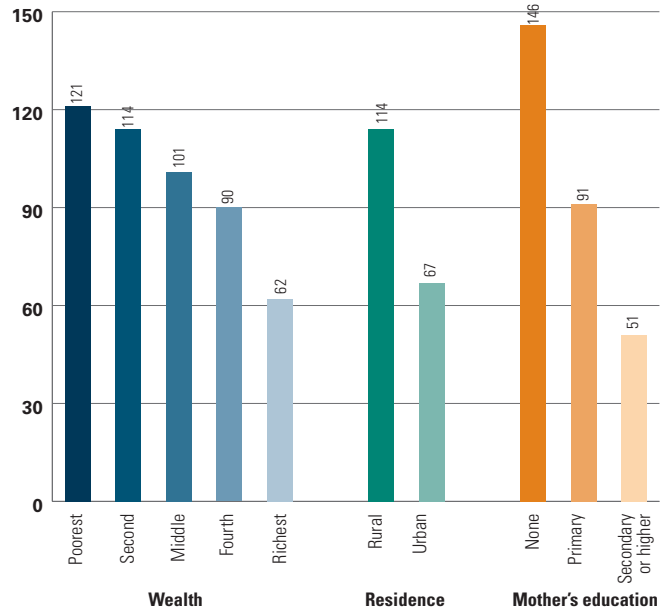
before their fifth birthday as those in urban areas and that children from the poorest 20 percent of households are nearly twice as likely to die before their fifth birthday as children in the richest 20 percent of households (figure 7).

Similarly, mother’s education remains a powerful determinant of inequity. Children of educated mothers—even mothers with only primary education—are more likely to survive than children of mothers with no education (see figure 7).

Accelerating the decline in under-five mortality is possible by expanding interventions that target the main causes of deaths and the most vulnerable newborn babies and children. Empowering women, removing financial and social barriers to accessing basic services, developing innovations that make the supply of critical services more available to the poor and increasing local accountability of health systems are examples of policy interventions that have allowed health systems to improve equity and reduce mortality. An equity-focused approach could bring vastly improved returns on investment by averting far more child deaths and episodes of undernutrition and by markedly expanding effective coverage of key primary health and nutrition interventions.

FIGURE 7 Children who live in poorer households and rural areas and whose mothers have less education are at higher risk of dying before age 5

Under-five mortality rate, by wealth quintile, residence and mother’s education, 2000–2010 (deaths per 1,000 live births)



Note: Calculation is based on 39 countries with most recent Demographic and Health Surveys conducted after 2005, with further analyses by UNICEF for under-five mortality rates by wealth quintile, 45 countries for rates by residence and 40 countries for rates by mother’s education. The average was calculated based on under-five mortality rates weighted by number of births. Country-specific estimates obtained from Demographic and Health Surveys refer to a 10-year period prior to the survey. Because levels or trends may have changed since then, caution should be used in interpreting these results.



Country, regional and global estimates of under-five, infant and neonatal mortality

