BUILDING MOMENTUM

GLOBAL PROGRESS TOWARD REDUCING MATERNAL AND CHILD MORTALITY

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About IHME

The Institute for Health Metrics and Evaluation (IHME) at the University of Washington monitors global health conditions and health systems and evaluates interventions, initiatives, and reforms. Our vision is that better health information will lead to more knowledgeable decision-making and higher achievements in health. To that end, we strive to build the needed base of objective evidence about what does and does not improve health conditions and health systems performance. IHME provides high-quality and timely information on health, enabling policymakers, researchers, donors, practitioners, local decision-makers, and others to better allocate limited resources to achieve optimal results.

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Acknowledgments

Acronyms

HIV/AIDS Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome

MDGs Millennium Development Goals

MDG4 Millennium Development Goal 4: Reduce child mortality rate by 66% between 1990 and 2015

MDG5 Millennium Development Goal 5: Reduce maternal mortality ratio by 75% between 1990 and 2015

MMR Maternal mortality ratio: the number of women dying of pregnancy-related causes for every 100,000 live births

U5MR Under-5 mortality rate: the probability of death between birth and age 5 (per 1,000 live births)

Figures and tables

Executive summary

Improving the odds of survival for the world's mothers and children has become an increasingly urgent priority for policymakers and health advocates worldwide. In the past decade, that concern has been propelled to the forefront of global health issues, sparking an intense debate over how best to respond.

Reducing maternal and child mortality are two of eight goals for development adopted by 189 nations in the Millennium Declaration in 2000. Millennium Development Goal 5 (MDG5) set the ambitious target to reduce the maternal mortality ratio by three-quarters between 1990 and 2015. Similarly, Millennium Development Goal 4 (MDG4) aims to reduce the under-5 mortality rate by two-thirds in that same period. While there have been regular reports in recent years that child mortality has been dropping, there is a common perception that the number of maternal deaths has remained stagnant.

Researchers at the Institute for Health Metrics and Evaluation (IHME), working with collaborators around the world, have developed new methods and worked to overcome analytical challenges in an effort to generate the most accurate estimates to date of maternal and child deaths. After more than two years studying maternal and child mortality from an array of vantage points, IHME has reached an encouraging conclusion: Progress on both fronts has been better than previously believed.

Key findings of our research:

Maternal mortality

- Global maternal deaths have dropped from an estimated 526,300 in 1980 to 342,900 in 2008. Since 1990, the annualized rate of decline in the maternal mortality ratio has been 1.3%, dropping from 320 to 251 deaths per 100,000 live births in 2008.

- Nearly 80% of all maternal deaths in 2008 occurred in just 21 countries, and half of all maternal deaths are concentrated in six countries: India, Nigeria, Pakistan, Afghanistan, Ethiopia, and the Democratic Republic of the Congo.

- Rates of change in the maternal mortality ratio vary widely across countries, from an annualized decline of more than 8% in the Maldives to an increase of 5.5% in Zimbabwe between 1990 and 2008.

- HIV accounts for nearly 20% of all maternal deaths globally and an even higher percentage in countries with high infection rates. The disease is having a strong negative effect on maternal mortality, preventing some countries from reducing their death rates.

- As of 2008, 19 developing countries were on pace to reach the MDG5 goal, listed in order here based on their rates of decline: the Maldives, Egypt, Bhutan, Tunisia, El Salvador, United Arab Emirates, Laos, Oman, Qatar, Saudi Arabia, Lebanon, Libya, Syria, Morocco, Turkmenistan, Cape Verde, Myanmar, Jordan, and Algeria.

Child mortality

- Global child mortality dropped from 11.9 million deaths in 1990 to 7.9 million deaths in 2008, including 3.2 million neonatal deaths, 2.3 million postneonatal deaths, and 2.4 million deaths between ages 1 and 5.

- Across all regions of the world, child mortality rates are declining. The global under-5 mortality rate declined 2.1% annually between 1990 and 2008, and the death rate for the postneonatal phase between 1 month and 1 year of age declined 2.3%.

- IHME also found a surprisingly strong rate of decline in neonatal deaths, which dropped 2.1% annually between 1990 and 2008, a much larger decline than previous estimates have shown.

- In 13 regions of the world, including all of sub-Saharan Africa, there is evidence of accelerating declines. Some countries, such as Kenya, Rwanda, and Senegal, experienced slower declines in under-5 mortality between 1990 and 2000, but the pace has picked up since 2000 with declines between 2% and 5.5%.

- As of 2008, 31 developing countries were on pace to meet the MDG4 goal, listed in order here based on their rates of decline: the Maldives, United Arab Emirates, Oman, Vietnam, Sri Lanka, Egypt, Turkmenistan, Malaysia, Lebanon, Tunisia, El Salvador, Peru, Nepal, Libya, Syria, Mongolia, Chile, Bhutan, Armenia, Algeria, Cuba, Brazil, Thailand, China, Bangladesh, Mexico, Liberia, Bahrain, Honduras, Turkey, and Nicaragua.

The state of mothers and children worldwide is brighter than it was during the period that gave rise to the Millennium Development Goals. This report documents both ground that has been gained and challenges still to be met. Our research has shown there are lessons to be learned and knowledge to be shared between countries that are succeeding and those still struggling to meet the MDGs. These findings underscore the need for a continued unity of purpose among global health leaders to find the best way to build on this momentum and accelerate progress.

Introduction: The challenge to save mothers and children

The world has five years left to achieve the Millennium Development Goals (MDGs) of reducing maternal and child mortality. These twin issues have galvanized the global health community and prompted increasing levels of development aid, policy attention, and research work.

Groups such as the White Ribbon Alliance for Safe Motherhood have formed to rally donors and policy-makers. In 2005 and 2008, the Countdown to 2015 consortium held international conferences to discuss the state of progress toward MDG4 and MDG5. More research papers have been published since 2000 concerning maternal and child mortality than in any period in recent history. The common thread in all of these efforts is the search for a solution to a troubling global phenomenon: Too many mothers and children die every year from entirely preventable causes.

To help in this search, the Institute for Health Metrics and Evaluation (IHME) set out in 2007 with a fresh approach to the issue. We began by building relation-ships with governments and organizations worldwide that could provide the data necessary to measure maternal and child mortality trends. We then built the largest dataset currently available of information from vital registration systems, surveys, and censuses around the world. Finally, we created new methods and tools to analyze those datasets, generating the best picture of mortality trends to date.

What we learned gives us reason for optimism: Although most countries will fail to reach the targets set in MDG4 and MDG5, our research suggests that global progress toward these goals has been steadier and more significant than previous studies have indicated.

Furthermore, evidence from countries in a wide range of economic situations indicates that rapid scale-up of programs to improve maternal and child health is possible and that accelerated reductions in mortality already are happening in many countries. There are many reasons to hope that these accelerations will continue, given the steady rise in skilled birth attendance and antenatal care, the scale-up of development assistance for health, the expansion of insecticide-treated bed net coverage and vaccination campaigns, and the broader use of antiretro-viral treatment to combat HIV.

At the end of this report, we provide regional overviews showing maternal and child mortality trends from 1990 to 2008, including regional and country performance rankings. In addition, we include a country table with all of IHME's maternal and child mortality data, recording each country's progress toward MDG5 and MDG4.

The fact that most countries will fall short of the MDG targets for reducing maternal and child mortality will undoubtedly prompt much discussion and concern over the next few years. This discussion should be grounded in the most accurate assessments available of mortality trends and of the interventions being used to influence those trends.

Undiscovered progress in maternal mortality

During the early 1980s, a half-million women died every year during pregnancy, childbirth, or the postpartum period – a stunning figure in a world that had experienced so much medical advancement. In response, United Nations member countries agreed as part of the Millennium Development Goals (MDGs) to reduce maternal mortality by three-quarters between 1990 and 2015, a goal known as MDG5.

Maternal mortality has been notoriously difficult to measure. To overcome many of the challenges of earlier efforts, the Institute for Health Metrics and Evaluation (IHME) constructed a database of the widest possible range of available information. We assessed vital registration data, censuses, surveys, and verbal autopsy studies for 181 countries. We then applied newly developed analytical methods to generate estimates of maternal deaths and the maternal mortality ratio (MMR) for each year between 1990 and 2008. The resulting dataset is three times the size of previously available datasets.

Our analysis showed that, contrary to the prevailing sentiment in the global health community, the rate of maternal mortality has been dropping. Maternal deaths now claim fewer than 350,000 women every year. While the number of deaths in many countries is falling, the relatively high maternal mortality ratio in a small number of countries remains a cause for concern. Nearly 80% of all maternal deaths occur in just 21 countries.

There are many drivers of maternal health, including fertility, income levels, and education. IHME found that changes in all these areas corresponded with improvements in maternal mortality.

Part of the strategy for achieving MDG5 is the provision of high-quality care during pregnancy and at birth.

There are several ways to track this: whether a skilled birth attendant, such as a physician, nurse, or midwife, was present at birth; whether a birth took place in a medical facility; and whether a pregnant woman received antenatal care. IHME undertook the first global study of trends over time in these indicators in 136 low-, lower-middle-, and middle-income countries. The preliminary research in this area also found signs of success.

At the same time, the ongoing HIV epidemic is working against the gains being made in maternal health. IHME's findings underscore the need for a multifaceted approach to accelerate improvements in maternal mortality.

Countries making strides in maternal mortality

Globally, fewer mothers are dying from maternal causes than at any time in recent history. IHME estimates that there were 342,900 maternal deaths worldwide in 2008 – nearly 80,000 fewer women than were dying a decade earlier and a 22% decline from IHME's 1990 estimate of 441,500.

As a percentage of overall adult mortality, maternal mortality is a tiny fraction. But the numbers are troubling for two reasons. First, maternal deaths are typically preventable, even in low-resource settings. Second, maternal mortality is a window into the overall strength of a country's health system.

A pregnancy can test nearly all aspects of a health system: preventive care, counseling, surgery, drug administration, follow-up care, and emergency treatment. The number of women dying from maternal causes has historically shown that too many countries' health systems were failing that test.

*Only **19 developing countries are on track** to achieve MDG5. However, some developing countries not on pace to reach MDG5 have been **accelerating their rates of decline** in ways that could still prove to be models for countries that continue to lag.*

Yet IHME's research shows that, during the past two decades, more countries saw their performance improve. The global MMR declined from 320 to 251 per 100,000 live births between 1990 and 2008. On an annual basis, the rate of decline was 1.3%. A decrease at that pace is particularly significant because it runs counter to previous assessments that declines in the MMR had stagnated.

The range among countries varies widely. Some countries have seen annual declines in their MMRs of more than 8% between 1990 and 2008, including the Maldives, Egypt, and Bhutan. Much of North Africa and the Middle East, including Lebanon, Jordan, Saudi Arabia, Libya, and Syria, have had declines of more than 5.5%. This rate of decline corresponds to the MDG5 target.

Egypt is a noteworthy success story. The country's MMR dropped from nearly 200 in 1990 to 43 in 2008 per 100,000 live births, an 8.4% annual rate of decline. Nearby Turkey, which is similar culturally and more successful economically, had a lower MMR in 1990 by a large degree at 121. It had a strong decline of 4.2% in its MMR between 1990 and 2008, but because Egypt made even greater strides, Turkey's MMR of 58 is now higher than Egypt's.

Other countries, including some middle- and high-income countries, have seen increases in their MMRs between 1990 and 2008, including Zimbabwe (from 232 to 624), the United States (from 12 to 17), and Singapore (from 12 to 16).

The global decline in maternal deaths is slower than the rate of decline in mortality for children under age 5. However, it is declining at a faster pace than overall adult female mortality, which has dropped at an annualized rate of 0.7% since 1990.

Only 19 developing countries are on track to achieve MDG5. However, some developing countries not on pace to reach MDG5 have been accelerating their rates of decline in ways that could still prove to be models for countries that continue to lag.

Countries in North Africa and the Middle East, parts of South America, and South and East Asia have had the most impressive overall declines.

Maternal deaths clustered in a handful of nations

The 21 countries with the vast majority of maternal deaths include some of the world's biggest nations, such as India, Nigeria, and China.

Population alone, though, cannot account for the concentration. Together, the countries make up only 60% of global live births and highlight a disproportionate burden of maternal mortality in Asia and sub-Saharan Africa. For example, Nigeria has 4% of total births but nearly 11% of maternal deaths. A smaller country, Chad, represents less than 0.5% of global births but 1.5% of maternal deaths. Of these 21 countries, China had the fastest annual rate of decline in its MMR at 4.3% between 1990 and 2008. Côte d'Ivoire had the biggest annual rate of increase in maternal deaths at 2.7%.

Just six countries account for half of the world's maternal deaths. The most striking example in this group is Afghanistan, which has less than 1% of global births but accounts for nearly 6% of global maternal deaths. Yet in many of these countries, maternal mortality ratios are

Figure 1:
Maternal deaths by region, 1990 to 2008

Legend:
- Sub-Saharan Africa, West
- Sub-Saharan Africa, South
- Sub-Saharan Africa, East
- Sub-Saharan Africa, Central
- Oceania
- North America, Australasia
- North Africa, Middle East
- Latin America, Central
- South America
- Europe, West
- Europe, East
- Europe, Central
- Caribbean
- Asia, Southeast
- Asia, South
- Asia Pacific, High Income
- Asia, East
- Asia, Central
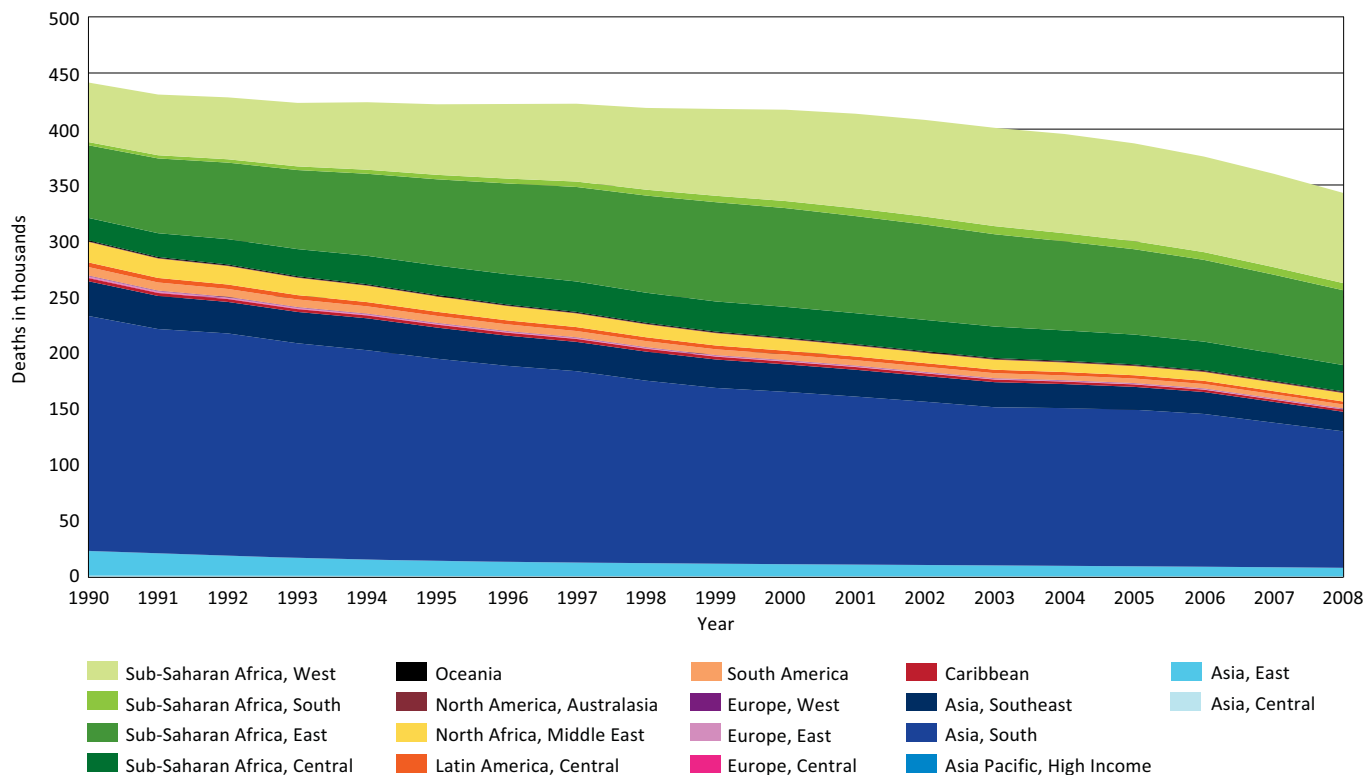
Figure 2:
Maternal mortality ratio in Egypt and Turkey, 1990 to 2008

Legend:
- Egypt
- Turkey
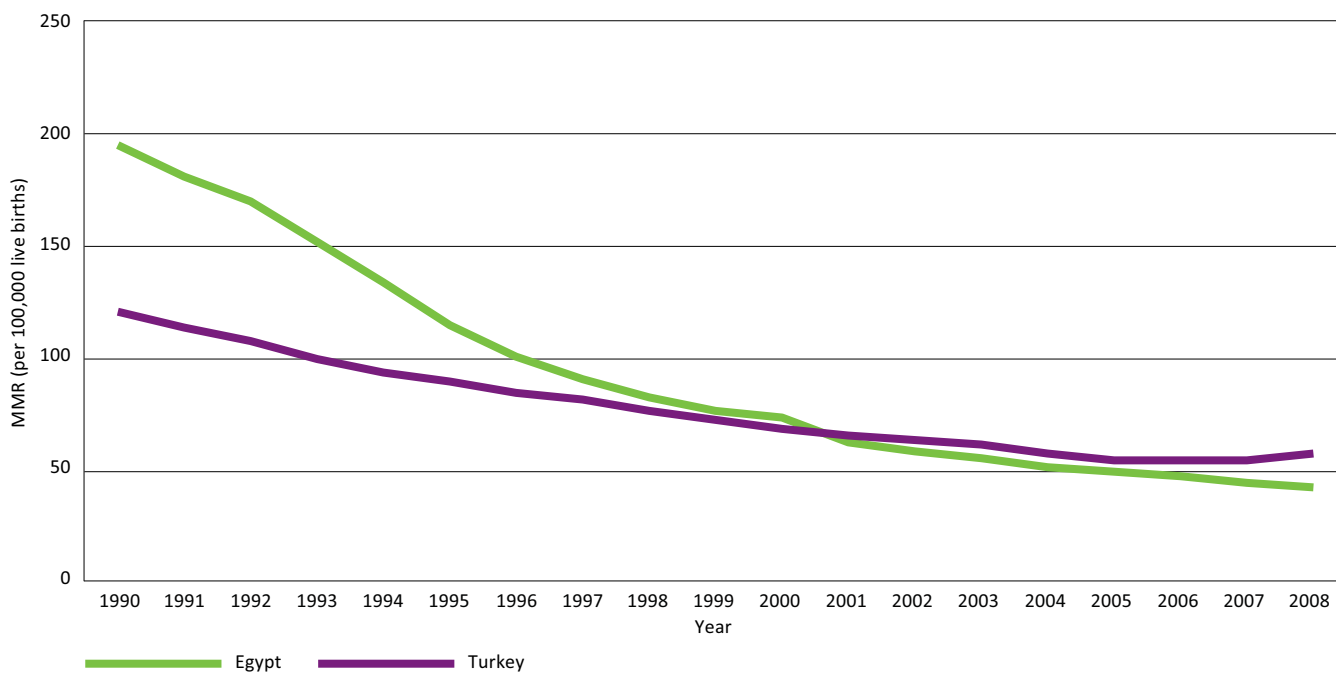
Table 1:
Developing countries on track to meet MDG5
(reduce maternal mortality ratio by 75% between 1990 and 2015)

Country	Annualized rate of decline (%), 1990 to 2008
Maldives	8.8
Egypt	8.4
Bhutan	8.3
Tunisia	7.6
El Salvador	7.2
United Arab Emirates	7.1
Laos	7.1
Oman	7.0
Qatar	6.8
Saudi Arabia	6.7
Lebanon	6.5
Libya	6.4
Syria	6.4
Morocco	6.3
Turkmenistan	6.3
Cape Verde	6.2
Myanmar	6.1
Jordan	6.1
Algeria	5.8

improving. Mali, for example, had an MMR of 831 deaths for every 100,000 live births in 1990. Over the next 10 years, the MMR barely changed, dropping to 807. By 2008, though, the country's MMR had declined to 670 – still high by global standards but a total decrease of nearly 17% in less than a decade.

Some high-income countries fall behind

One surprising trend is the rise in the MMR in high-income countries and the stagnation in others. The United States, Canada, Denmark, and Norway all saw increases in their MMRs between 1990 and 2008. The United Kingdom and Switzerland essentially saw no progress.

It is likely that at least a portion of these increases is due to cause-of-death coding changes prompted by the introduction of late maternal deaths into the coding system of the International Statistical Classification of Diseases and Related Health Problems, 10th Revision (ICD-10). In the United States, the inclusion of a separate pregnancy status question on US death certificates in some states also may have contributed to the rise.

Table 2:
Countries with the most maternal deaths, 2008

Country	Deaths (in thousands)	Deaths, % of total	Births, % of total
India	68.3	19.9	19.7
Nigeria	36.7	10.7	4.4
Pakistan	20.1	5.9	3.9
Afghanistan	20.0	5.8	0.9
Ethiopia	18.2	5.3	2.3
Congo, Democratic Republic of the	15.4	4.5	2.1
Bangladesh	11.6	3.4	2.5
Indonesia	9.6	2.8	3.1
Tanzania	8.0	2.3	1.3
China	7.3	2.1	13.3
Malawi	6.8	2.0	0.4
Côte d'Ivoire	6.8	2.0	0.5
Kenya	6.2	1.8	1.1
Chad	5.3	1.5	0.4
Mozambique	5.2	1.5	0.6
Uganda	5.2	1.5	1.1
Cameroon	5.0	1.4	0.5
Niger	4.7	1.4	0.6
Angola	4.6	1.3	0.6
Sudan	4.0	1.2	0.9
Mali	3.6	1.1	0.4
All other countries (160)	70.3	20.5	39.3
Total	342.9	100.0	100.0

Regardless of its root cause, the trend is clear. In 2008, the UK ranked 23rd in the world based on its MMR, despite its strong economy, education system, and universal health care. Essentially, women in the UK had a higher likelihood of dying of maternal causes than women in Albania, Hungary, Slovakia, and the Czech Republic. The US ranked 39th based on its MMR of 17 – more than four times the world's lowest MMR of 4 in Italy, and more than twice as high as its neighbor, Canada, with a rate of 7. The MMR in the US was also higher than in every country in Western Europe.

Gap widens between best- and worst-performing countries

There has been marked variation in performance across countries in reducing the MMR. In absolute numbers, countries with the highest and lowest MMRs have both improved their performance over time, yet the disparities among countries persist.

In 1990, Sweden, Australia, and Canada all had an MMR of 6 maternal deaths for every 100,000 live births. The Central African Republic had the world's highest MMR at 1,757. That meant the lowest-performing country had

Figure 3:
Annualized rate of decline in maternal mortality ratio by country, 1990 to 2008
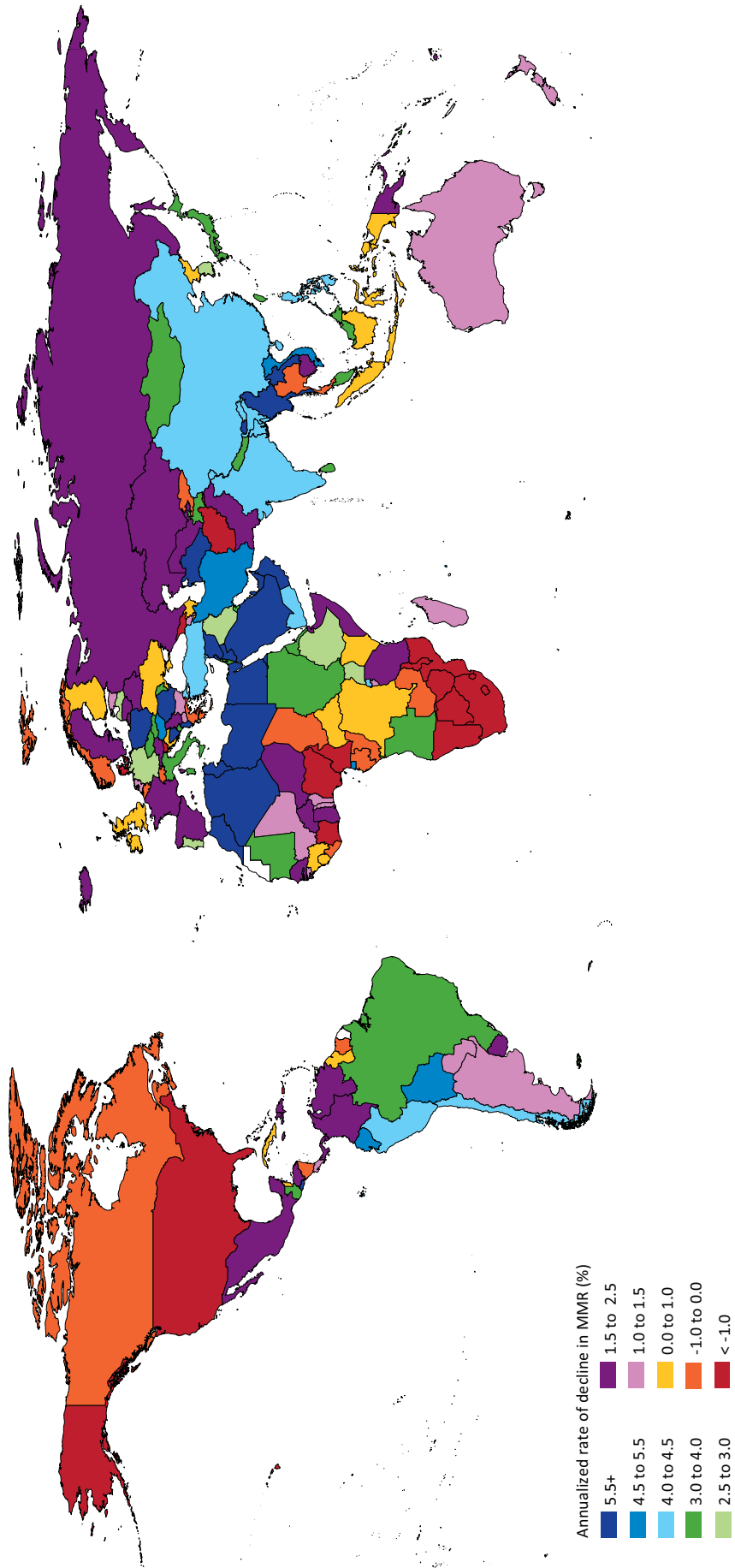
Figure 4:
Maternal mortality ratio by country (per 100,000 live births), 2008
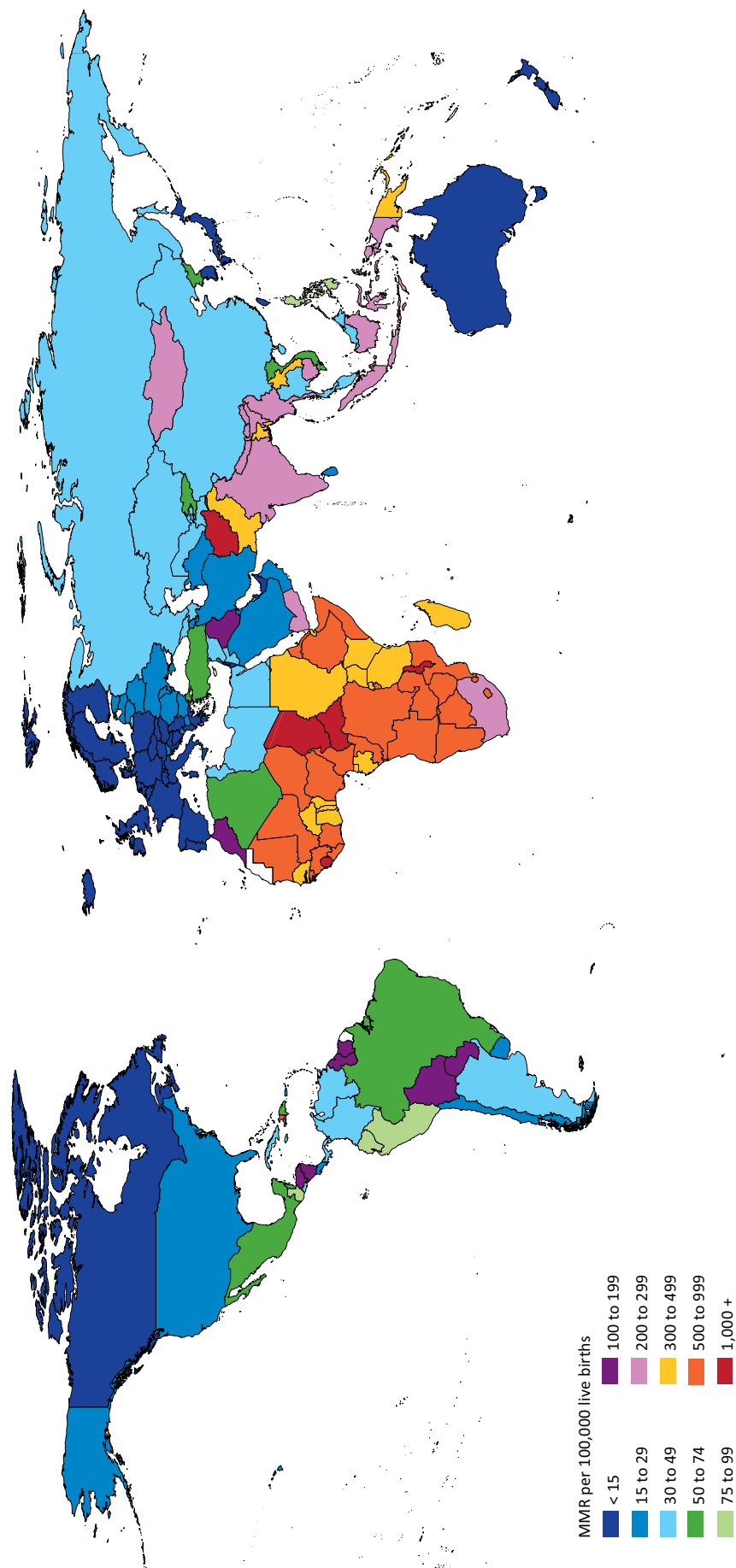
MMR per 100,000 live births

< 15	100 to 199	
15 to 29	200 to 299	
30 to 49	300 to 499	
50 to 74	500 to 999	
75 to 99	1,000 +	

*While societal changes and expanding health care interventions appear to be having a positive impact on maternal mortality, the **HIV epidemic is working in direct opposition to these trends** and is preventing some countries from reaching MDG5 targets.*

an MMR about 300 times that of the highest-performing country. By 2008, though, Afghanistan had the world's highest MMR at 1,575 – about 400 times higher than Italy's MMR of 4.

However, in the countries of Western, Eastern, and Central Europe, the gap between the best and worst performers has started to shrink. The lowest-performing country had an MMR 16 times the rate of the top-performing country in 1990. By 2008, the difference between the best- and worst-performing countries had shrunk to just 10 times. As with most of the rest of the world, that trend has been driven by declines in countries with lower resources.

The range of MMRs is even greater throughout sub-Saharan Africa, ranging from 75 in Cape Verde to 1,570 in Central African Republic. Similarly, the range across South Asia is dramatic, from 240 in Nepal to 1,575 in Afghanistan.

Four trends help push the MMR down globally

Four factors are among the trends driving the improvements in maternal mortality in the majority of countries: fertility, income, education, and birth care.

First, the world's total fertility rate – a measure of the expected number of children born per woman in her child-bearing years – dropped from 3.3 in 1990 to 2.6 in 2008. Despite rising numbers of women in the reproductive years, the decline in the total fertility rate has kept the global birth cohort size stable. Because women are having fewer children, they are at lower risk of maternal death.

Second, income per capita has been rising, particularly in all regions of Asia and Latin America. This can influence the MMR through multiple channels, from the nutritional status of mothers to physical and financial access to health care.

Third, levels of education for women have been rising dramatically in all regions. For example, the average years of schooling for women ages 25 to 44 in sub-Saharan Africa increased from 1.5 in 1980 to 4.4 in 2008.

A fourth key factor in maternal mortality is birth care, and our preliminary research shows the scale-up in providing birth care has been steady.

IHME studied the scale-up of three specific birth care interventions in 136 countries to assess the likelihood of countries reaching MDG5 targets: limited antenatal care, full antenatal care, and skilled birth attendance. At the global level, the story in antenatal care is one of gradual, steady progress.

IHME's initial findings show that, in 2008, a higher number of women in developing countries received at least one antenatal care visit by a skilled health worker than did in 1990. However, those findings also show that too many women still do not receive the three additional skilled antenatal care visits recommended by World Health Organization guidelines.

Skilled care at birth is also considered critical for maternal health, particularly as most maternal and neonatal deaths occur around the time of delivery. In 1990, skilled birth attendance coverage was at low levels in many developing countries. IHME's preliminary research shows progress was made in many of those countries by 2008.

HIV has slowed progress toward MDG5

While societal changes and expanding health care interventions appear to be having a positive impact on maternal mortality, the HIV epidemic is working in direct opposition to these trends and is preventing some countries from reaching MDG5 targets.

Increases in the MMR have been documented in countries in Southern Africa with large HIV epidemics, including Zimbabwe, Malawi, and Lesotho. To see whether these countries might have decreased their MMRs if they were not facing HIV, IHME modeled mortality trends excluding the effects of HIV. The results show that, globally, the HIV epidemic essentially put the brakes on improvements in the maternal mortality ratio.

The rate of decline in maternal deaths between 1980 and 1990 was 1.8%, but that rate slowed to 1.4% from 1990 to 2008 as HIV started to take a more serious toll. Instead of continuing downward, the global trend in maternal deaths started to flatline in the 1990s and only more recently began to drop again.

HIV was responsible for nearly 20% of all maternal deaths in 2008. It appears to be having an effect both directly and indirectly. HIV can directly complicate pregnancy and put a pregnant woman at higher risk of death from other conditions. Pregnancy may also worsen the progression of HIV.

In addition, HIV puts an enormous strain on a country's health system, particularly in low-income countries. An overburdened system is less likely to provide the type of skilled care necessary during pregnancy, delivery, and the postnatal period. Declines in prenatal care in several sub-Saharan African countries are likely due to the impact of HIV.

IHME's analysis shows that were HIV to have been reduced to zero cases globally, the maternal mortality ratio would have improved worldwide at an annualized rate of 2.3% since 1990 instead of 1.3%, putting the

Figure 5:
Births by region, 1990 to 2008
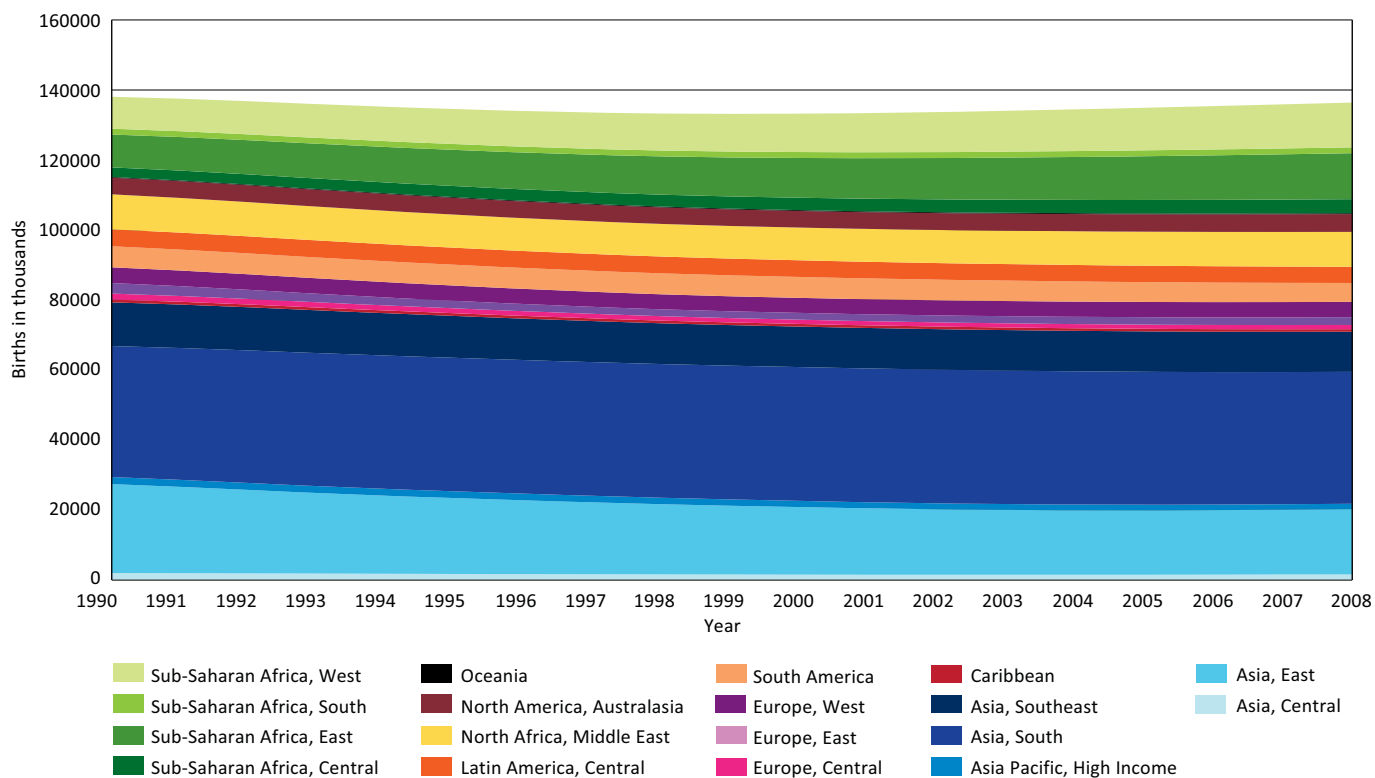
decline in maternal mortality ratio ahead of the pace of decline in the under-5 mortality rate for that period. Many Southern African countries would have experienced MMR declines instead of increases. But IHME also found that increases in many parts of Central and West Africa are not solely related to the HIV epidemic.

Lessons learned:

• Our assessment suggests that we should be optimistic about our ability to improve maternal mortality. The dramatic progress occurring in some countries should be more closely examined to learn how these successes could be replicated in countries where the MMR is either stagnant or even increasing.

• The high concentration of maternal deaths in a small group of countries offers an important opportunity. It shows that targeted interventions in a selected number of high-priority countries could have a major impact on the number of maternal deaths worldwide.