Country or territory	Under-five mortality rate (deaths per 1,000 live births)				Number of under-five deaths (thousands)		Infant mortality rate (deaths per 1,000 live births)		Number of infant deaths (thousands)		Neonatal mortality rate (deaths per 1,000 live births)		Number of neonatal deaths (thousands)	
	1990	2010	Millennium Development Goal target for 2015	Average annual rate of reduction (percent) 1990–2010	1990	2010	1990	2010	1990	2010	1990	2010	1990	2010
Afghanistan	209	149	70	1.7	128	191	140	103	87	133	53	45	40	62
Albania	41	18	14	4.1	3	1	36	16	3	1	17	9	1	0
Algeria	68	36	23	3.2	53	26	55	31	43	22	29	18	23	13
Andorra	9	4	3	4.1	0	0	7	3	0	0	3	1	0	0
Angola	243	161	81	2.1	123	121	144	98	74	72	51	41	28	33
Antigua and Barbuda	26	8	9	5.9	0	0	23	7	0	0	13	4	0	0
Argentina	27	14	9	3.3	20	10	24	12	18	9	15	7	11	5
Armenia	55	20	18	5.1	4	1	46	18	4	1	26	11	2	1
Australia	9	5	3	2.9	2	1	8	4	2	1	5	3	1	1
Austria	9	4	3	4.1	1	0	8	4	1	0	4	2	0	0
Azerbaijan	93	46	31	3.5	19	9	74	39	15	8	31	19	6	4
Bahamas	22	16	7	1.6	0	0	18	14	0	0	9	7	0	0
Bahrain	17	10	6	2.7	0	0	15	9	0	0	6	4	0	0
Bangladesh	143	48	48	5.5	527	140	99	38	363	109	55	27	208	83
Barbados	18	20	6	-0.5	0	0	16	17	0	0	9	10	0	0
Belarus	17	6	6	5.2	3	1	14	4	2	0	7	3	1	0
Belgium	10	4	3	4.6	1	1	9	4	1	0	4	2	1	0
Belize	44	17	15	4.8	0	0	35	14	0	0	18	8	0	0
Benin	178	115	59	2.2	37	39	107	73	23	25	40	32	9	11
Bhutan	139	56	46	4.5	3	1	96	44	2	1	45	26	1	0
Bolivia (Plurinational State of)	121	54	40	4.0	28	14	84	42	20	10	39	23	9	6
Bosnia and Herzegovina	19	8	6	4.3	1	0	17	8	1	0	12	5	1	0
Botswana	59	48	20	1.0	3	2	46	36	2	2	22	19	1	1
Brazil	59	19	20	5.7	210	55	50	17	174	48	28	12	102	36
Brunei Darussalam	12	7	4	2.7	0	0	9	6	0	0	7	4	0	0
Bulgaria	22	13	7	2.6	3	1	18	11	2	1	11	7	1	0
Burkina Faso	205	176	68	0.8	85	120	103	93	43	64	41	38	18	27
Burundi	183	142	61	1.3	45	38	110	88	27	24	49	42	12	12
Cambodia	121	51	40	4.3	38	16	87	43	24	14	38	22	16	7
Cameroon	137	136	46	0.0	66	93	85	84	42	58	34	34	17	24
Canada	8	6	3	1.4	3	2	7	5	3	2	4	4	2	1
Cape Verde	59	36	20	2.5	1	0	46	29	1	0	21	14	0	0
Central African Republic	165	159	55	0.2	19	23	110	106	13	16	43	42	5	7
Chad	207	173	69	0.9	55	80	113	99	30	46	45	41	13	20
Chile	19	9	6	3.7	6	2	16	8	5	2	9	5	3	1
China	48	18	16	4.9	1,279	315	38	16	1,025	272	24	11	576	181
Colombia	37	19	12	3.3	33	18	30	17	27	15	20	12	19	11
Comoros	125	86	42	1.9	2	2	88	63	1	2	40	32	1	1
Congo	116	93	39	1.1	10	13	74	61	7	8	33	29	3	4
Cook Islands	20	9	7	4.0	0	0	17	8	0	0	9	5	0	0
Costa Rica	17	10	6	2.7	1	1	15	9	1	1	10	6	1	0
Côte d'Ivoire	151	123	50	1.0	76	80	105	86	53	56	46	41	24	27
Croatia	13	6	4	3.9	1	0	11	5	1	0	8	3	0	0
Cuba	13	6	4	3.9	3	1	11	5	2	0	7	3	1	0

Country, regional and global estimates of under-five, infant and neonatal mortality

Country or territory	Under-five mortality rate (deaths per 1,000 live births)				Number of under-five deaths (thousands)		Infant mortality rate (deaths per 1,000 live births)		Number of infant deaths (thousands)		Neonatal mortality rate (deaths per 1,000 live births)		Number of neonatal deaths (thousands)	
	1990	2010	Millennium Development Goal target for 2015	Average annual rate of reduction (percent) 1990–2010	1990	2010	1990	2010	1990	2010	1990	2010	1990	2010
Cyprus	11	4	4	5.1	0	0	10	3	0	0	5	2	0	0
Czech Republic	14	4	5	6.3	2	0	12	3	2	0	9	2	1	0
Democratic People's Republic of Korea	45	33	15	1.6	16	12	23	26	7	9	22	18	9	6
Democratic Republic of the Congo	181	170	60	0.3	312	465	117	112	206	306	48	46	89	132
Denmark	9	4	3	4.1	1	0	7	3	0	0	4	2	0	0
Djibouti	123	91	41	1.5	3	2	95	73	2	2	40	34	1	1
Dominica	17	12	6	1.7	0	0	14	11	0	0	11	8	0	0
Dominican Republic	62	27	21	4.2	13	6	48	22	10	5	29	15	6	3
Ecuador	52	20	17	4.8	15	6	41	18	12	5	20	10	6	3
Egypt	94	22	31	7.3	174	41	68	19	126	35	28	9	50	18
El Salvador	62	16	21	6.8	10	2	48	14	8	2	18	6	3	1
Equatorial Guinea	190	121	63	2.3	3	3	118	81	2	2	45	35	1	1
Eritrea	141	61	47	4.2	18	11	87	42	12	8	31	18	4	3
Estonia	21	5	7	7.2	1	0	17	4	0	0	13	3	0	0
Ethiopia	184	106	61	2.8	398	271	111	68	245	171	48	35	112	92
Fiji	30	17	10	2.8	1	0	25	15	0	0	12	8	0	0
Finland	7	3	2	4.2	0	0	6	2	0	0	4	2	0	0
France	9	4	3	4.1	6	3	7	3	5	3	3	2	3	2
Gabon	93	74	31	1.1	3	3	68	54	2	2	31	26	1	1
Gambia	165	98	55	2.6	7	6	78	57	3	4	42	31	2	2
Georgia	47	22	16	3.8	4	1	40	20	4	1	27	15	2	1
Germany	9	4	3	4.1	7	3	7	3	6	2	4	2	3	2
Ghana	122	74	41	2.5	68	57	77	50	43	38	38	28	22	22
Greece	13	4	4	5.9	1	1	11	3	1	0	9	2	1	0
Grenada	21	11	7	3.2	0	0	17	9	0	0	10	5	0	0
Guatemala	78	32	26	4.5	26	14	56	25	19	11	28	15	10	7
Guinea	229	130	76	2.8	58	48	135	81	35	31	51	38	14	15
Guinea-Bissau	210	150	70	1.7	9	8	125	92	5	5	48	40	2	2
Guyana	66	30	22	3.9	1	0	50	25	1	0	34	19	1	0
Haiti	151	165	50	-0.4	38	45	104	70	26	19	38	27	10	7
Holy See	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Honduras	58	24	19	4.4	11	5	45	20	8	4	23	12	4	2
Hungary	19	6	6	5.8	3	1	17	5	2	1	12	4	2	0
Iceland	6	2	2	5.5	0	0	5	2	0	0	3	1	0	0
India	115	63	38	3.0	3,078	1,696	81	48	2,185	1,305	47	32	1,299	875
Indonesia	85	35	28	4.4	403	151	56	27	261	115	31	17	149	73
Iran (Islamic Republic of)	65	26	22	4.6	122	34	50	22	92	29	28	14	51	18
Iraq	46	39	15	0.8	30	43	37	31	24	35	23	20	16	23
Ireland	9	4	3	4.1	0	0	8	3	0	0	5	2	0	0
Israel	12	5	4	4.4	1	1	10	4	1	1	6	2	1	0
Italy	10	4	3	4.6	5	2	8	3	5	2	6	2	3	1
Jamaica	38	24	13	2.3	2	1	31	20	2	1	13	9	1	0

Country, regional and global estimates of under-five, infant and neonatal mortality