• Even if part of the negative trend in the MMR in high-income countries is due to better reporting, it merits further research to determine why such large disparities between high-income countries remain.

• Comparing countries and regions highlights important differences in progress. For example, Brazil and Mexico have both seen declines in the MMR, but progress has been much steeper in Brazil. While Mexico's MMR dropped from 73 to 52 between 1990 and 2008, Brazil's MMR fell from 112 to 55 in that period. Understanding why countries with demographic and geographic similarities have such varied progress in reducing maternal mortality will be essential to achieving further reductions.

• Targeting antiretroviral treatment toward pregnant women with HIV could have a major impact on maternal mortality, but the treatment is not currently considered a typical maternal health intervention.

Figure 6:
Global maternal deaths, including and excluding HIV, 1980 to 2008
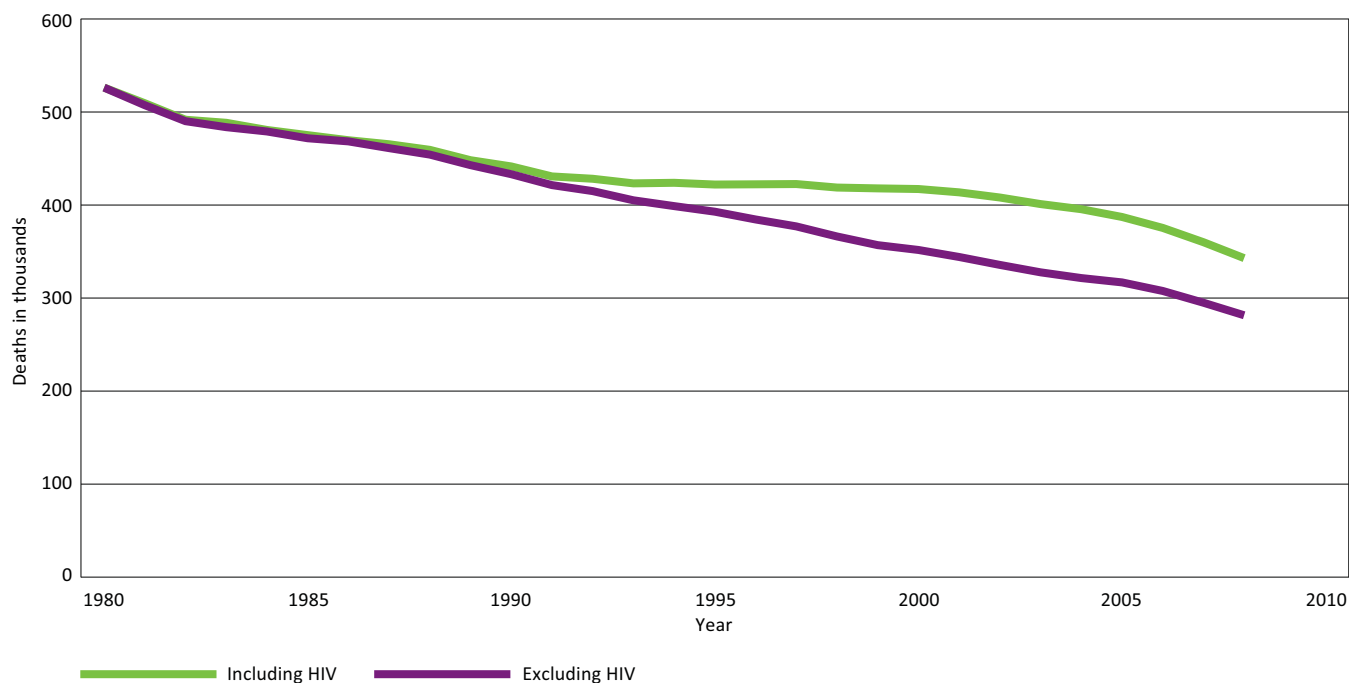
Figure 7:
Annualized rate of decline in maternal mortality ratio by country, excluding HIV, 1990 to 2008

Annualized rate of decline in MMR (%)

5.5+	1.5 to 2.5	
4.5 to 5.5	1.0 to 1.5	
4.0 to 4.5	0.0 to 1.0	
3.0 to 4.0	-1.0 to 0.0	
2.5 to 3.0	< -1.0	
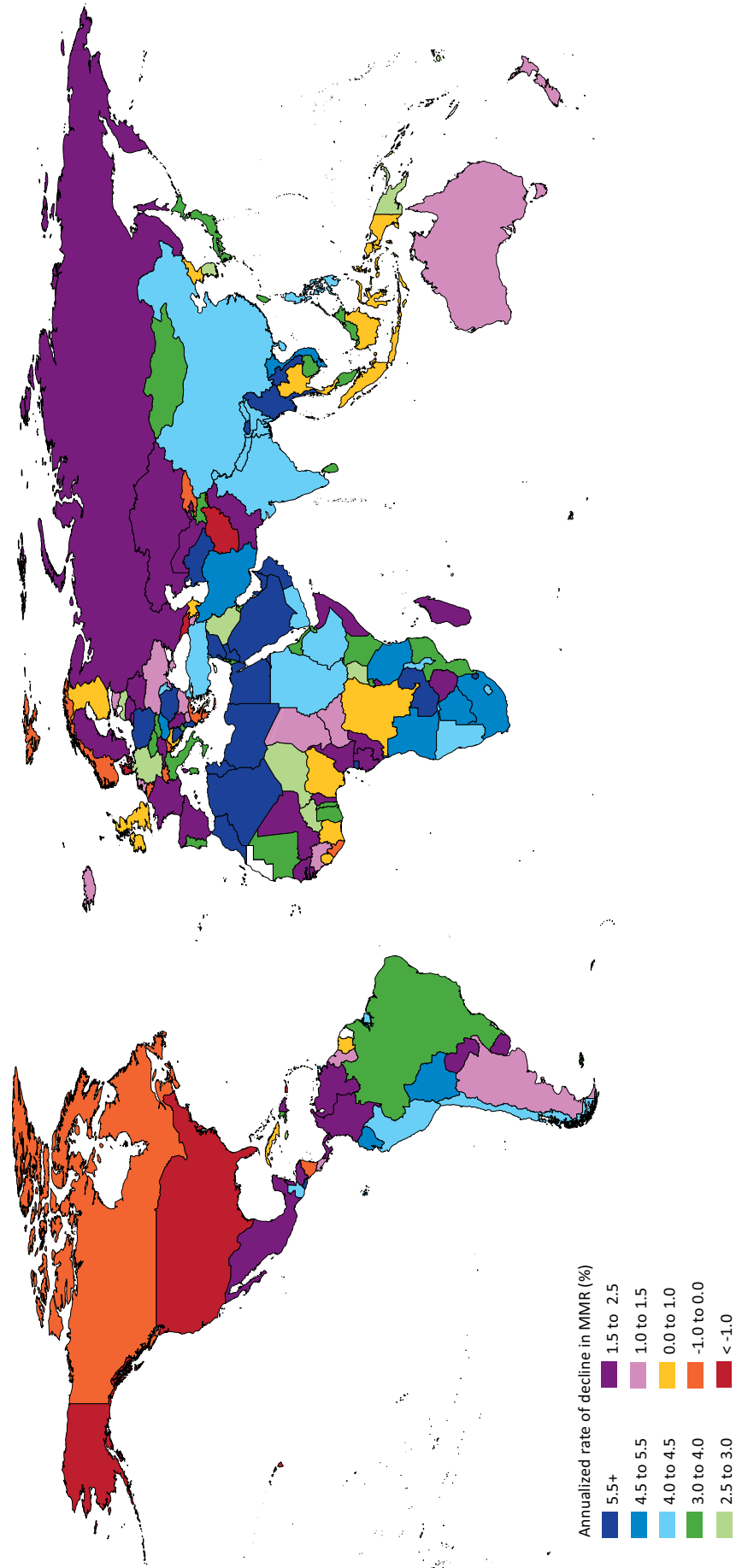
Narrowing the
child mortality gap

Ensuring the survival of children into adulthood is an issue that has resonated with policymakers and health advocates perhaps more than any other in global health. There has been general agreement that child mortality rates have been dropping, but until now, it hasn't been clear by how much.

IHME has found that global under-5 mortality rates have improved at a faster pace than previous estimates have indicated. There has been steady improvement both in the crucial first months of life and through early childhood to age 5.

In 2008, the number of deaths of children under age 5 dropped below a critical threshold for the first time in recent history. IHME estimates that annual deaths of children under 5 dropped below 8 million that year to 7.95 million, down from 11.9 million in 1990.

Since 1970, the number of under-5 deaths has been reduced by more than 50%, while the total number of births has increased 15% in that time period.

United Nations member countries set a goal of a two-thirds reduction in child mortality between 1990 and 2015, known as MDG4. Thirty-one developing countries are on pace to reach that goal based on their annual rates of decline in under-5 mortality between 1990 and 2008. Overall progress has been better than previous estimates have shown: Neonatal deaths declined by 2.1% annually between 1990 and 2008, while postneonatal deaths dropped 2.3%.

IHME assessed the levels of under-5 mortality for 187 countries from 1970 to 2008 with projections to 2010. We created a database with more than 16,000 data points – twice as many as in previous estimates. We used all available sources, including vital registration, summary birth histories, and complete birth histories in censuses and surveys. We also developed new methods to analyze the data and had the methods validated, peer-reviewed, and published.

IHME's estimate of 7.95 million child deaths in 2008 is about 820,000 deaths lower than previous estimates. We project that, by the end of 2010, the total number of under-5 deaths worldwide will have dropped to 7.7 million, a 35% reduction since 1990.

Child deaths concentrated in a few regions

Like maternal deaths, under-5 deaths have become increasingly clustered in certain regions. About one in every three deaths of children under 5 occurs in South Asia, and about one in two occurs in sub-Saharan Africa, home to Nigeria and the Democratic Republic of the Congo, two of the countries with the world's highest child mortality rates in 2008. Other regions, such as North Africa and the Middle East, have seen impressive declines. Less than 1% of deaths of children under 5 occur in high-income countries.

Under-5 mortality has declined dramatically during the past two decades in most of North and South America and throughout Asia, Europe, and the Middle East.

Perhaps the most important achievement of the past 20 years is that many countries with the highest child mortality rates are seeing considerable improvement. Because of that, the gap between countries with the highest child mortality rates and the lowest has shrunk significantly, from a difference of 290 in 1990 to 177 in 2008.

Increases in the use of interventions to improve maternal health also appear to be having an effect on child mortality, including increases in the use of skilled birth attendants to help women deliver their babies. Fertility, income, and education levels are also positively impacting child mortality rates to different extents.

Under-5 mortality continues to decline

For the developing world, the under-5 mortality rate has declined 35% from 1990 to 2010, representing an annual rate of decline of 2.1%. This is well below the MDG4 target of 4.4% per year, but still represents substantial progress across nations.

Consider that in 1990, 12 countries had an under-5 mortality rate of more than 200 deaths per 1,000 live births. Today, no country has an under-5 mortality rate that high, according to IHME estimates.

In high-income countries, which make up less than 1% of all child deaths, there remain stark differences. The United States, for example, ranks 42nd in the world for its 2008 under-5 mortality rate – a rate that is higher than in most of Europe, including in countries with far weaker economies such as Croatia and Hungary. Kuwait had an under-5 mortality rate in 2008 that was three times that of a group of countries with the lowest rate, including Singapore and Finland.

Some of the countries with the highest rates of under-5 mortality have been able to make remarkable progress since 1990. In Ethiopia, the under-5 mortality rate in 1990 was 202 per 1,000 live births. By 2008, that rate dropped by nearly half to 106 per 1,000.

By contrast, Nigeria had an under-5 mortality rate in 1990 of 194 per 1,000, which was slightly better than Ethiopia's rate of 202. However, Nigeria's rate has been mostly stagnant with some periods of progress since then. In 2008, its under-5 mortality rate was 160 per 1,000, making it one of the highest rates in Africa.

Figure 8:
Global child mortality trends, 1990 to 2008
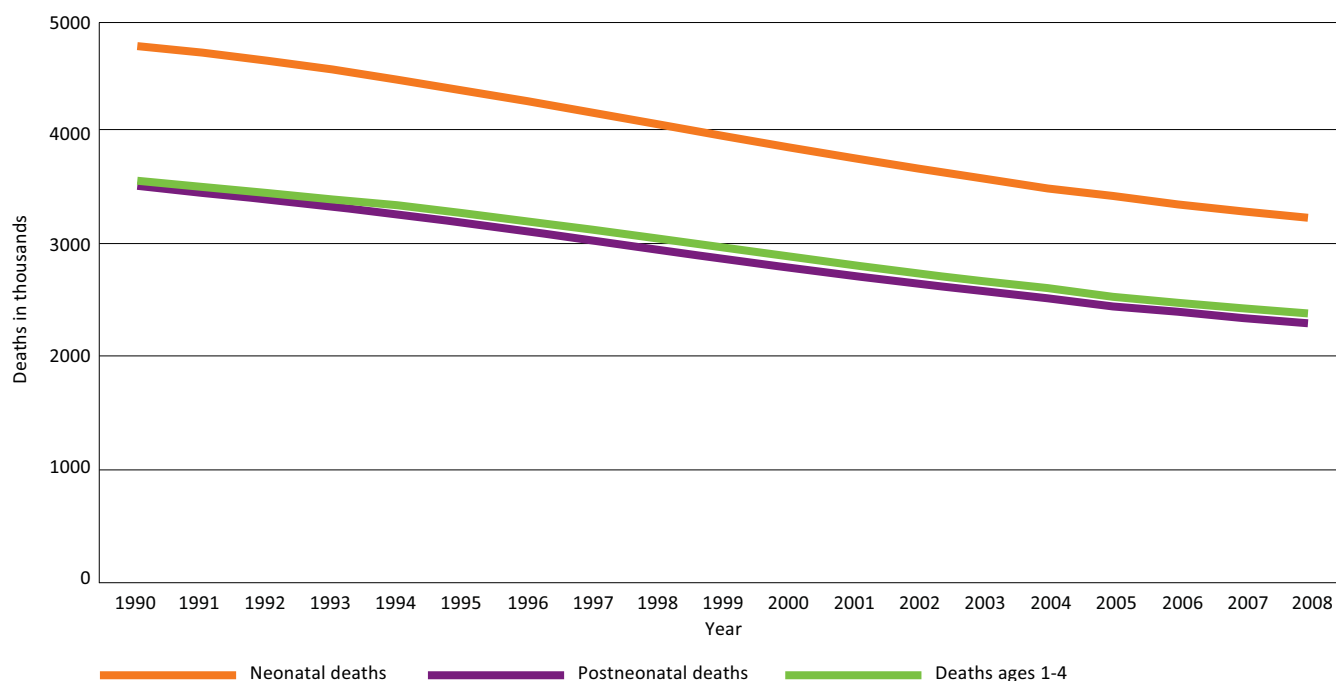
Figure 9:
Under-5 deaths by region, 1990 to 2008

Legend:
- Sub-Saharan Africa, West
- Sub-Saharan Africa, South
- Sub-Saharan Africa, East
- Sub-Saharan Africa, Central
- Oceania
- North America, Australasia
- North Africa, Middle East
- Latin America, Central
- South America
- Europe, West
- Europe, East
- Europe, Central
- Caribbean
- Asia, Southeast
- Asia, South
- Asia Pacific, High Income
- Asia, East
- Asia, Central
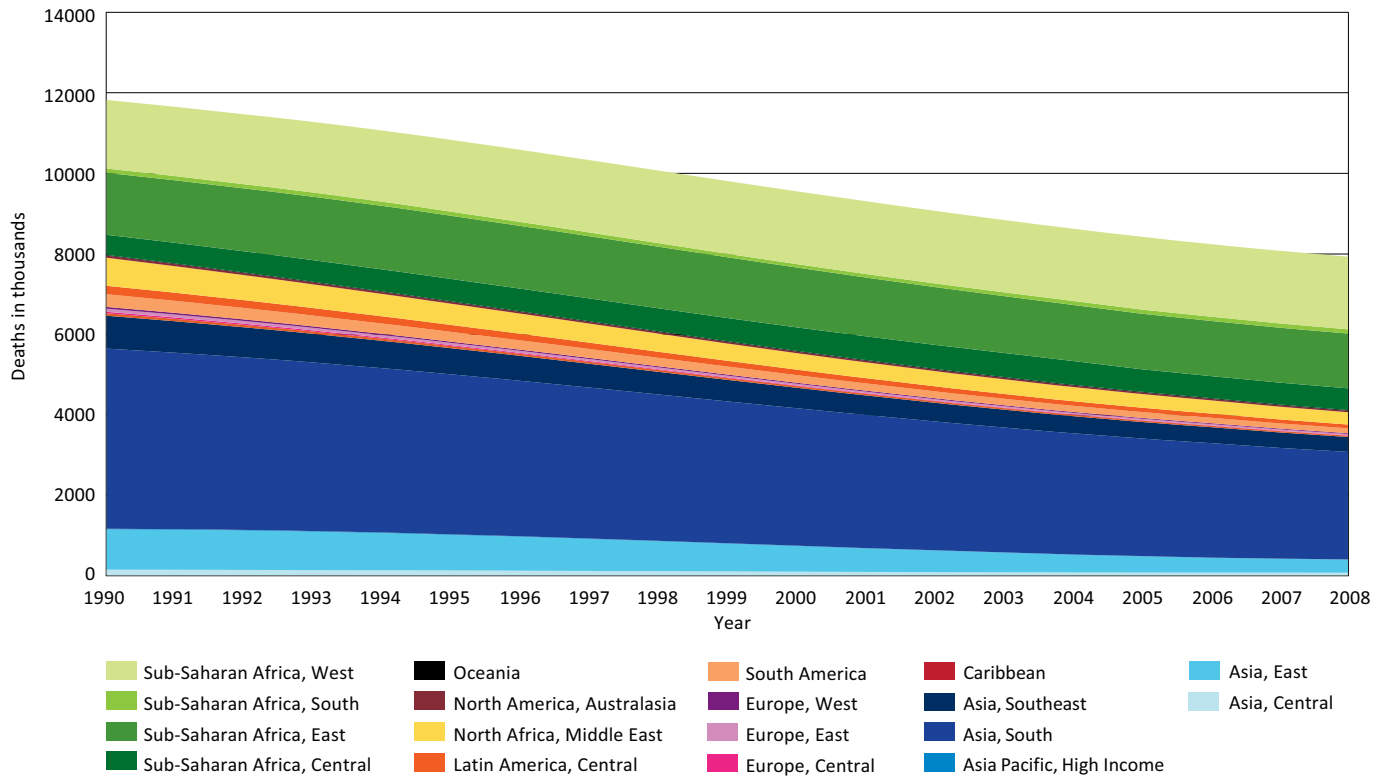
Many countries with the highest under-5 mortality rates are countries in sub-Saharan Africa that also have a high incidence of malaria. To some extent, their varied progress in reducing child mortality tracks with the scale-up in interventions to combat malaria in those countries. HIV also may play a role but, in both cases, further research is needed.

Accelerated progress is possible

Between 1990 and 2008, 75 countries decreased their under-5 mortality rates by 50% or more. This is an important achievement, but the trend is not surprising given rising income and education levels.

More significant is the fact that, based on IHME's estimates, 67 countries have decreased their under-5 mortality rates by more than 30% in just five years during the period of this study.