Country or territory	Under-five mortality rate (deaths per 1,000 live births)				Number of under-five deaths (thousands)		Infant mortality rate (deaths per 1,000 live births)		Number of infant deaths (thousands)		Neonatal mortality rate (deaths per 1,000 live births)		Number of neonatal deaths (thousands)	
	1990	2010	Millennium Development Goal target for 2015	Average annual rate of reduction (percent) 1990–2010	1990	2010	1990	2010	1990	2010	1990	2010	1990	2010
Japan	6	3	2	3.5	8	3	5	2	5	3	3	1	3	1
Jordan	38	22	13	2.7	5	4	32	18	4	3	20	13	3	2
Kazakhstan	57	33	19	2.7	23	13	48	29	19	11	26	17	10	6
Kenya	99	85	33	0.8	97	122	64	55	63	80	31	28	30	43
Kiribati	87	49	29	2.9	0	0	64	39	0	0	29	19	0	0
Kuwait	15	11	5	1.6	1	1	13	10	1	1	9	6	0	0
Kyrgyzstan	72	38	24	3.2	10	5	59	33	8	5	30	19	4	2
Lao People's Democratic Republic	145	54	48	4.9	24	8	100	42	17	6	39	21	7	3
Latvia	21	10	7	3.7	1	0	16	8	1	0	12	5	0	0
Lebanon	38	22	13	2.7	3	2	31	19	2	1	18	12	1	1
Lesotho	89	85	30	0.2	5	5	72	65	4	4	36	35	2	2
Liberia	227	103	76	4.0	21	15	151	74	14	11	53	34	5	5
Libyan Arab Jamahiriya	45	17	15	4.9	5	2	33	13	3	2	22	10	2	1
Liechtenstein	10	2	3	8.0	0	0	9	2	0	0	—	—	—	—
Lithuania	17	7	6	4.4	1	0	14	5	1	0	10	3	1	0
Luxembourg	8	3	3	4.9	0	0	7	2	0	0	4	1	0	0
Madagascar	159	62	53	4.7	78	44	97	43	50	31	40	22	20	16
Malawi	222	92	74	4.4	92	56	131	58	55	36	44	27	19	18
Malaysia	18	6	6	5.5	9	3	15	5	8	3	9	3	5	2
Maldives	102	15	34	9.6	1	0	74	14	1	0	37	9	0	0
Mali	255	178	85	1.8	102	120	131	99	52	68	57	48	24	34
Malta	11	6	4	3.0	0	0	10	5	0	0	7	4	0	0
Marshall Islands	51	26	17	3.4	0	0	40	22	0	0	19	12	0	0
Mauritania	124	111	41	0.6	10	13	80	75	6	9	42	39	3	5
Mauritius	24	15	8	2.4	1	0	21	13	1	0	16	9	0	0
Mexico	49	17	16	5.3	115	37	38	14	91	31	17	7	41	16
Micronesia (Federated States of)	56	42	19	1.4	0	0	44	34	0	0	22	18	0	0
Monaco	9	4	3	4.1	0	0	7	3	0	0	5	2	0	0
Mongolia	107	32	36	6.0	8	2	76	26	6	2	27	12	2	1
Montenegro	18	8	6	4.1	0	0	16	7	0	0	11	5	0	0
Morocco	86	36	29	4.4	61	23	67	30	46	20	36	19	26	12
Mozambique	219	135	73	2.4	123	114	146	92	81	77	51	39	31	35
Myanmar	112	66	37	2.6	120	56	79	50	85	43	44	32	47	26
Namibia	73	40	24	3.0	4	2	49	29	3	2	25	17	1	1
Nauru	40	40	13	0.0	0	0	32	32	0	0	22	22	0	0
Nepal	141	50	47	5.2	99	35	97	41	69	29	54	28	40	20
Netherlands	8	4	3	3.5	2	1	7	4	1	1	5	3	1	1
New Zealand	11	6	4	3.0	1	0	9	5	1	0	4	3	0	0
Nicaragua	68	27	23	4.6	10	4	52	23	7	3	25	12	4	2
Niger	311	143	104	3.9	124	100	132	73	53	52	48	32	21	24
Nigeria	213	143	71	2.0	872	861	126	88	516	537	49	40	211	254
Niue	14	22	5	-2.3	0	0	12	19	0	0	7	10	0	0
Norway	9	3	3	5.5	0	0	7	3	0	0	4	2	0	0

Country, regional and global estimates of under-five, infant and neonatal mortality

Country or territory	Under-five mortality rate (deaths per 1,000 live births)				Number of under-five deaths (thousands)		Infant mortality rate (deaths per 1,000 live births)		Number of infant deaths (thousands)		Neonatal mortality rate (deaths per 1,000 live births)		Number of neonatal deaths (thousands)	
	1990	2010	Millennium Development Goal target for 2015	Average annual rate of reduction (percent) 1990–2010	1990	2010	1990	2010	1990	2010	1990	2010	1990	2010
Occupied Palestinian Territory	45	22	15	3.6	4	3	36	20	3	3	—	—	—	—
Oman	47	9	16	8.3	3	1	36	8	3	0	22	5	2	0
Pakistan	124	87	41	1.8	551	423	96	70	431	347	51	41	230	194
Palau	33	19	11	2.8	0	0	27	15	0	0	14	9	0	0
Panama	33	20	11	2.5	2	1	26	17	2	1	14	9	1	1
Papua New Guinea	90	61	30	1.9	12	12	65	47	9	10	30	23	4	5
Paraguay	50	25	17	3.5	7	4	40	21	5	3	24	14	3	2
Peru	78	19	26	7.1	50	11	55	15	36	9	27	9	18	6
Philippines	59	29	20	3.6	120	66	42	23	85	52	23	14	46	32
Poland	17	6	6	5.2	9	3	15	5	8	2	11	4	6	1
Portugal	15	4	5	6.6	2	0	11	3	1	0	7	2	1	0
Qatar	21	8	7	4.8	0	0	17	7	0	0	10	4	0	0
Republic of Korea	8	5	3	2.4	4	3	6	4	4	2	3	2	2	1
Republic of Moldova	37	19	12	3.3	3	1	30	16	3	1	15	9	1	0
Romania	37	14	12	4.9	15	3	29	11	12	3	15	8	5	2
Russian Federation	27	12	9	4.1	60	20	22	9	48	16	12	6	25	10
Rwanda	163	91	54	2.9	52	38	99	59	32	25	41	29	12	13
Saint Kitts and Nevis	28	8	9	6.3	0	0	22	7	0	0	17	5	0	0
Saint Lucia	23	16	8	1.8	0	0	18	14	0	0	13	10	0	0
Saint Vincent and the Grenadines	27	21	9	1.3	0	0	21	19	0	0	16	13	0	0
Samoa	27	20	9	1.5	0	0	23	17	0	0	10	8	0	0
San Marino	12	2	4	9.0	0	0	11	2	0	0	5	1	0	0
Sao Tome and Principe	94	80	31	0.8	0	0	61	53	0	0	28	25	0	0
Saudi Arabia	45	18	15	4.6	25	12	36	15	19	10	20	10	12	6
Senegal	139	75	46	3.1	42	34	70	50	21	23	40	27	13	13
Serbia	29	7	10	7.1	4	1	25	6	3	1	16	4	2	0
Seychelles	17	14	6	1.0	0	0	14	12	0	0	9	8	0	0
Sierra Leone	276	174	92	2.3	45	39	162	114	26	26	57	45	10	10
Singapore	8	3	3	4.9	0	0	6	2	0	0	4	1	0	0
Slovakia	18	8	6	4.1	1	0	15	7	1	0	12	4	1	0
Slovenia	10	3	3	6.0	0	0	9	2	0	0	5	2	0	0
Solomon Islands	45	27	15	2.6	1	0	36	23	0	0	18	12	0	0
Somalia	180	180	60	0.0	52	70	108	108	33	42	52	52	15	21
South Africa	60	57	20	0.3	64	58	47	41	50	41	18	18	20	19
Spain	11	5	4	3.9	4	2	9	4	4	2	6	3	3	1
Sri Lanka	32	17	11	3.2	11	6	26	14	9	5	18	10	6	4
Sudan ^a	125	103	42	1.0	126	143	78	66	80	92	39	35	43	50
Suriname	52	31	17	2.6	0	0	44	27	0	0	21	14	0	0
Swaziland	96	78	32	1.0	4	3	70	55	3	2	24	21	1	1
Sweden	7	3	2	4.2	1	0	6	2	1	0	3	2	0	0
Switzerland	8	5	3	2.4	1	0	7	4	0	0	4	3	0	0
Syrian Arab Republic	38	16	13	4.3	17	8	31	14	14	7	18	9	8	4
Tajikistan	116	63	39	3.1	25	12	91	52	20	10	37	25	8	5
Thailand	32	13	11	4.5	35	11	26	11	29	9	17	8	18	7

Country, regional and global estimates of under-five, infant and neonatal mortality

Country or territory	Under-five mortality rate (deaths per 1,000 live births)				Number of under-five deaths (thousands)		Infant mortality rate (deaths per 1,000 live births)		Number of infant deaths (thousands)		Neonatal mortality rate (deaths per 1,000 live births)		Number of neonatal deaths (thousands)	
	1990	2010	Millennium Development Goal target for 2015	Average annual rate of reduction (percent) 1990–2010	1990	2010	1990	2010	1990	2010	1990	2010	1990	2010
The former Yugoslav Republic of Macedonia	39	12	13	5.9	1	0	34	10	1	0	17	8	1	0
Timor-Leste	169	55	56	5.6	4	2	127	46	3	2	48	24	2	1
Togo	147	103	49	1.8	22	19	87	66	13	12	40	32	6	6
Tonga	25	16	8	2.2	0	0	21	13	0	0	11	8	0	0
Trinidad and Tobago	37	27	12	1.6	1	1	32	24	1	0	23	18	1	0
Tunisia	49	16	16	5.6	11	3	39	14	9	3	23	9	5	2
Turkey	80	18	27	7.5	107	24	66	14	87	19	33	10	47	13
Turkmenistan	98	56	33	2.8	13	6	78	47	11	5	33	23	4	2
Tuvalu	57	33	19	2.7	0	0	44	27	0	0	22	14	0	0
Uganda	175	99	58	2.8	143	141	106	63	88	92	36	26	31	39
Ukraine	21	13	7	2.4	15	7	18	11	13	6	9	6	6	3
United Arab Emirates	22	7	7	5.7	1	1	18	6	1	1	12	4	1	0
United Kingdom	9	5	3	2.9	7	4	8	5	6	4	5	3	4	2
United Republic of Tanzania	155	76	52	3.6	166	133	95	50	103	90	40	26	45	48
United States	11	8	4	1.6	44	32	9	7	37	28	6	4	22	18
Uruguay	23	11	8	3.7	1	1	20	9	1	0	11	6	1	0
Uzbekistan	77	52	26	2.0	56	31	63	44	46	27	30	23	22	13
Vanuatu	39	14	13	5.1	0	0	31	12	0	0	16	7	0	0
Venezuela (Bolivarian Republic of)	33	18	11	3.0	19	11	28	16	16	9	17	10	9	6
Viet Nam	51	23	17	4.0	99	34	37	19	70	28	23	12	45	18
Yemen	128	77	43	2.5	75	69	90	57	52	52	43	32	27	29
Zambia	183	111	61	2.5	60	60	109	69	36	38	40	30	14	18
Zimbabwe	78	80	26	-0.1	29	29	52	51	19	19	27	27	10	10