Since 2000, 13 regions of the world have accelerated their rates of decline in under-5 mortality. The acceler-

ated pace of improvement is particularly noteworthy in East Asia, Central Asia, Eastern Europe, and sub-Saharan Africa.

Between 1990 and 2000, sub-Saharan Africa lagged most other regions in the pace of decline in under-5 mortality. Some countries witnessed stagnation or even increases. Since 2000, though, there is clear evidence that progress is picking up in all regions of sub-Saharan Africa.

Since 2000, rates of decline have increased by more than 1 percentage point in Angola, Botswana, Cameroon, Congo, the Democratic Republic of the Congo, Gambia, Kenya, Lesotho, Liberia, Malawi, Mali, Rwanda, Senegal, Sierra Leone, and Swaziland.

For example, Rwanda's child mortality rate had been declining slowly at a rate of 0.2% annually between 1990 and 2000, but accelerated to a pace of 5.7% between 2000 and 2008.

Table 3:
Developing countries on track to meet MDG4
(reduce under-5 mortality rate by 66% between 1990 and 2015)

Country	Annualized rate of decline (%), 1990 to 2008
Maldives	9.3
United Arab Emirates	8.4
Oman	7.0
Vietnam	6.9
Sri Lanka	6.6
Egypt	6.2
Turkmenistan	6.2
Malaysia	5.8
Lebanon	5.8
Tunisia	5.7
El Salvador	5.7
Peru	5.5
Nepal	5.4
Libya	5.3
Syria	5.2
Mongolia	5.1
Chile	5.1
Bhutan	4.9
Armenia	4.9
Algeria	4.9
Cuba	4.9
Brazil	4.9
Thailand	4.8
China	4.8
Bangladesh	4.7
Mexico	4.7
Liberia	4.6
Bahrain	4.6
Honduras	4.5
Turkey	4.5
Nicaragua	4.4

*IHME has found that children between 1 month and 1 year old have seen the **greatest improvements in mortality rates over the past 40 years.** The rate of mortality in this postneonatal period has declined by **62%** between 1970 and 2010, a larger drop than in any other under-5 age group.*

Kenya and Senegal have also seen significant improvements in their annual rates of decline. Between 1990 and 2000, Senegal's child mortality rate was decreasing by 1.7% annually. Kenya's decline was slower during that period, at less than 0.5% annually. But both countries sped up their pace in the following decade: Senegal's rate of decline more than doubled to 3.6% annually, while Kenya's rate of decline accelerated to 2% annually.

Neonatal deaths decline substantially

In 2009, the 64th session of the UN General Assembly noted that there had been little progress in deaths among children in the first month of life. IHME's new estimates show that there has been much more improvement than previously thought.

The annualized global decline from 1990 to 2010 in neonatal mortality is 2.1% – the same pace as overall under-5 mortality. The longer-term trend is more dramatic. The rate has dropped by more than half from 53 per 1,000 in 1970 to 23 per 1,000 in 2010.

However, postneonatal deaths and deaths of children between 1 year and 5 years of age are declining at a slightly faster pace. Thus, neonatal deaths now make up a larger share of total under-5 deaths: 41% for 2010.

Changes in the pace of decline in the neonatal mortality rate can have a big impact on the broader under-5 mortality rate.

Italy had an under-5 mortality rate of 10 per 1,000 in 1990, decreasing to 4 per 1,000 in 2008. Australia had a rate similar to Italy's in 1990, but it only decreased to 5 per 1,000. The key difference is that neonatal mortality

decreased by about 63% in Italy during that period while, in Australia, neonatal mortality decreased by about 50%. Greece and New Zealand followed a similar pattern. Greece had an under-5 mortality rate of 11 in 1990, decreasing to 4 in 2008. New Zealand had an identical rate in 1990, but it only decreased to 6 by 2008, with Greece's steeper decline driven by a sharp drop in its neonatal mortality rate.

One of the key reasons countries have more difficulty reducing the number of neonatal deaths is that treating infants in the first month of life is much more costly than treating older children. Saving a neonatal child requires expensive technology, highly skilled medical care, and longer hospital stays. As a child matures, he or she usually needs less-expensive health care interventions, such as immunizations, nutritional programs, and annual check-ups.

Despite these challenges, the fact that so many low-resource countries have been able to show substantial declines in neonatal mortality illustrates that even greater progress is possible.

The first year of life improves each decade

Special attention is often paid to the first year of a child's life because infants are particularly vulnerable and because so many deaths occur in this phase.

IHME has found that children between 1 month and 1 year old have seen the greatest improvements in mortality rates over the past 40 years. The mortality rate in this post-neonatal period has declined by 62% between 1970 and 2010, a larger drop than in any other under-5 age group.

Figure 10:
Annualized rate of decline in under-5 mortality by country, 1990 to 2008

Annualized rate of decline in under-5 mortality (%)

4.4+
4.0 to 4.4
3.0 to 4.0
2.0 to 3.0
1.0 to 2.0
0.0 to 1.0
< 0.0
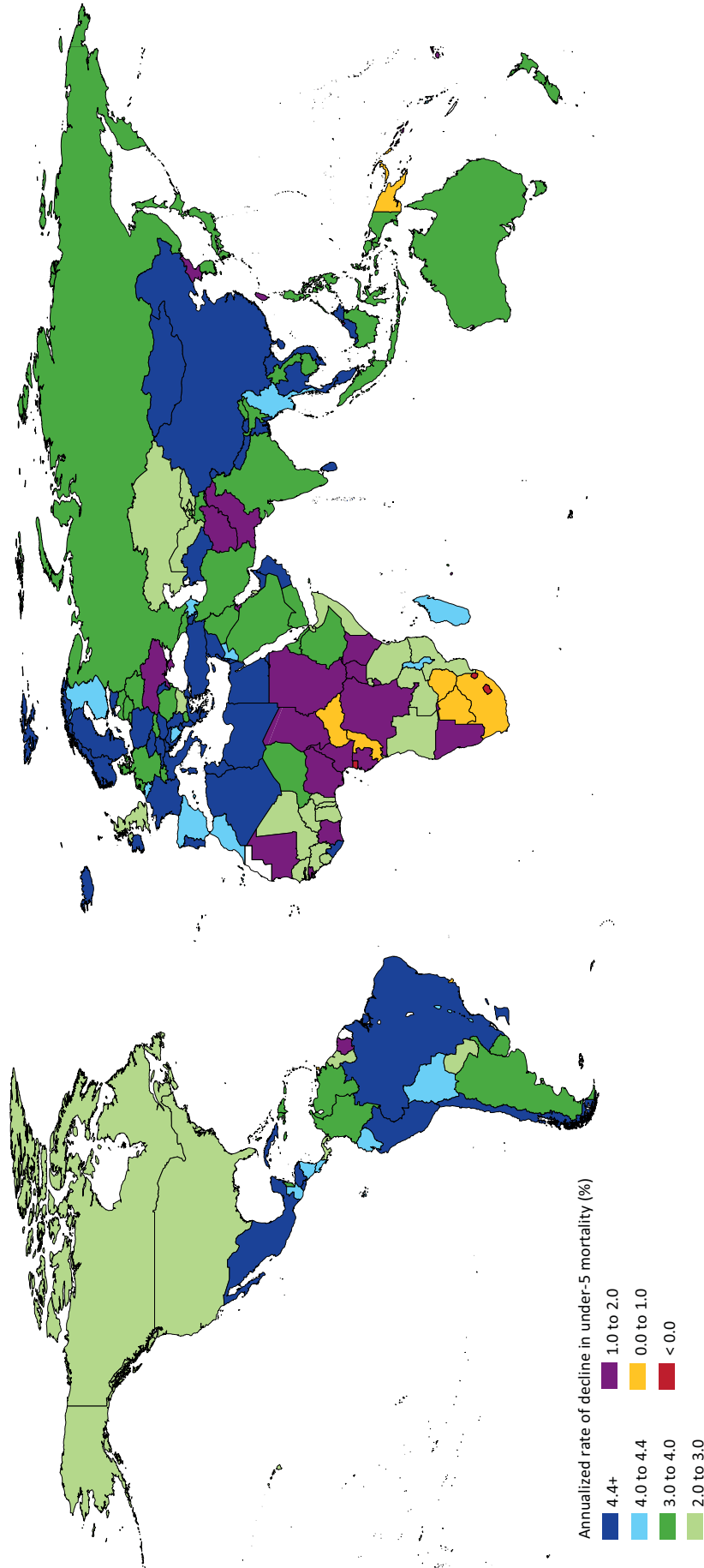
Figure 11:
Under-5 mortality rate by country (per 1,000 live births), 2008

U5MR per 1,000 live births

< 5
5 to 19
20 to 39
40 to 59
60 to 79
80 to 99
100 to 124
125 to 149
150 to 199
200+
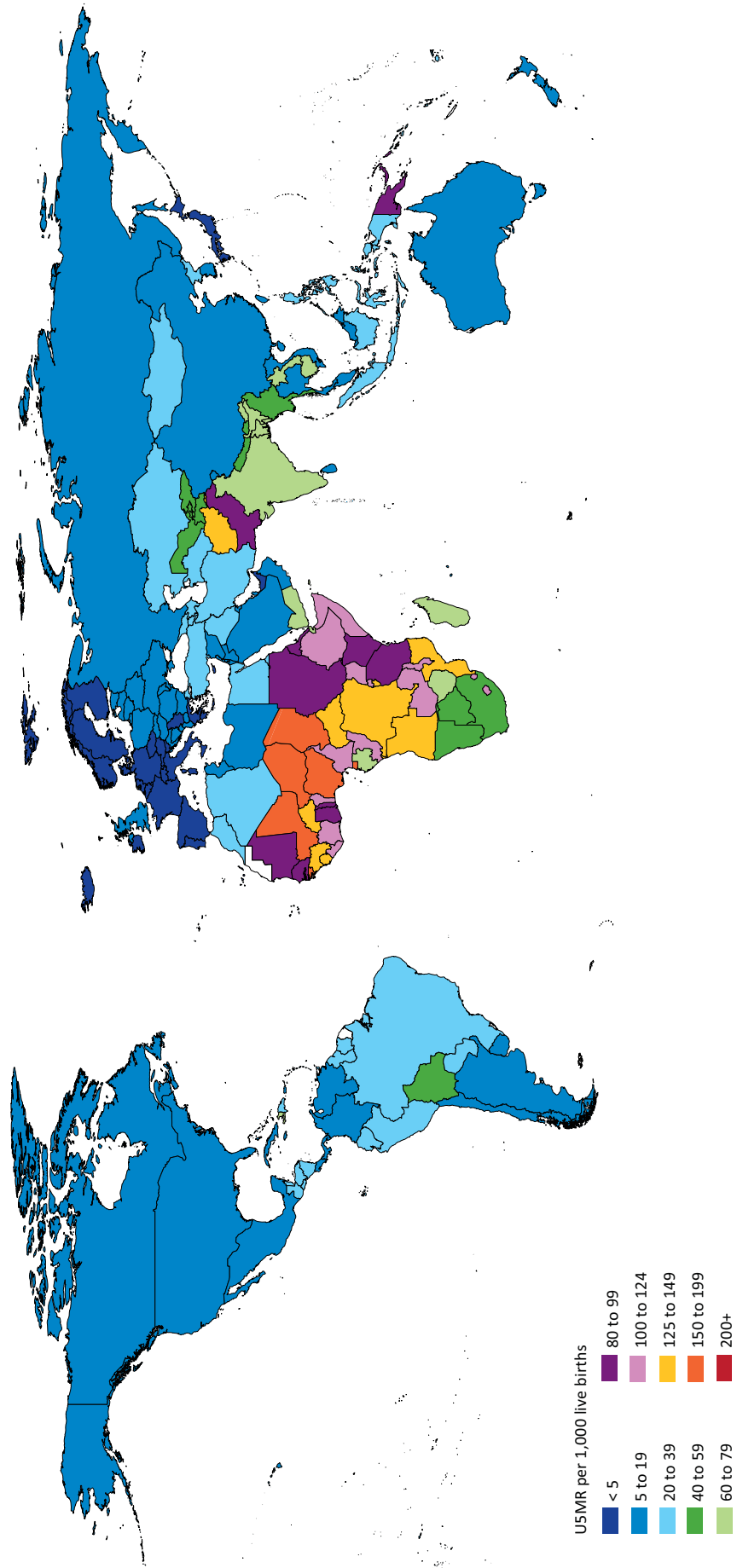
Table 4:
Countries with the most under-5 deaths, 2008

Country	Under-5 deaths (in thousands)	Neonatal deaths (in thousands)	Postneonatal deaths (in thousands)	Births, % of global total	Under-5 deaths, % of global total
India	1,827.7	967.1	454.0	19.7	23.0
Nigeria	956.5	252.0	239.2	4.4	12.0
Pakistan	443.0	233.2	129.9	3.9	5.6
Congo, Democratic Republic of the	388.2	95.5	135.8	2.1	4.9
Ethiopia	330.5	112.7	106.3	2.3	4.2
China	307.1	186.8	92.7	13.3	3.9
Bangladesh	214.5	114.3	53.3	2.5	2.7
Tanzania	174.0	50.6	65.0	1.3	2.2
Uganda	173.1	47.8	59.0	1.1	2.2
Indonesia	168.2	78.5	56.2	3.1	2.1
Afghanistan	158.0	72.9	44.0	0.9	2.0
Niger	129.0	25.7	34.6	0.6	1.6
Kenya	127.8	39.9	47.2	1.1	1.6
Sudan	122.7	39.9	31.4	0.9	1.5
Mozambique	119.2	34.5	49.2	0.6	1.5
Angola	112.0	29.9	37.9	0.6	1.4
Burkina Faso	97.5	23.5	28.1	0.5	1.2
Mali	91.2	26.4	22.7	0.4	1.1
Chad	84.9	21.1	26.1	0.4	1.1
Cameroon	82.6	24.4	23.6	0.5	1.0
All other countries (167)	1,842.8	751.4	605.1	39.7	23.2
Total:	7,950.6	3,228.1	2,341.4	100.0	100.0

IHME also found that, even within the same country, different age groups can have greatly different paces of change in mortality, underscoring the importance of crafting policies that address the different stages of childhood. Mauritius experienced a large gap between the pace of progress in under-5 mortality compared to postneonatal mortality. Its under-5 mortality rate dropped 3.1% annually from 1990 to 2008, while postneonatal mortality dropped even more steeply at 4.3%. In Argentina, the under-5 mortality rate dropped 3.9% between 1990 and 2008, while the postneonatal mortality rate declined 5.2%. Egypt's under-5 mortality rate declined 6.2% annually in the same period, while postneonatal mortality dropped 7.2%.

Similarly, there are differences in paces of change in neonatal and postneonatal mortality rates in some countries. Between 1990 and 2008, Egypt saw one of the sharpest declines in under-5 mortality. Its postneonatal mortality rate dropped 73% between 1990 and 2008,

while its neonatal mortality rate dropped 52%. In Turkey, postneonatal mortality declined 64% in that same period, while neonatal mortality went down 42%.

Lessons learned:

- Even in countries that have been slow to make improvements in child mortality, it is possible to alter the course of the trend in a short time span.

- Concentrating on the brief neonatal period can have a marked impact on broader under-5 mortality trends.

- Within the same country, different age brackets can have sharply different trends.

- Differences in mortality estimates among various studies highlight the importance of continually updating and refining child mortality measurements. IHME is making its methods for calculating mortality and a series of training tools publicly available on its website to assist developing countries in generating more accurate estimates of child mortality.

Figure 12:
Annualized rate of decline in under-5 mortality: Kenya, Senegal, and sub-Saharan Africa, 1990 to 2008
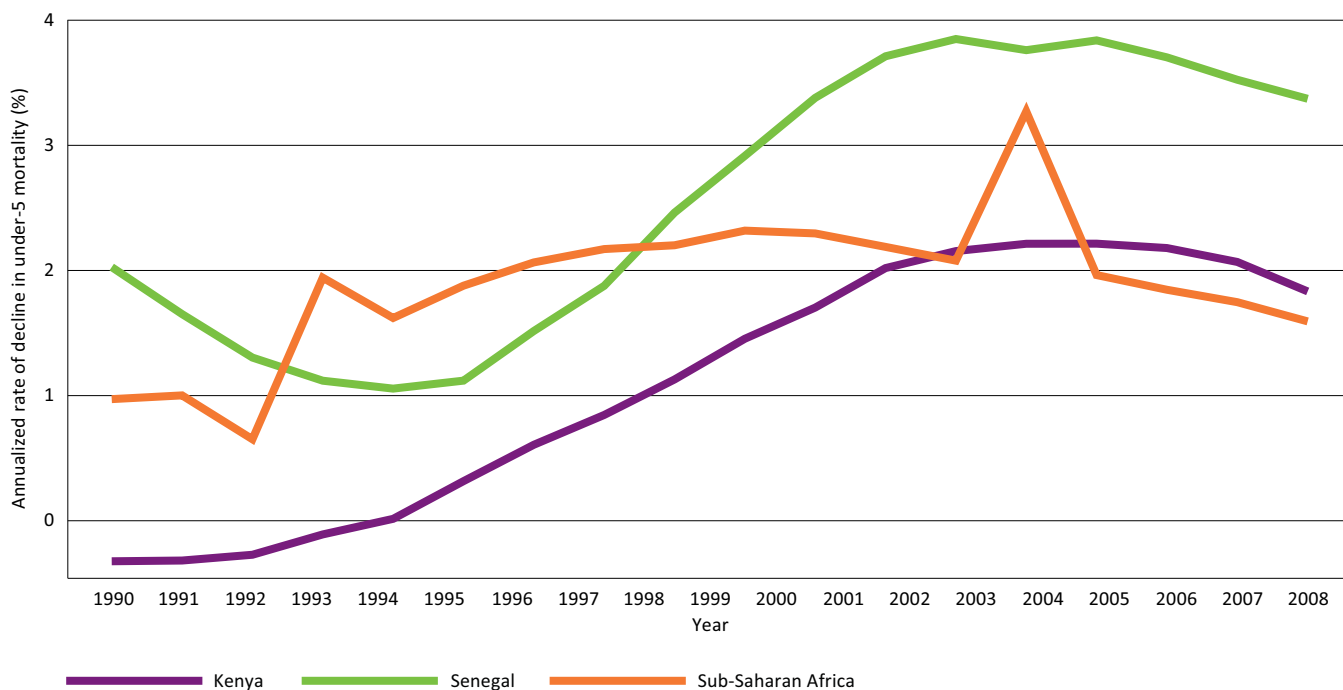
Figure 13:
Declines in under-5 and neonatal mortality in Australia, Greece, Italy, and New Zealand, 1990 to 2008