Estimates of under-five, infant and neonatal mortality by Millennium Development Goal region^{b,c}

Developed regions	15	7	5	3.8	227	99	12	6	186	83	7	4	106	53
Developing regions	97	63	32	2.2	11,782	7,515	67	44	8,202	5,346	36	25	4,319	3,019
Northern Africa	82	27	27	5.6	304	95	62	23	227	81	29	13	107	46
Sub-Saharan Africa	174	121	58	1.8	3,734	3,709	105	76	2,273	2,350	43	35	969	1,123
Latin America & Caribbean	54	23	18	4.3	623	249	43	18	491	191	23	11	265	117
Caucasus & Central Asia	77	45	26	2.7	155	78	63	39	127	67	30	21	58	34
Eastern Asia	48	18	16	4.9	1,308	331	38	16	1,042	285	23	11	589	189
Excluding China	28	17	9	2.5	29	17	17	14	17	14	12	9	14	8
Southern Asia	117	66	39	2.9	4,521	2,526	84	51	3,239	1,958	48	32	1,875	1,256
Excluding India	123	72	41	2.7	1,443	830	90	56	1,053	653	48	33	576	381
South-eastern Asia	71	32	24	4.0	853	349	49	25	582	271	28	15	335	169
Western Asia	67	32	22	3.7	270	165	52	25	211	131	28	16	116	79
Oceania	75	52	25	1.8	14	14	55	41	11	11	26	21	5	5
World	88	57	29	2.2	12,010	7,614	61	40	8,389	5,429	32	23	4,425	3,072

Country, regional and global estimates of under-five, infant and neonatal mortality

Estimates of under-five, infant and neonatal mortality by UNICEF region^c

Region	Under-five mortality rate (deaths per 1,000 live births)				Number of under-five deaths (thousands)		Infant mortality rate (deaths per 1,000 live births)		Number of infant deaths (thousands)		Neonatal mortality rate (deaths per 1,000 live births)		Number of neonatal deaths (thousands)	
	1990	2010	Millennium Development Goal target for 2015	Average annual rate of reduction (percent) 1990–2010	1990	2010	1990	2010	1990	2010	1990	2010	1990	2010
Africa	160	111	53	1.8	4,038	3,804	99	71	2,500	2,431	41	33	1,076	1,169
Sub-Saharan Africa	174	121	58	1.8	3,734	3,709	105	76	2,273	2,350	43	35	969	1,123
Eastern and Southern Africa	156	98	52	2.3	1,559	1,322	97	63	982	858	39	30	411	425
West and Central Africa	196	143	65	1.6	2,046	2,241	115	88	1,208	1,398	47	39	514	647
Middle East and North Africa	77	41	26	3.2	718	415	56	31	526	316	29	18	271	180
Asia	86	48	29	2.9	6,575	3,186	62	37	4,781	2,496	37	24	2,754	1,602
South Asia	120	67	40	2.9	4,399	2,492	86	52	3,147	1,929	49	33	1,824	1,239
East Asia and Pacific	55	24	18	4.1	2,175	694	41	19	1,634	567	25	13	930	363
Latin America and Caribbean	54	23	18	4.3	623	249	43	18	491	191	23	11	265	117
Central and Eastern Europe/Commonwealth of Independent States	50	23	17	3.9	371	136	41	19	303	114	21	11	149	65
Industrialized countries	10	6	3	2.6	118	65	9	5	97	55	5	3	61	36
Developing countries	97	63	32	2.2	11,784	7,516	67	44	8,204	5,346	36	25	4,320	3,019
Least developed countries	170	110	57	2.2	3,497	2,949	106	71	2,200	1,912	47	34	1,024	956
World	88	57	29	2.2	12,010	7,614	61	40	8,389	5,429	32	23	4,425	3,072