Legend:
- Under–5 mortality Australia
- Under–5 mortality Greece
- Under–5 mortality Italy
- Under–5 mortality New Zealand
- Neonatal mortality Australia
- Neonatal mortality Greece
- Neonatal mortality Italy
- Neonatal mortality New Zealand
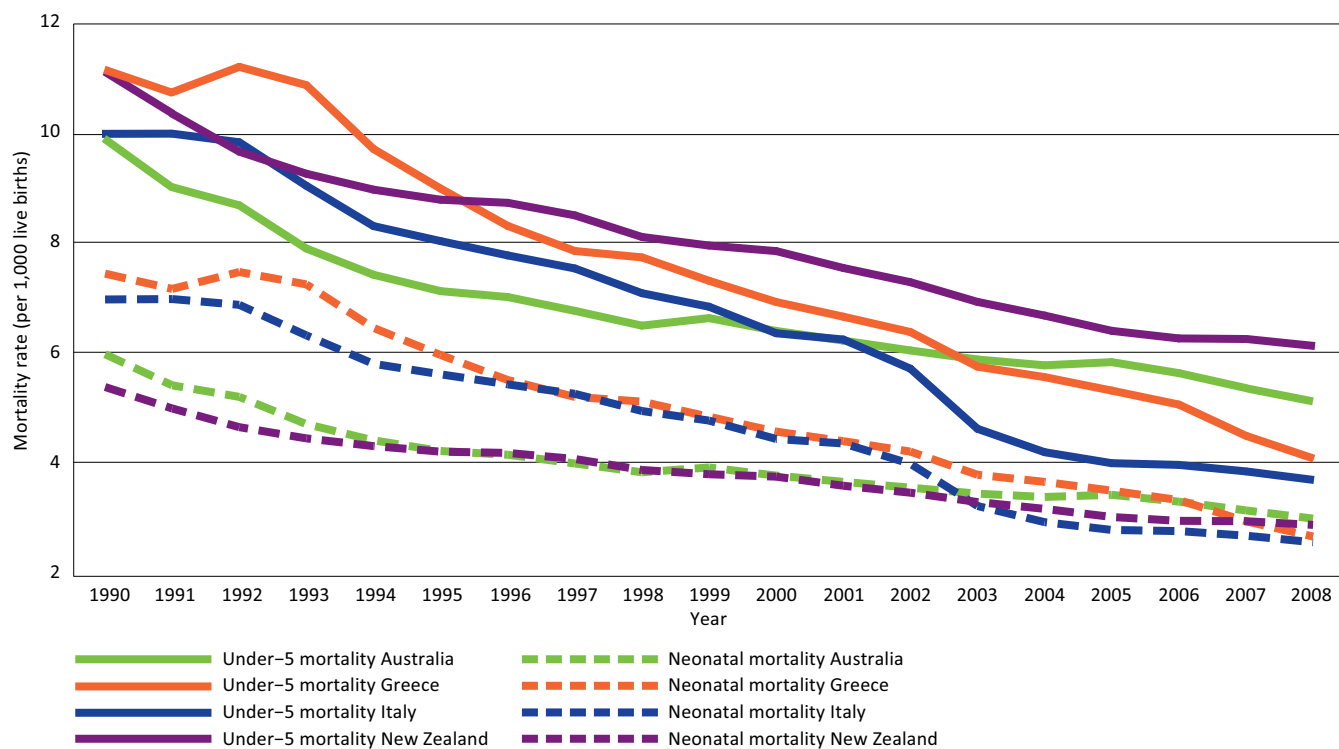
Figure 14:
Neonatal, postneonatal, and under-5 mortality in Argentina, Egypt, and Mauritius, 1990 to 2008

Legend:
- Neonatal
- Postneonatal
- Under-5
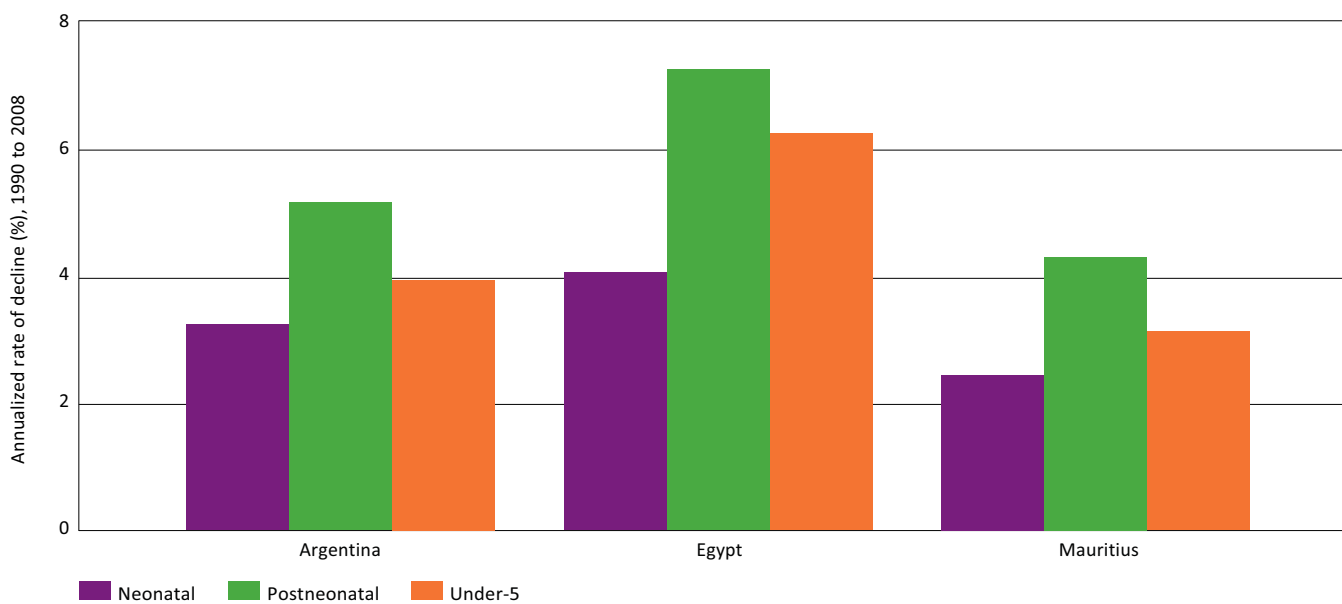
Table 5:
Annualized decline in under-5 mortality rate by country in sub-Saharan Africa, 1990 to 2000 vs. 2000 to 2008

Country	Annualized % decline in under-5 mortality rate, 1990 to 2000	Annualized % decline in under-5 mortality rate, 2000 to 2008
Angola	2.0	3.8
Benin	2.5	3.2
Botswana	-0.8	1.6
Burkina Faso	1.7	2.7
Burundi	1.6	1.4
Cameroon	0.2	2.2
Cape Verde	2.5	3.3
Central African Republic	0.7	1.1
Chad	1.1	1.1
Comoros	3.3	3.1
Congo	-0.5	0.7
Congo, Democratic Republic of the	1.0	2.5
Côte d'Ivoire	1.5	1.8
Djibouti	2.1	3.1
Equatorial Guinea	-0.1	0.0
Eritrea	3.5	2.5
Ethiopia	3.9	3.2
Gabon	1.2	2.0
Gambia	1.9	4.3
Ghana	2.2	2.4
Guinea	2.6	2.8
Guinea-Bissau	2.0	1.9
Kenya	0.3	2.1
Lesotho	-1.0	0.6
Liberia	3.1	6.5
Madagascar	4.1	4.2
Malawi	3.5	4.8
Mali	1.8	2.9
Mauritania	1.2	1.5
Mozambique	3.3	2.4
Namibia	1.5	1.1
Niger	2.8	3.6
Nigeria	0.9	1.3
Rwanda	0.2	5.7
Sao Tome and Principe	3.8	2.3
Senegal	1.7	3.6
Sierra Leone	2.0	3.6
Somalia	1.8	2.7
South Africa	4.3	-5.0
Sudan	1.3	1.2
Swaziland	-3.0	-0.9
Tanzania	1.9	3.0
Togo	2.2	2.2
Uganda	1.7	2.0
Zambia	1.9	2.3
Zimbabwe	-0.1	0.2

Conclusion: The opportunity to replicate success

It is clear that most countries will not reach the Millennium Development Goal targets by 2015. Yet there can still be dramatic improvements over the next five years – and beyond – if we take the opportunity to learn from the successes and find ways to replicate them.

In an era where demonstrating the effectiveness of development assistance for health is becoming increasingly important, following up this study with careful country case studies will be vital. Bursts of rapid improvement are possible, with countries such as Egypt and Tunisia achieving remarkable declines in both maternal and child mortality rates.

Country-specific research that focuses on the steps taken to achieve these rapid reductions could reveal the necessary formula for countries that are falling behind. We also need to know more about how interventions targeted at child and maternal health are working. To better understand child mortality reductions, we must examine how policy initiatives such as vaccine programs, insecticide-treated bed net distribution, or the scale-up of antiretroviral treatment are contributing to accelerated mortality declines.

Next steps could include exploring how levels and trends in child mortality are related to changes in the key drivers of child mortality, including income per capita, levels of maternal education, the HIV epidemic, and malaria. Studying these indicators will help us understand where country performance has been better than expected.

With hindsight, we can ask whether the targets set for MDG4 and MDG5 were realistic or overly ambitious. Looking past 2015, when a new round of health targets may be formulated, it will be important to ground the choice of targets in an informed discussion of the distribution of progress across nations.

Regional overviews

The following pages contain regional overviews of maternal and child mortality trends in 18 regions of the world, encompassing 187 countries. To facilitate comparisons, we have grouped some countries together for their similar demographic characteristics rather than their geographic proximity. In other cases, countries were clustered based on their location, rather than their regional affiliation, to accommodate their display on the maps.

The regions and countries are:

Asia Pacific, High Income

Brunei Darussalam
Japan
Singapore
South Korea

Asia, Central

Armenia
Azerbaijan
Georgia
Kazakhstan
Kyrgyzstan
Mongolia
Tajikistan
Turkmenistan
Uzbekistan

Asia, East

China
North Korea
Taiwan

Asia, South

Afghanistan
Bangladesh
Bhutan
India
Nepal
Pakistan

Asia, Southeast

Cambodia
Indonesia
Laos
Malaysia
Maldives
Mauritius

Myanmar
Philippines
Seychelles
Sri Lanka
Thailand
Timor-Leste
Vietnam

Australasia and North America, High Income

Australia
Canada
New Zealand
United States

Caribbean

Antigua and Barbuda
Bahamas
Barbados
Belize
Cuba
Dominica
Dominican Republic
Grenada
Guyana
Haiti
Jamaica
Saint Lucia
Saint Vincent and the Grenadines
Suriname
Trinidad and Tobago

Europe, Central

Albania
Bosnia and Herzegovina
Bulgaria
Croatia
Czech Republic

Hungary
Macedonia
Montenegro
Poland
Romania
Serbia
Slovakia
Slovenia

Europe, East

Belarus
Estonia
Latvia
Lithuania
Moldova
Russia
Ukraine

Europe, West

Andorra
Austria
Belgium
Cyprus
Denmark
Finland
France
Germany
Greece
Iceland
Ireland
Israel
Italy
Luxembourg
Malta
Netherlands
Norway
Portugal

Spain
Sweden
Switzerland
United Kingdom

Latin America, Central

Colombia
Costa Rica
El Salvador
Guatemala
Honduras
Mexico
Nicaragua
Panama
Venezuela

North Africa/Middle East

Algeria
Bahrain
Egypt
Iran
Iraq
Jordan
Kuwait
Lebanon
Libya
Morocco
Occupied Palestinian Territory
Oman
Qatar
Saudi Arabia
Syria
Tunisia
Turkey
United Arab Emirates
Yemen

Oceania

Fiji
Kiribati
Marshall Islands
Micronesia, Federated States of
Papua New Guinea
Samoa
Solomon Islands
Tonga
Vanuatu

South America

Argentina
Bolivia
Brazil
Chile
Ecuador
Paraguay
Peru
Uruguay

Sub-Saharan Africa, Central

Angola
Central African Republic
Congo
Congo, Democratic Republic of the
Equatorial Guinea
Gabon

Sub-Saharan Africa, East

Burundi
Comoros
Djibouti
Eritrea
Ethiopia
Kenya
Madagascar
Malawi

Mozambique
Rwanda
Somalia
Sudan
Tanzania
Uganda
Zambia

Sub-Saharan Africa, South

Botswana
Lesotho
Namibia
South Africa
Swaziland
Zimbabwe

Sub-Saharan Africa, West

Benin
Burkina Faso
Cameroon
Cape Verde
Chad
Côte d'Ivoire
Gambia
Ghana
Guinea
Guinea-Bissau
Liberia
Mali
Mauritania
Niger
Nigeria
Sao Tome and Principe
Senegal
Sierra Leone
Togo

Asia Pacific, High Income: Maternal and child mortality trends

- Levels of maternal mortality are low in the region, but while Brunei Darussalam, South Korea, and Japan saw declines in their MMRs, Singapore experienced an increase since 1990.

- The annualized rates of decline in under-5 mortality for South Korea and Japan were similar between 1990 and 2008, but much of the improvement in South Korea took place since 2002.

- Singapore had the region's fastest rate of decline for under-5 mortality and is on pace to meet MDG4. No countries are reducing maternal mortality quickly enough to achieve MDG5.

Number of maternal deaths, 2008

JPN 70
BRN 3
SGP 6
KOR 51

Maternal mortality ratio, 2008

BRN

SGP

Per 100,000 live births
- < 10
- 10 to 15
- 15 to 30
- > 30

Number of under-5 deaths, 2008

JPN 3,731
BRN 64
SGP 104
KOR 2,845

Under-5 mortality rate, 2008

BRN

SGP

Per 1,000 live births
- < 3
- 3 to 4
- 4 to 7
- > 7
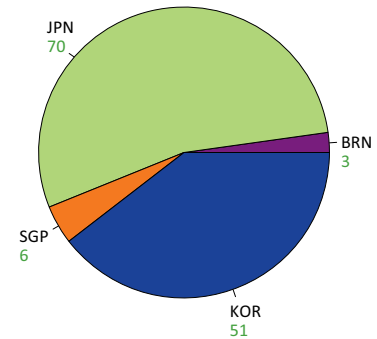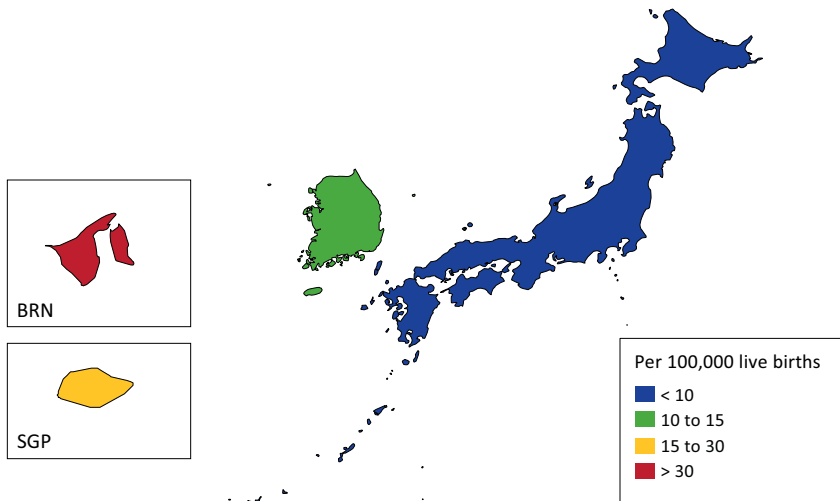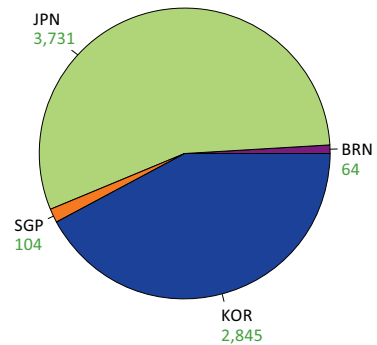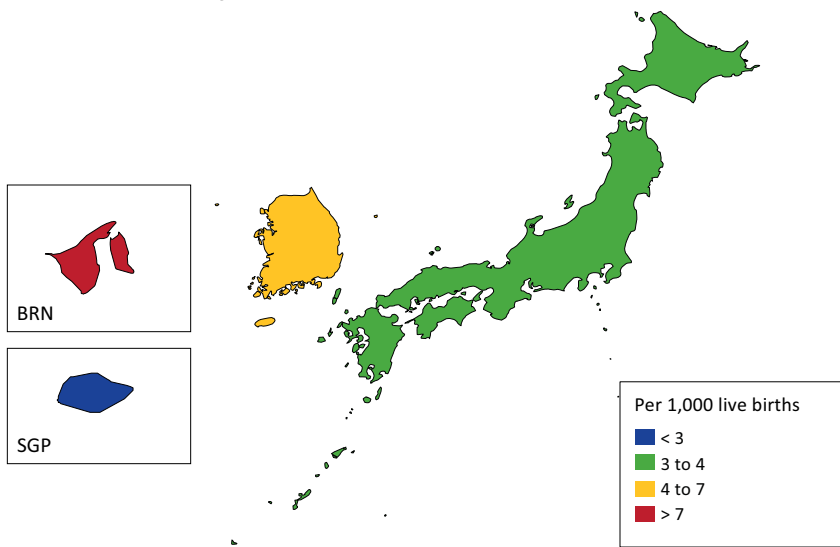
Country abbreviations

BRN   Brunei Darussalam
JPN   Japan
KOR   South Korea
SGP   Singapore

COUNTRY	Maternal			Neonatal			Postneonatal			Under-5		
	Mortality ratio, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline
Brunei Darussalam	37	2.8	78	5	2.1	130	2	1.6	160	8	1.9	152
Japan	7	3.0	70	2	4.0	51	1	2.8	123	4	3.4	95
Korea (South)	11	2.7	82	4	3.7	63	2	2.8	122	6	3.4	96
Singapore	16	-1.4	167	1	6.3	6	1	4.6	58	3	5.5	21
Regional	8	2.8	6	2	4.0	4	2	2.9	11	4	3.5	8
Global	251	1.3	–	24	2.1	–	17	2.3	–	55	2.1	–
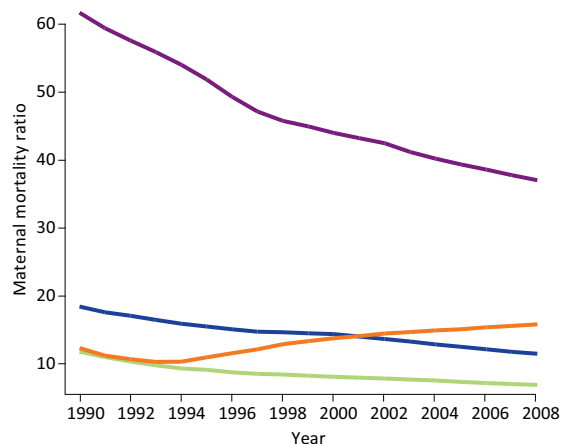
Maternal mortality ratio, 1990-2008

Under-5 mortality rate, 1990-2008 (forecasted to 2010)

BRN
JPN
KOR
SGP

Notes: Maternal mortality ratio (MMR): Number of women dying of pregnancy-related causes for every 100,000 live births. Neonatal mortality rate: Probability of death between birth and the 27th day of life (per 1,000 live births). Postneonatal mortality rate: Probability of death between age 1 month and 1 year (per 1,000 1-month-olds). Under-5 mortality rate: Probability of death between birth and age 5 (per 1,000 live births).

Asia, Central: Maternal and child mortality trends

- There has been irregular progress on maternal mortality in Central Asia. Turkmenistan, Mongolia, and Tajikistan made substantial progress, while Georgia and Kyrgyzstan have lagged.

- Turkmenistan experienced the most dramatic improvement in its under-5 mortality rate among its neighbors. The pace of change in under-5 mortality in Georgia and Kazakhstan flattened over the past four years.

- Turkmenistan, Armenia, and Mongolia are on pace to reduce under-5 mortality enough to reach MDG4. Only Turkmenistan is on track to reduce maternal mortality fast enough to achieve MDG5.

Number of maternal deaths, 2008

Maternal mortality ratio, 2008

Per 100,000 live births
- < 25
- 25 to 30
- 30 to 40
- 40 to 60
- > 60

Number of under-5 deaths, 2008

Under-5 mortality rate, 2008

Per 1,000 live births
- < 25
- 25 to 35
- 35 to 40
- 40 to 45
- 45 to 50
- > 50
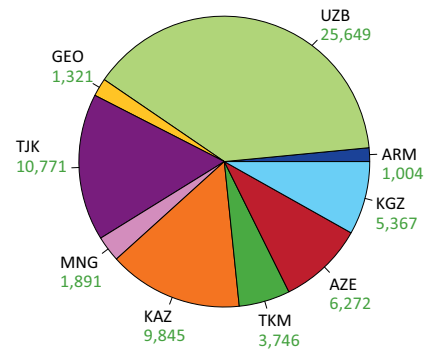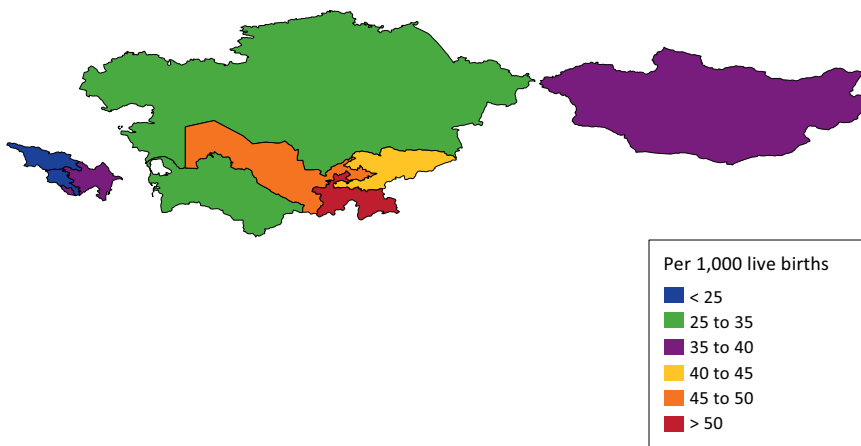
Country abbreviations

ARM	Armenia
AZE	Azerbaijan
GEO	Georgia
KAZ	Kazakhstan
KGZ	Kyrgyzstan
MNG	Mongolia
TJK	Tajikistan
TKM	Turkmenistan
UZB	Uzbekistan

COUNTRY	Maternal			Neonatal			Postneonatal			Under-5		
	Mortality ratio, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline
Armenia	30	1.1	127	12	3.4	79	7	6.9	13	21	4.9	36
Azerbaijan	37	0.2	144	19	2.7	100	14	5.5	31	37	4.1	67
Georgia	37	-1.4	168	13	2.3	120	8	4.5	64	25	3.3	102
Kazakhstan	44	1.8	101	16	1.9	137	13	3.6	96	32	2.8	126
Kyrgyzstan	69	-0.3	154	21	1.6	150	18	3.3	108	45	2.5	134
Mongolia	207	3.7	53	18	3.4	80	14	6.7	16	37	5.1	29
Tajikistan	46	3.8	50	23	2.4	110	24	4.8	46	55	3.8	79
Turkmenistan	22	6.3	17	16	4.1	47	12	8.0	6	32	6.2	10
Uzbekistan	45	1.8	104	19	1.4	157	17	2.6	131	46	2.0	148
Regional	48	2.2	9	18	2.0	13	16	4.1	7	41	3.0	10
Global	251	1.3	–	24	2.1	–	17	2.3	–	55	2.1	–
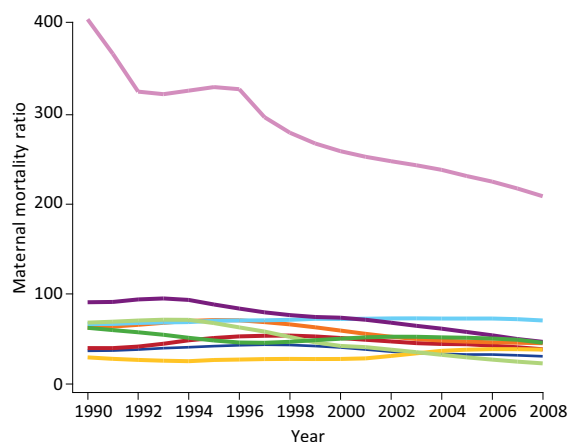
Maternal mortality ratio, 1990-2008

Under-5 mortality rate, 1990-2008 (forecasted to 2010)

Notes: Maternal mortality ratio (MMR): Number of women dying of pregnancy-related causes for every 100,000 live births. Neonatal mortality rate: Probability of death between birth and the 27th day of life (per 1,000 live births). Postneonatal mortality rate: Probability of death between age 1 month and 1 year (per 1,000 1-month-olds). Under-5 mortality rate: Probability of death between birth and age 5 (per 1,000 live births).

Asia, East: Maternal and child mortality trends

- China has dramatically lowered its MMR, resulting in a substantial reduction in maternal deaths for the entire region. Progress on reducing the MMR slowed in all countries since the mid-1990s and has even reversed in North Korea.

- China's under-5 mortality rate dropped by nearly half between 2000 and 2008. Taiwan's under-5 mortality rate was lowest in this region, but its rate of decline was also lowest.

- China's rate of decline for under-5 mortality is on pace to reach MDG4. No countries are on track to reduce maternal mortality quickly enough to achieve MDG5.

Number of maternal deaths, 2008

CHN 7,279
PRK 210
TWN 28

Maternal mortality ratio, 2008

Per 100,000 live births
- < 15
- 15 to 50
- > 50

Number of under-5 deaths, 2008

CHN 307,109
PRK 11,940
TWN 1,284

Under-5 mortality rate, 2008

Per 1,000 live births
- < 10
- 10 to 20
- > 20
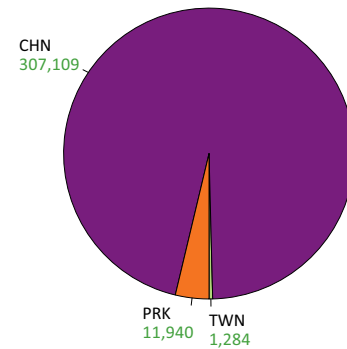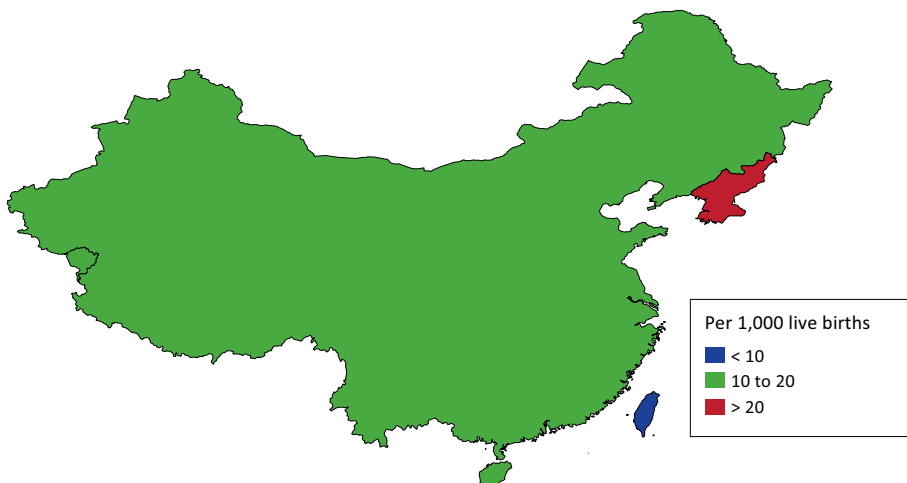
Country abbreviations

CHN   China
PRK   North Korea
TWN   Taiwan

COUNTRY	Maternal			Neonatal			Postneonatal			Under-5		
	Mortality ratio, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline
China	40	4.3	34	10	5.0	21	5	4.6	59	17	4.8	42
Korea (North)	64	0.3	143	23	2.0	132	11	1.9	153	36	1.9	151
Taiwan	14	3.3	60	4	1.9	135	2	1.7	155	6	1.8	155
Regional	40	4.2	3	10	4.9	1	5	4.5	4	17	4.7	2
Global	251	1.3	–	24	2.1	–	17	2.3	–	55	2.1	–
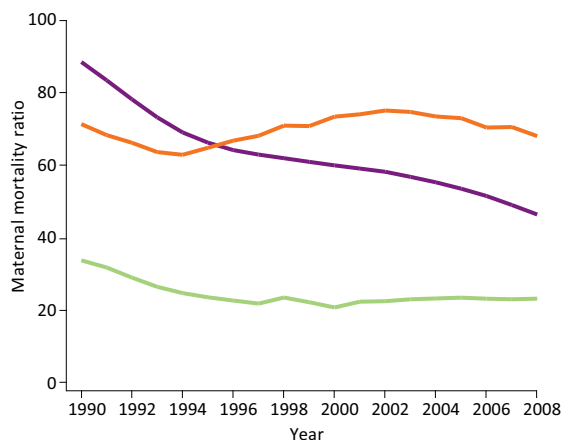
Maternal mortality ratio, 1990-2008

Under-5 mortality rate, 1990-2008 (forecasted to 2010)

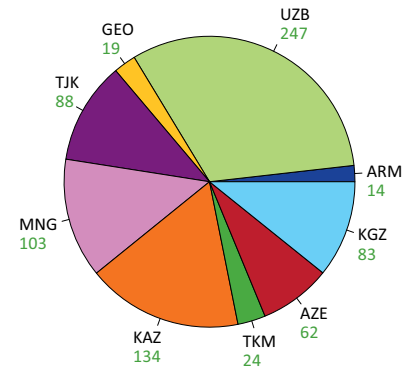*Notes: Maternal mortality ratio (MMR): Number of women dying of pregnancy-related causes for every 100,000 live births. Neonatal mortality rate: Probability of death between birth and the 27th day of life (per 1,000 live births). Postneonatal mortality rate: Probability of death between age 1 month and 1 year (per 1,000 1-month-olds). Under-5 mortality rate: Probability of death between birth and age 5 (per 1,000 live births).*
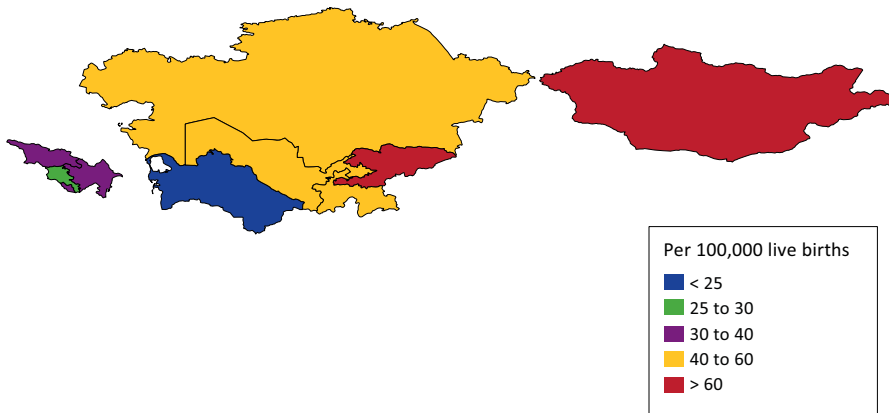
Asia, South: Maternal and child mortality trends

- Most South Asian countries saw encouraging declines in the MMR, especially Bhutan and Bangladesh. India's steady decline had a large impact at the global level. Afghanistan had the world's highest MMR in 2008 and saw substantial increases from 1990 to 2008.

- The under-5 mortality rate in Afghanistan improved slowly since 1990 but continues to be among the world's highest rates.

- Nepal, Bhutan, and Bangladesh saw strong paces of decline in under-5 mortality between 1990 and 2008, putting all on track to reach MDG4. Bhutan is also on track to reduce maternal mortality quickly enough to achieve MDG5.

Number of maternal deaths, 2008

IND 68,310
BTN 38
BGD 11,603
AFG 19,982
PAK 20,091
NPL 1,758

Maternal mortality ratio, 2008

Per 100,000 live births
- < 250
- 250 to 300
- 300 to 350
- > 350

Number of under-5 deaths, 2008

IND 1,827,680
BTN 909
BGD 214,519
AFG 158,027
PAK 443,028
NPL 39,025

Under-5 mortality rate, 2008

Per 1,000 live births
- < 60
- 60 to 70
- 70 to 100
- > 100
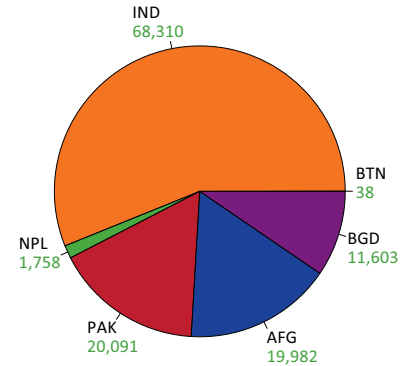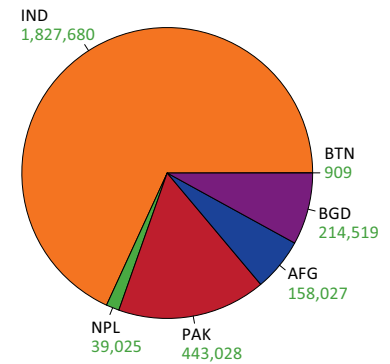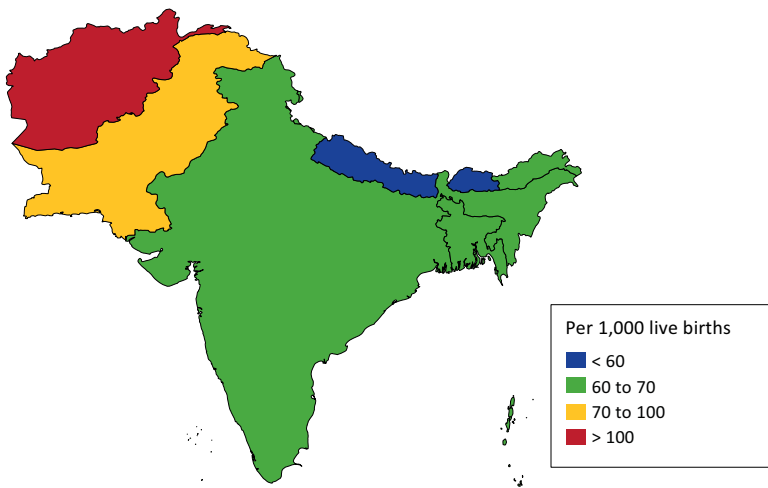
Country abbreviations

AFG   Afghanistan
BGD   Bangladesh
BTN   Bhutan
IND   India
NPL   Nepal
PAK   Pakistan

COUNTRY	Maternal			Neonatal			Postneonatal			Under-5		
	Mortality ratio, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline
Afghanistan	1,575	-1.2	165	58	1.1	164	37	1.6	162	126	1.5	164
Bangladesh	338	4.2	36	33	3.7	66	15	5.0	41	60	4.7	45
Bhutan	255	8.3	3	32	3.7	62	16	5.4	35	60	4.9	34
India	254	4.0	43	36	2.3	122	17	3.4	102	66	3.0	116
Nepal	240	3.7	51	27	4.3	38	14	5.9	24	52	5.4	25
Pakistan	376	2.0	95	44	1.3	161	25	2.0	151	83	1.7	156
Regional	323	3.0	5	37	2.2	12	19	3.2	10	69	3.0	12
Global	251	1.3	–	24	2.1	–	17	2.3	–	55	2.1	–
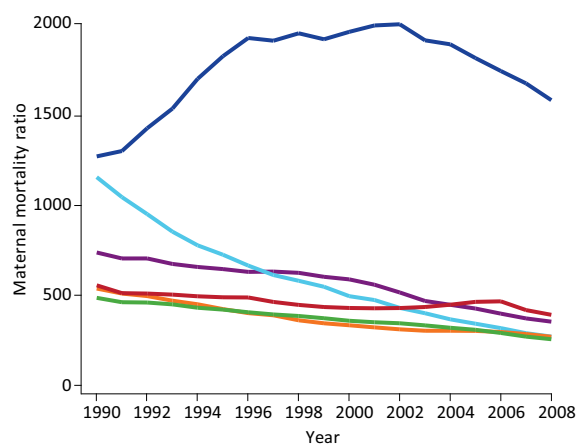
Maternal mortality ratio, 1990-2008

Under-5 mortality rate, 1990-2008 (forecasted to 2010)

Notes: Maternal mortality ratio (MMR): Number of women dying of pregnancy-related causes for every 100,000 live births. Neonatal mortality rate: Probability of death between birth and the 27th day of life (per 1,000 live births). Postneonatal mortality rate: Probability of death between age 1 month and 1 year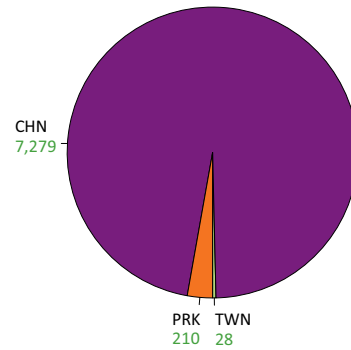 (per 1,000 1-month-olds). Under-5 mortality rate: Probability of death between birth and age 5 (per 1,000 live births).

Asia, Southeast: Maternal and child mortality trends

- Several Southeast Asian countries made enormous progress in reducing their MMRs from very high levels in the early 1990s, including the Maldives, Laos, and Myanmar. Maternal mortality remained nearly stagnant in Indonesia, Thailand, and Timor-Leste.

- The Maldives and Sri Lanka made strong progress in reducing under-5 mortality rates since 1990, while Cambodia experienced a steep decline between 1998 and 2002 that has since leveled off.

- Malaysia, the Maldives, Sri Lanka, Thailand, and Vietnam are on track to reduce under-5 mortality to reach MDG4. Laos, the Maldives, and Myanmar are on track to achieve MDG5.