Estimates of under-five, infant and neonatal mortality by World Health Organization region^c

Region	Under-five mortality rate (deaths per 1,000 live births)				Number of under-five deaths (thousands)		Infant mortality rate (deaths per 1,000 live births)		Number of infant deaths (thousands)		Neonatal mortality rate (deaths per 1,000 live births)		Number of neonatal deaths (thousands)	
	1990	2010	Millennium Development Goal target for 2015	Average annual rate of reduction (percent) 1990–2010	1990	2010	1990	2010	1990	2010	1990	2010	1990	2010
Africa	172	119	57	1.8	3,606	3,520	104	75	2,200	2,236	42	34	933	1,064
Americas	42	18	14	4.2	670	284	34	14	530	221	18	9	289	137
Eastern Mediterranean	100	68	33	1.9	1,392	1,070	74	51	1,031	814	38	28	533	444
Europe	33	14	11	4.3	431	161	27	12	353	135	14	7	181	79
South-East Asia	111	56	37	3.4	4,299	2,110	78	44	3,013	1,627	45	29	1,780	1,096
Western Pacific	48	19	16	4.6	1,607	467	37	16	1,257	393	22	11	709	252
World	88	57	29	2.2	12,010	7,614	61	40	8,389	5,429	32	23	4,425	3,072

Country, regional and global estimates of under-five, infant and neonatal mortality

Estimates of under-five, infant and neonatal mortality by World Bank region^c

Region	Under-five mortality rate (deaths per 1,000 live births)				Number of under-five deaths (thousands)		Infant mortality rate (deaths per 1,000 live births)				Neonatal mortality rate (deaths per 1,000 live births)			
	1990	2010	Millennium Development Goal target for 2015	Average annual rate of reduction (percent) 1990–2010	1990	2010	1990	2010	1990	2010	1990	2010	1990	2010
Low income	164	107	55	2.1	3,194	2,667	103	70	2,015	1,731	46	33	944	866
Middle income	83	51	28	2.4	8,656	4,860	59	38	6,244	3,623	33	23	3,402	2,161
Lower middle income	113	69	38	2.5	6,327	4,163	78	50	4,379	3,036	41	29	2,374	1,787
Upper middle income	49	20	16	4.5	2,330	698	39	16	1,865	588	23	11	1,028	374
Low and middle income	96	62	32	2.2	11,850	7,527	67	44	8,259	5,355	35	25	4,346	3,027
East Asia & Pacific	56	24	19	4.2	2,171	691	42	20	1,630	565	25	13	927	362
Europe & Central Asia	49	23	16	3.8	373	136	41	19	304	114	21	11	149	65
Latin America & Caribbean	54	23	18	4.3	622	249	43	18	490	191	23	11	264	117
Middle East & North Africa	74	33	25	4.0	557	255	56	27	418	210	29	16	214	123
South Asia	120	67	40	2.9	4,399	2,492	86	52	3,147	1,929	49	33	1,824	1,239
Sub-Saharan Africa	174	121	58	1.8	3,728	3,704	105	76	2,269	2,346	43	35	967	1,121
High income	12	6	4	3.5	155	85	10	5	127	72	6	4	79	45
World	88	57	29	2.2	12,010	7,614	61	40	8,389	5,429	32	23	4,425	3,072

Estimates of under-five, infant and neonatal mortality by United Nations Population Division region^c