Number of maternal deaths, 2008

IDN 9,645
MDV 4
LAO 576
THA 460
VNM 961
LKA 109
KHM 960
MYS 234
MMR 2,236
TLS 408
PHL 1,870
MUS 5

Maternal mortality ratio, 2008

Per 100,000 live births
- < 30
- 30 to 50
- 50 to 80
- 80 to 200
- 200 to 300
- 300 to 900
- > 900

LKA
MUS
MDV
SYC

Under-5 mortality rate, 2008

Per 1,000 live births
- < 10
- 10 to 15
- 15 to 20
- 20 to 40
- 40 to 70
- > 70

LKA
MUS
MDV
SYC

Number of under-5 deaths, 2008

IDN 168,210
MDV 97
LAO 12,696
THA 9,651
VNM 20,055
LKA 4,008
KHM 21,999
MYS 3,248
MMR 60,748
TLS 2,930
PHL 69,498
MUS 254
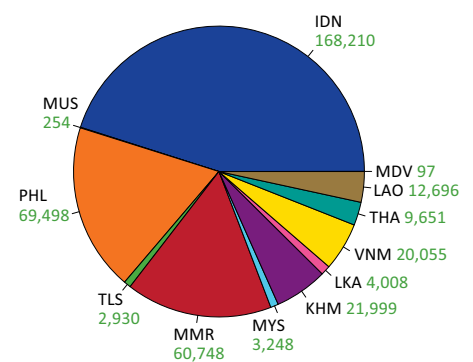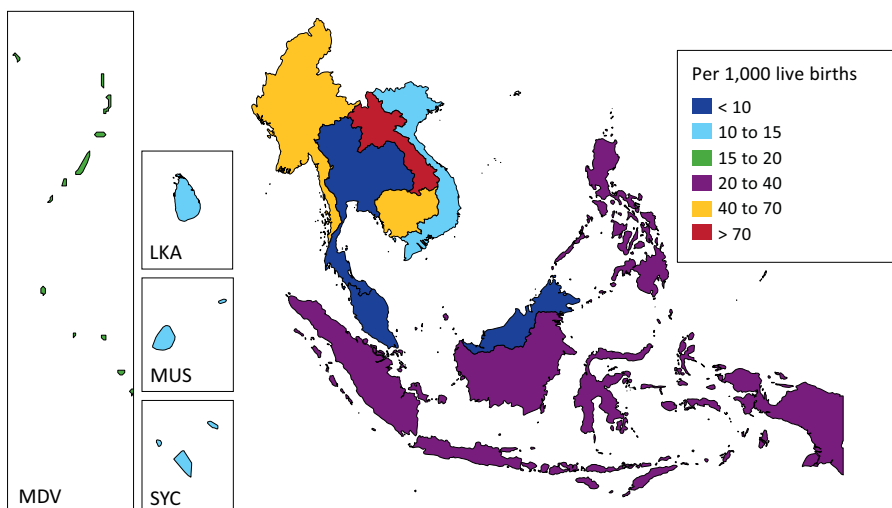
Country abbreviations

IDN	Indonesia
KHM	Cambodia
LAO	Laos
LKA	Sri Lanka
MDV	Maldives
MMR	Myanmar
MUS	Mauritius
MYS	Malaysia
PHL	Philippines
SYC	Seychelles
THA	Thailand
TLS	Timor-Leste
VNM	Vietnam

COUNTRY	Maternal			Neonatal			Postneonatal			Under-5		
	Mortality ratio, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline
Cambodia	266	2.3	87	26	2.5	107	23	3.8	85	61	3.8	76
Indonesia	229	0.6	139	19	2.2	126	13	3.7	95	39	3.4	97
Laos	339	7.1	8	30	2.3	117	24	3.9	83	73	3.8	80
Malaysia	42	3.3	62	4	4.7	29	1	7.0	12	6	5.8	12
Maldives	75	8.8	1	10	6.6	4	4	10.5	2	16	9.3	1
Mauritius	28	4.7	30	10	2.4	109	3	4.3	69	14	3.1	113
Myanmar	219	6.1	19	25	2.6	102	19	4.2	73	58	4.0	70
Philippines	84	4.1	41	14	2.1	131	9	3.4	104	31	3.2	108
Seychelles	*	*	*	9	1.3	158	3	2.1	147	14	1.7	157
Sri Lanka	30	3.1	68	8	5.1	19	2	7.7	7	11	6.6	7
Thailand	47	-0.3	155	7	4.1	44	2	5.9	23	10	4.8	40
Timor-Leste	929	0.5	140	28	1.4	153	22	2.3	140	67	2.3	138
Vietnam	64	5.0	26	9	5.0	23	3	8.3	5	13	7.0	6
Regional	152	2.7	7	15	2.7	11	10	4.0	8	32	3.8	7
Global	251	1.3	–	24	2.1	–	17	2.3	–	55	2.1	–
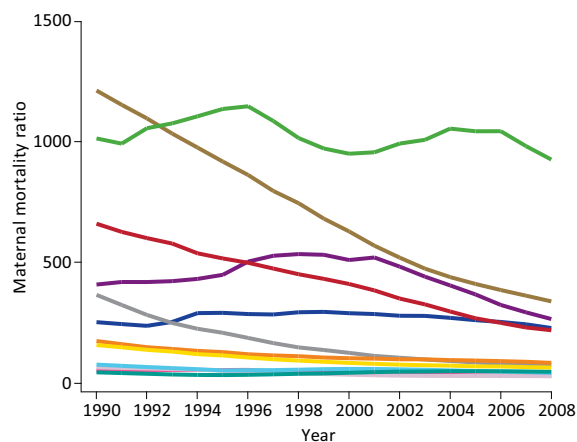
Maternal mortality ratio, 1990-2008

Under-5 mortality rate, 1990-2008 (forecasted to 2010)

Legend: IDN, KHM, LAO, LKA, MDV, MMR, MUS, MYS, PHL, SYC, THA, TLS, VNM

*Notes: Maternal mortality ratio (MMR): Number of women dying of pregnancy-related causes for every 100,000 live births. Neonatal mortality rate: Probability of death between birth and the 27th day of life (per 1,000 live births). Postneonatal mortality rate: Probability of death between age 1 month and 1 year (per 1,000 1-month-olds). Under-5 mortality rate: Probability of death between birth and age 5 (per 1,000 live births). * No data available.*
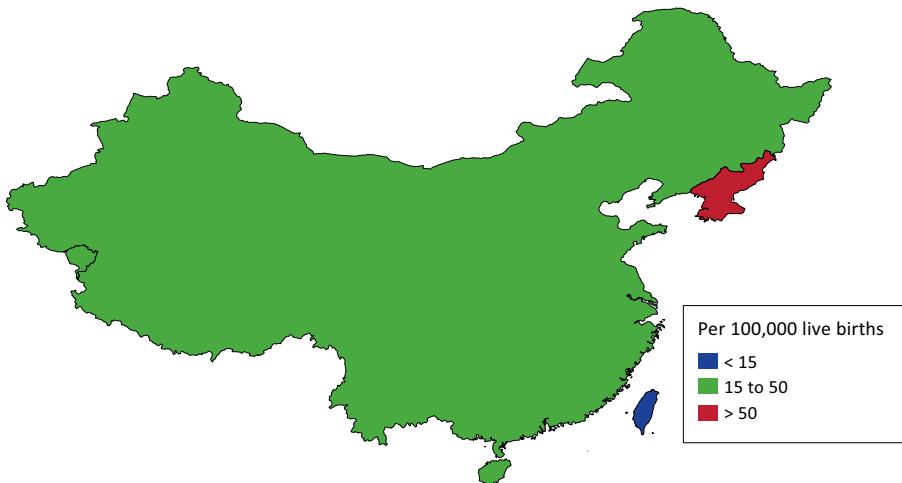
Australasia and North America, High Income:
Maternal and child mortality trends

- Maternal mortality rates are low in the high-income countries of North America and Australasia, although the MMR in the United States is substantially higher than others in the region. Increases in maternal mortality in the United States and Canada may be partly due to improved reporting of maternal deaths.

- While under-5 mortality overall is low, the United States had the region's highest rate for most of the past 20 years.

- Australia made the most progress in under-5 mortality, cutting its rate nearly in half since 1990. No countries are on track to achieve either MDG4 or MDG5.

Number of maternal deaths, 2008

USA 732
AUS 14
CAN 23
NZL 5

Maternal mortality ratio, 2008

Per 100,000 live births
- ■ < 6
- ■ 6 to 10
- ■ > 10

Number of under-5 deaths, 2008

USA 31,475
AUS 1,384
CAN 1,890
NZL 358

Under-5 mortality rate, 2008

Per 1,000 live births
- ■ < 6
- ■ 6 to 7
- ■ > 7
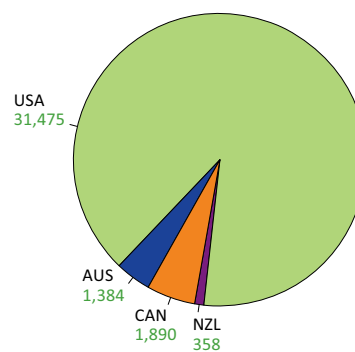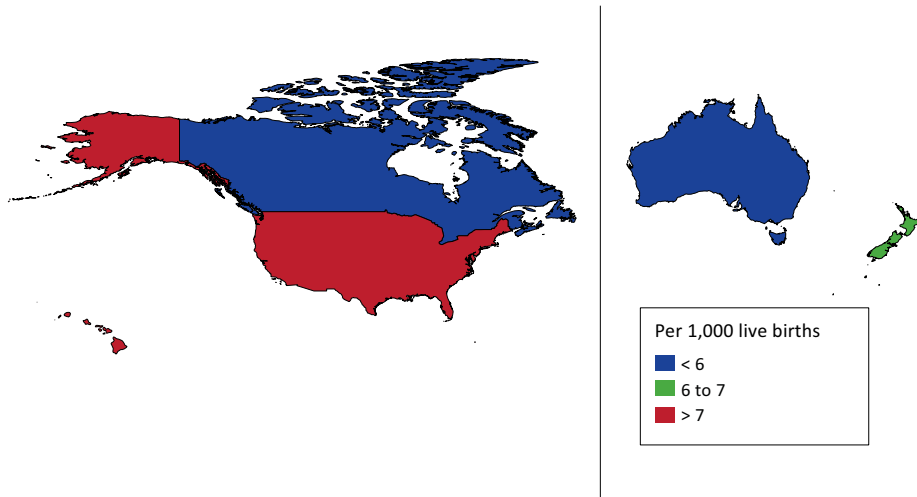
Country abbreviations

AUS   Australia
CAN   Canada
NZL   New Zealand
USA   United States

COUNTRY	Maternal			Neonatal			Postneonatal			Under-5		
	Mortality ratio, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline
Australia	5	1.3	121	3	3.8	57	2	3.4	105	5	3.7	89
Canada	7	-0.9	160	3	2.9	91	2	2.6	132	5	2.8	124
New Zealand	8	1.3	120	3	3.5	76	3	3.2	112	6	3.3	99
United States	17	-2.0	171	4	3.0	90	2	2.3	141	7	2.7	129
Regional	15	-1.9	17	4	3.0	10	2	2.4	14	7	2.7	13
Global	251	1.3	–	24	2.1	–	17	2.3	–	55	2.1	–
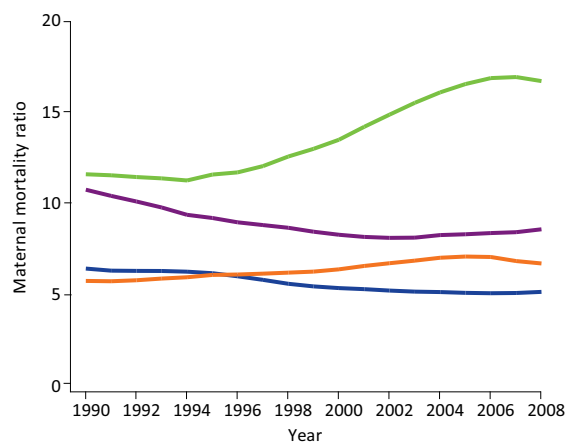
Maternal mortality ratio, 1990-2008

Under-5 mortality rate, 1990-2008 (forecasted to 2010)

Notes: Maternal mortality ratio (MMR): Number of women dying of pregnancy-related causes for every 100,000 live births. Neonatal mortality rate: Probability of death between birth and the 27th day of life (per 1,000 live births). Postneonatal mortality rate: Probability of death between age 1 month and 1 year (per 1,000 1-month-olds). Under-5 mortality rate: Probability of death between birth and age 5 (per 1,000 live births).
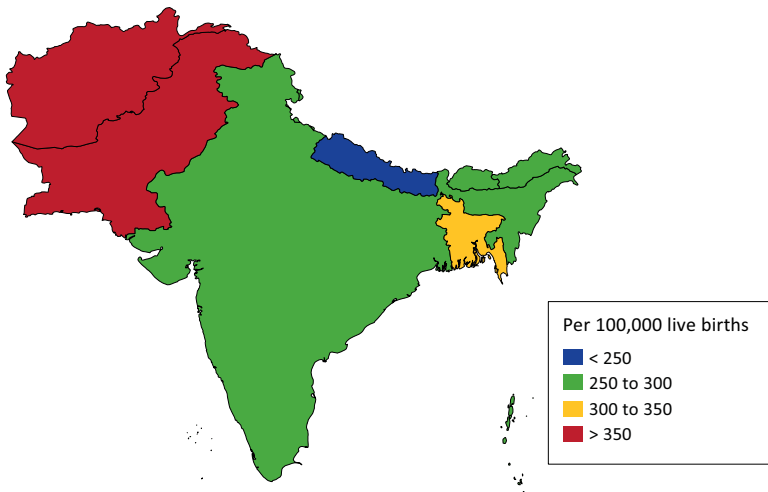
Caribbean: Maternal and child mortality trends

- Maternal mortality is higher in Haiti than in other Caribbean countries. Haiti saw declines in its maternal mortality, but Grenada, Saint Vincent and the Grenadines, and Saint Lucia experienced more dramatic declines.

- Saint Vincent and the Grenadines saw its under-5 mortality rate grow worse between 1990 and 2008. The January 2010 earthquake in Haiti is reflected in the sharp rise in under-5 deaths noted on the graph.

- Cuba's decline in under-5 mortality is on pace to reach MDG4. No countries are on track to achieve MDG5.

Number of maternal deaths, 2008

HTI 1,591
BRB 2
DOM 149
LCA 1
JAM 18
VCT 1
CUB 47
BHS 3
GUY 19
BLZ 5
TTO 8   GRD 1
SUR 11

Maternal mortality ratio, 2008

Per 100,000 live births
- < 40
- 40 to 50
- 50 to 60
- 60 to 70
- 70 to 100
- 100 to 500
- > 500

ATG
DMA
LCA
VCT
GRD
BRB
TTO

Under-5 mortality rate, 2008

Per 1,000 live births
- < 10
- 10 to 15
- 15 to 20
- 20 to 30
- 30 to 40
- 40 to 60
- > 60

ATG
DMA
LCA
VCT
GRD
BRB
TTO

Number of under-5 deaths, 2008
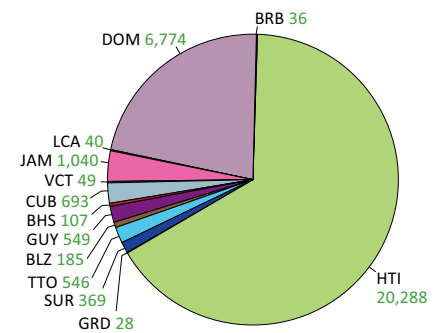
BRB 36
DOM 6,774
LCA 40
JAM 1,040
VCT 49
CUB 693
BHS 107
GUY 549
BLZ 185
TTO 546
SUR 369
GRD 28
HTI 20,288

Country abbreviations

ATG	Antigua and Barbuda
BHS	Bahamas
BLZ	Belize
BRB	Barbados
CUB	Cuba
DMA	Dominica
DOM	Dominican Republic
GRD	Grenada
GUY	Guyana
HTI	Haiti
JAM	Jamaica
LCA	Saint Lucia
SUR	Suriname
TTO	Trinidad and Tobago
VCT	Saint Vincent and the Grenadines

COUNTRY	Maternal			Neonatal			Postneonatal			Under-5		
	Mortality ratio, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline
Antigua and Barbuda	*	*	*	9	0.8	175	5	0.8	178	16	0.8	178
Bahamas	59	1.7	106	11	3.4	78	6	4.1	78	19	3.7	88
Barbados	78	0.5	142	7	3.9	54	4	4.6	61	12	4.2	63
Belize	74	1.0	132	14	2.9	92	8	3.5	101	25	3.2	107
Cuba	40	0.9	135	3	5.1	20	2	4.9	45	6	4.9	38
Dominica	*	*	*	10	1.7	142	5	2.0	150	17	1.9	154
Dominican Republic	66	2.1	93	16	2.7	99	9	4.3	71	30	3.6	90
Grenada	47	4.2	38	8	3.5	75	4	4.0	79	14	3.7	84
Guyana	143	0.7	136	21	2.2	123	13	2.7	130	39	2.4	135
Haiti	582	2.4	85	22	3.9	53	28	3.9	80	73	4.0	71
Jamaica	34	2.1	91	11	2.8	95	6	3.4	106	20	3.1	114
Saint Lucia	46	3.8	49	8	3.0	89	4	3.5	100	13	3.2	104
Saint Vincent and the Grenadines	45	3.3	59	14	-0.1	185	8	-0.2	185	26	-0.2	185
Suriname	116	-0.5	157	20	1.1	163	12	1.3	169	37	1.2	170
Trinidad and Tobago	40	2.8	75	19	0.5	179	6	0.6	179	27	0.5	179
Regional	254	1.8	11	16	3.0	9	15	3.4	9	40	3.2	9
Global	251	1.3	–	24	2.1	–	17	2.3	–	55	2.1	–
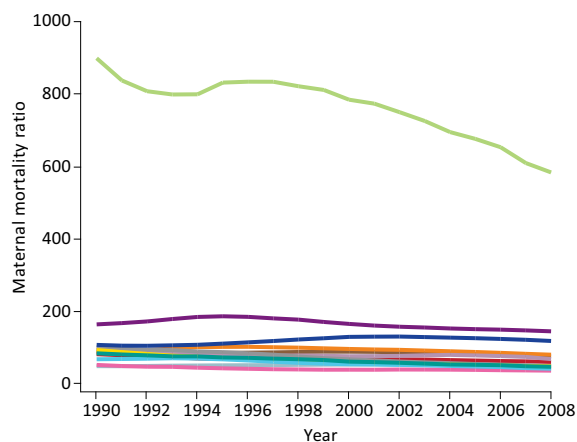
Maternal mortality ratio, 1990-2008

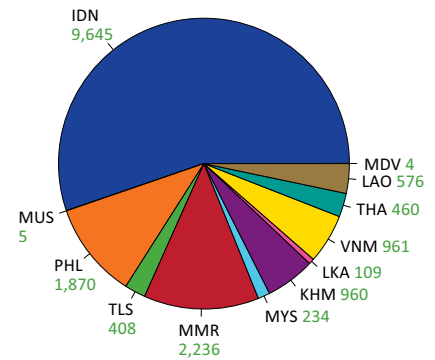## Under-5 mortality rate, 1990-2008 (forecasted to 2010)

*Notes: Maternal mortality ratio (MMR): Number of women dying of pregnancy-related causes for every 100,000 live births. Neonatal mortality rate: Probability of death between birth and the 27th day of life (per 1,000 live births). Postneonatal mortality rate: Probability of death between age 1 month and 1 year (per 1,000 1-month-olds). Under-5 mortality rate: Probability of death between birth and age 5 (per 1,000 live births). * No data available.*
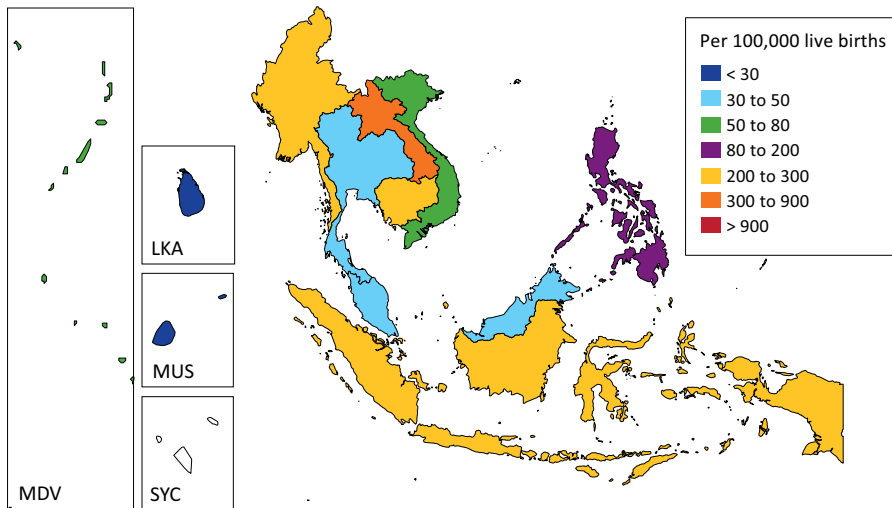
Europe, Central: Maternal and child mortality trends

- The largest declines in maternal mortality occurred in Albania and Romania, which both had high MMRs in 1990. Croatia saw no progress, and Slovenia saw its MMR rise.