Region	Under-five mortality rate (deaths per 1,000 live births)				Number of under-five deaths (thousands)		Infant mortality rate (deaths per 1,000 live births)				Neonatal mortality rate (deaths per 1,000 live births)			
	1990	2010	Millennium Development Goal target for 2015	Average annual rate of reduction (percent) 1990–2010	1990	2010	1990	2010	1990	2010	1990	2010	1990	2010
More developed regions	15	7	5	3.8	226	99	12	6	185	83	7	4	105	53
Less developed regions	97	63	32	2.2	11,784	7,516	67	44	8,204	5,346	36	25	4,320	3,019
Least developed countries	170	110	57	2.2	3,496	2,949	106	71	2,199	1,912	47	34	1,024	956
Excluding least developed countries	82	49	27	2.6	8,287	4,567	59	37	6,005	3,435	33	22	3,296	2,063
Excluding China	110	70	37	2.3	10,504	7,201	75	49	7,179	5,075	39	27	3,744	2,838
Sub-Saharan Africa	174	121	58	1.8	3,734	3,709	105	76	2,273	2,350	43	35	969	1,123
Africa	160	111	53	1.8	4,038	3,804	99	71	2,500	2,431	41	33	1,076	1,169
Asia	83	46	28	3.0	7,116	3,453	60	36	5,207	2,716	35	23	2,977	1,729
Europe	18	7	6	4.7	168	59	15	6	138	49	8	4	76	31
Latin America & Caribbean	54	23	18	4.3	623	249	43	18	491	191	23	11	265	117
Northern America	11	7	4	2.3	47	35	9	6	39	30	6	4	24	20
Oceania	35	25	12	1.7	17	16	26	19	13	12	13	10	7	6
World	88	57	29	2.2	12,010	7,614	61	40	8,389	5,429	32	23	4,425	3,072

— not available.

Note: The data on population used to calculate the number of under-five and infant deaths and the data on live births used to calculate neonatal deaths are from *World Population Prospects: The 2010 Revision*, published by the United Nations Department of Economic and Social Affairs.^a Data refer to Sudan as it was constituted in 2010, before South Sudan seceded on 9 July 2011.^b See next page for country classifications by region.^c The sum of the number of deaths by region may differ from the world total because of rounding.

Regional Classifications

The regional classifications that are referred to in the report and for which aggregate data are provided in the statistical table are Millennium Development Goal regions (see below). Aggregates presented for member organizations of the Inter-agency Group for Child Mortality Estimation may differ. Regions with the same names in different agencies may include different countries.

Developed regions

Albania, Andorra, Australia, Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Canada, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, Montenegro, Netherlands, New Zealand, Norway, Poland, Portugal, Republic of Moldova, Romania, Russian Federation, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, The former Yugoslav Republic of Macedonia, Ukraine, United Kingdom, United States

Developing regions

Caucasus and Central Asia

Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan

Eastern Asia

China, Democratic People's Republic of Korea, Mongolia, Republic of Korea

Latin America and the Caribbean

Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bolivia (Plurinational State of), Brazil, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Uruguay, Venezuela (Bolivarian Republic of)

Northern Africa

Algeria, Egypt, Libyan Arab Jamahiriya, Morocco, Tunisia

Oceania

Cook Islands, Fiji, Kiribati, Marshall Islands, Micronesia (Federated States of), Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu

South-eastern Asia

Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, Timor-Leste, Viet Nam

Southern Asia

Afghanistan, Bangladesh, Bhutan, India, Iran (Islamic Republic of), Maldives, Nepal, Pakistan, Sri Lanka

Sub-Saharan Africa

Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, Sudan*, Swaziland, Togo, Uganda, United Republic of Tanzania, Zambia, Zimbabwe

Western Asia

Bahrain, Iraq, Jordan, Kuwait, Lebanon, Occupied Palestinian Territory, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, Turkey, United Arab Emirates, Yemen

* Data refer to Sudan as it was constituted in 2010, before South Sudan seceded on 9 July 2011.



On the cover photo: A malnourished child waits for a meal of rice and dal at an anganwadi centre in Sullineabad Village, Bihar State, India. Anganwadis are part of the national Integrated Child Development Services programme, which provides basic health education, nutrition and related services at the village level for children and women in impoverished areas. Some 29 percent of children in the village suffer from severe acute malnutrition.

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The UN Inter-agency Group for Child Mortality Estimation

The Inter-agency Group for Child Mortality Estimation (IGME) was formed in 2004 to share data on child mortality, harmonize estimates within the UN system, improve methods for child mortality estimation, report on progress towards the Millennium Development Goals and enhance country capacity to produce timely and properly assessed estimates of child mortality. The IGME, led by the United Nations Children's Fund and the World Health Organization, also includes the World Bank and the United Nations Population Division of the Department of Economic and Social Affairs as full members.

The IGME's independent Technical Advisory Group, comprising eminent scholars and independent experts in demography, provides technical guidance on estimation methods, technical issues and strategies for data analysis and data quality assessment.

The IGME updates its child mortality estimates annually after reviewing newly available data and assessing data quality. This report contains the latest IGME estimates of child mortality at the country, regional and global levels. Country-specific estimates and the data used to derive them are available at www.childmortality.org.