- Czech Republic and Slovenia showed the strongest rates of decline in under-5 mortality.

- Central Europe made the fastest regional progress toward MDG4 and MDG5, with an annual rate of decline of 4.8% and 5.4%, respectively. Albania, Croatia, Czech Republic, Hungary, Montenegro, Poland, Serbia, and Slovenia are on track to achieve the MDG4 target for under-5 mortality. Albania, Bosnia and Herzegovina, Romania, and Poland are on track to achieve MDG5.

Number of maternal deaths, 2008

ROU 56
MNE 1
SVN 4
CZE 7
SRB 10
SVK 4
HUN 7
BIH 4
ALB 4
MKD 4
BGR 20
HRV 6
POL 27

Maternal mortality ratio, 2008

Per 100,000 live births
- < 7
- 7 to 8
- 8 to 9
- 9 to 15
- 15 to 20
- > 20

Number of under-5 deaths, 2008

MNE 77
ROU 3,423
SVN 71
CZE 483
SRB 534
SVK 394
HUN 614
BIH 297
ALB 753
MKD 293
BGR 828
HRV 253
POL 2,591

Under-5 mortality rate, 2008

Per 1,000 live births
- < 4
- 4 to 5
- 5 to 7
- 7 to 10
- 10 to 15
- > 15
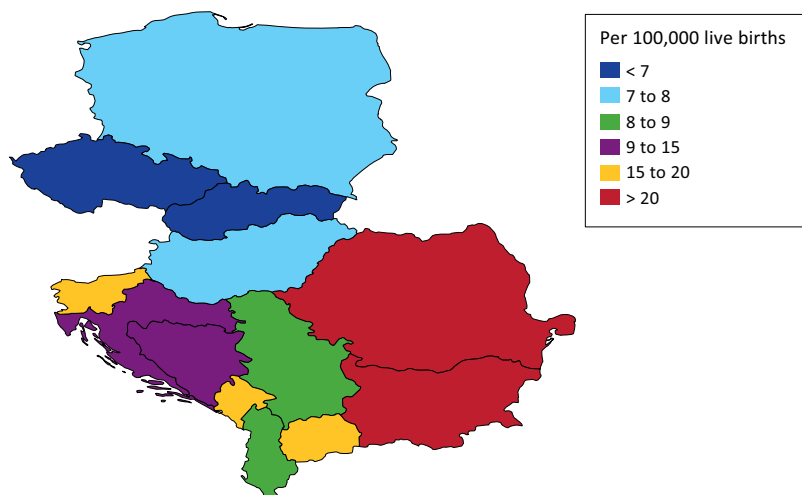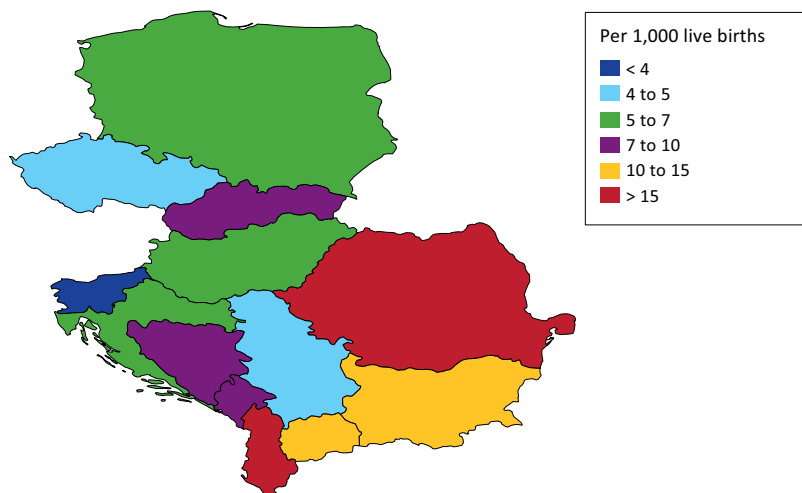
Country abbreviations

ALB	Albania
BGR	Bulgaria
BIH	Bosnia and Herzegovina
CZE	Czech Republic
HRV	Croatia
HUN	Hungary
MKD	Macedonia
MNE	Montenegro
POL	Poland
ROU	Romania
SRB	Serbia
SVK	Slovakia
SVN	Slovenia

COUNTRY	Maternal			Neonatal			Postneonatal			Under-5		
	Mortality ratio, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline
Albania	8	8.3	4	4	4.8	26	9	5.5	32	16	5.0	33
Bosnia and Herzegovina	12	5.6	23	5	3.8	58	3	4.6	57	9	4.0	69
Bulgaria	28	1.1	126	6	2.5	106	4	3.0	116	11	2.7	130
Croatia	14	0.2	145	4	4.3	36	1	5.2	37	6	4.5	51
Czech Republic	7	3.3	63	3	6.2	7	1	7.4	9	4	6.5	8
Hungary	7	4.7	31	4	6.0	8	2	4.8	47	6	5.5	22
Macedonia	17	1.0	131	8	3.5	73	4	4.7	55	13	3.9	75
Montenegro	19	3.0	71	6	4.8	25	3	5.8	26	10	5.1	30
Poland	7	5.9	21	5	5.2	18	2	6.7	17	7	5.6	19
Romania	26	7.0	10	6	2.8	97	8	4.3	70	16	3.6	93
Serbia	9	1.6	112	3	5.3	17	1	6.5	18	5	5.6	17
Slovakia	7	3.6	55	4	3.6	68	2	4.3	68	7	3.8	78
Slovenia	19	-1.0	164	2	5.8	9	1	6.9	14	4	6.0	11
Regional	13	5.4	1	5	4.5	2	3	5.3	1	9	4.8	1
Global	251	1.3	–	24	2.1	–	17	2.3	–	55	2.1	–
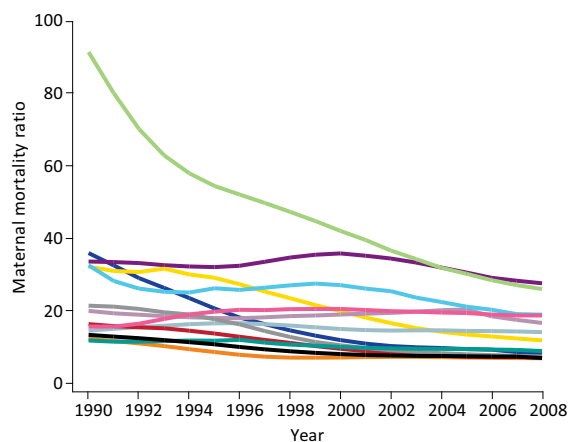
Maternal mortality ratio, 1990-2008

Under-5 mortality rate, 1990-2008 (forecasted to 2010)
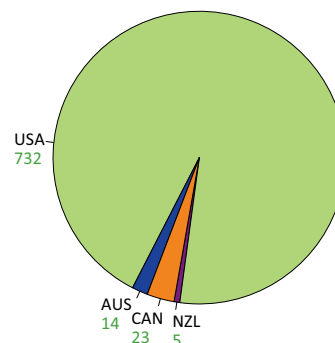
ALB
BGR
BIH
CZE
HRV
HUN
MKD
MNE
POL
ROU
SRB
SVK
SVN

Notes: Maternal mortality ratio (MMR): Number of women dying of pregnancy-related causes for every 100,000 live births. Neonatal mortality rate: Probability of death between birth and the 27th day of life (per 1,000 live births). Postneonatal mortality rate: Probability of death between age 1 month and 1 year (per 1,000 1-month-olds). Under-5 mortality rate: Probability of death between birth and age 5 (per 1,000 live births).

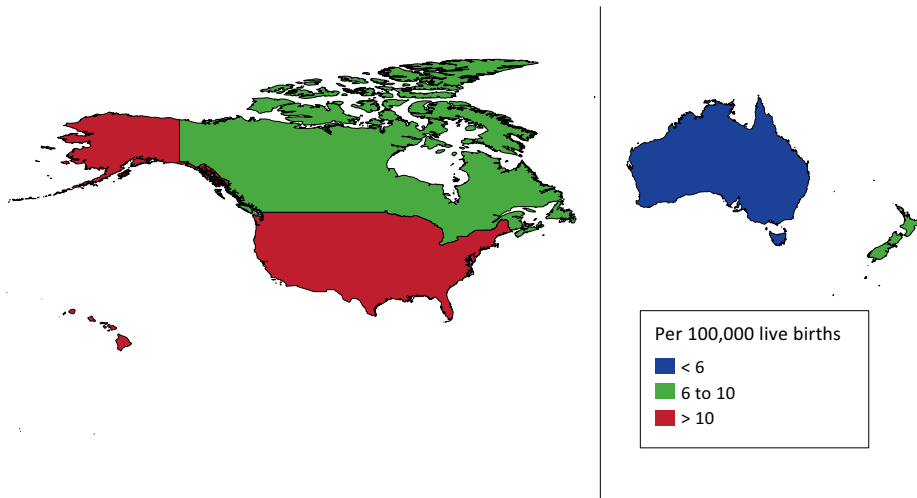# Europe, East: Maternal and child mortality trends

- All countries in this region made some progress in reducing the MMR between 1990 and 2008, with the largest gains in Moldova and Latvia. The MMR in Russia remains higher than in other countries in the region, but the variation across countries is less than in other regions.

- Primarily because of the country's population size, nearly 75% of this region's under-5 deaths occur in Russia.

- Estonia and Moldova are on track to meet MDG4, with Estonia showing the most significant reduction in under-5 mortality. No countries are on track to achieve MDG5.
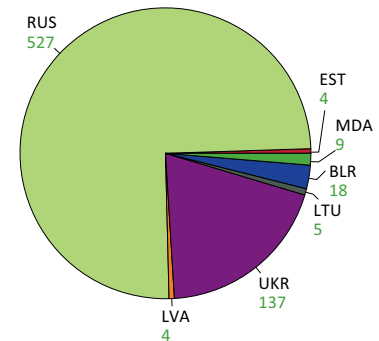
Number of maternal deaths, 2008

Maternal mortality ratio, 2008

Per 100,000 live births
- < 17
- 17 to 20
- 20 to 25
- 25 to 30
- > 30

Number of under-5 deaths, 2008

Under-5 mortality rate, 2008

Per 1,000 live births
- < 7
- 7 to 10
- 10 to 13
- 13 to 16
- > 16
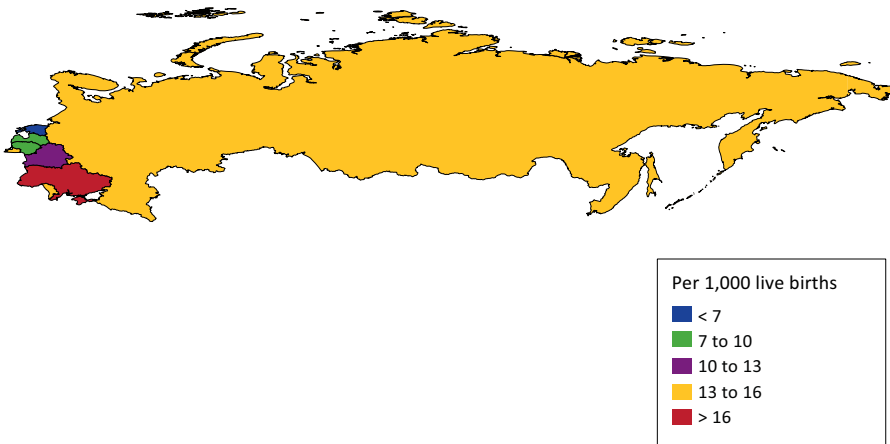
Country abbreviations

BLR   Belarus
EST   Estonia
LTU   Lithuania
LVA   Latvia
MDA   Moldova
RUS   Russia
UKR   Ukraine

COUNTRY	Maternal			Neonatal			Postneonatal			Under-5		
	Mortality ratio, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline
Belarus	19	2.0	94	6	4.2	43	4	3.2	111	11	3.8	82
Estonia	22	1.4	118	3	6.4	5	2	4.6	56	7	5.6	18
Latvia	18	2.9	74	5	3.6	70	3	2.9	121	10	3.2	103
Lithuania	16	1.9	100	4	4.5	32	3	3.3	110	7	3.9	73
Moldova	20	4.0	44	6	5.7	12	7	4.1	76	15	4.8	41
Russia	34	1.9	99	9	3.6	72	5	2.8	125	15	3.2	106
Ukraine	30	0.9	134	10	1.8	140	4	1.5	166	16	1.7	159
Regional	32	1.7	13	9	3.2	7	5	2.6	12	15	3.0	11
Global	251	1.3	–	24	2.1	–	17	2.3	–	55	2.1	–
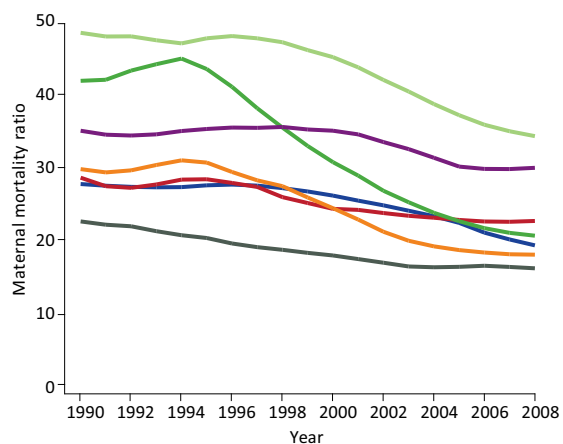
Maternal mortality ratio, 1990-2008

Under-5 mortality rate, 1990-2008 (forecasted to 2010)
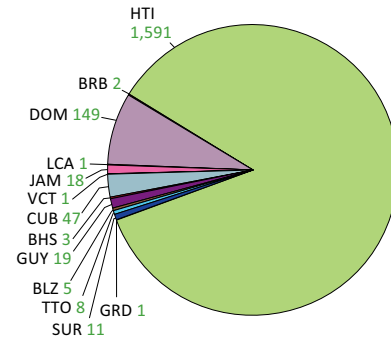
Legend: BLR, EST, LTU, LVA, MDA, RUS, UKR

Notes: Maternal mortality ratio (MMR): Number of women dying of pregnancy-related causes for every 100,000 live births. Neonatal mortality rate: Probability of death between birth and the 27th day of life (per 1,000 live births). Postneonatal mortality rate: Probability of death between age 1 month and 1 year (per 1,000 1-month-olds). Under-5 mortality rate: Probability of death between birth and age 5 (per 1,000 live births).

Europe, West: Maternal and child mortality trends

- The MMRs in this region are extremely low. In 2008, Italy had the world's lowest MMR, with Sweden and Luxembourg close behind. Progress in reducing the MMR has been inconsistent, with Belgium, Denmark, Greece, Norway, and Switzerland seeing increases.

- The region's under-5 mortality rate declined at twice the pace of the global rate, with Portugal demonstrating the most significant reduction.

- More than half of countries in this region are on track to meet the MDG4 target for under-5 mortality, while none is on pace to achieve the MDG5 goal for maternal mortality.

Number of maternal deaths, 2008

Maternal mortality ratio, 2008

Per 100,000 live births
- < 4
- 4 to 5
- 5 to 6
- 6 to 7
- 7 to 8
- 8 to 9
- 9 to 10
- > 10

ISR

Number of under-5 deaths, 2008

Under-5 mortality rate, 2008

Per 1,000 live births
- < 3
- 3 to 3.5
- 3.5 to 4
- 4 to 4.5
- 4.5 to 5
- > 5

ISR

Country abbreviations

AND   Andorra
AUT   Austria
BEL   Belgium
CHE   Switzerland
DEU   Germany
DNK   Denmark
ESP   Spain
FIN   Finland
FRA   France
GBR   United Kingdom
GRC   Greece
IRL   Ireland
ISL   Iceland
ISR   Israel
ITA   Italy
LUX   Luxembourg
MLT   Malta
NLD   Netherlands
NOR   Norway
PRT   Portugal
SWE   Sweden

COUNTRY	Maternal			Neonatal			Postneonatal			Under-5		
	Mortality ratio, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline
Andorra	*	*	*	3	3.3	81	2	3.3	107	5	3.3	100
Austria	6	2.1	92	2	5.4	15	1	5.0	42	4	5.2	28
Belgium	9	-0.7	159	2	4.7	27	2	3.7	90	5	4.3	60
Denmark	9	-1.5	169	3	3.9	52	1	3.7	93	4	3.8	77
Finland	7	0.1	147	2	4.5	33	1	3.8	87	3	4.3	59
France	10	1.9	97	2	4.6	31	2	4.6	62	4	4.5	49
Germany	7	2.8	77	3	3.7	61	1	3.7	92	5	3.7	87
Greece	8	-0.5	156	3	5.7	11	1	5.5	34	4	5.6	20
Iceland	7	1.5	114	2	4.7	28	1	4.7	52	3	4.7	44
Ireland	6	0.9	133	3	4.3	37	1	4.8	49	4	4.5	53
Israel	6	3.2	64	3	4.9	24	2	4.7	53	5	4.7	43
Italy	4	3.6	56	3	5.5	14	1	5.7	28	4	5.5	23
Luxembourg	5	1.8	103	2	5.8	10	1	5.7	29	3	5.7	15
Malta	6	4.8	28	4	3.8	60	2	3.7	91	6	3.7	86
Netherlands	8	1.0	130	3	3.7	64	1	3.9	82	5	3.8	81
Norway	8	-0.6	158	2	5.0	22	1	5.0	44	4	4.9	35
Portugal	10	3.0	72	2	7.4	2	1	8.5	4	4	7.6	3
Spain	7	1.5	113	3	4.4	35	1	4.4	65	4	4.3	56
Sweden	5	1.7	107	2	5.6	13	1	4.3	67	3	5.1	31
Switzerland	7	-0.3	153	3	3.6	71	1	3.8	86	5	3.6	91
United Kingdom	8	0.1	149	3	2.9	94	2	3.1	114	6	2.9	119
Regional	7	1.7	12	3	4.3	3	1	4.3	6	4	4.3	5
Global	251	1.3	–	24	2.1	–	17	2.3	–	55	2.1	–
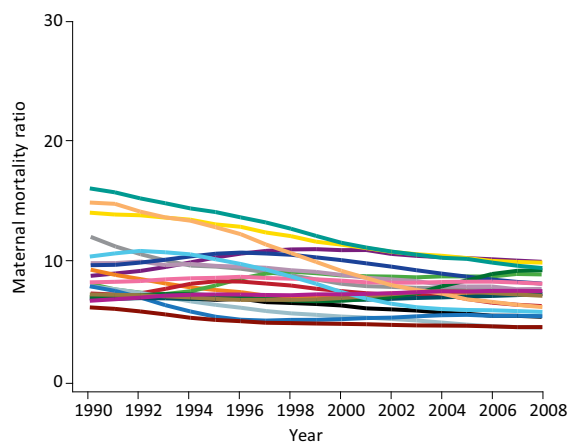
Maternal mortality ratio, 1990-2008

Under-5 mortality rate, 1990-2008 (forecasted to 2010)

Legend: AND, AUT, BEL, CHE, DEU, DNK, ESP, FIN, FRA, GBR, GRC, IRL, ISL, ISR, ITA, LUX, MLT, NLD, NOR, PRT, SWE
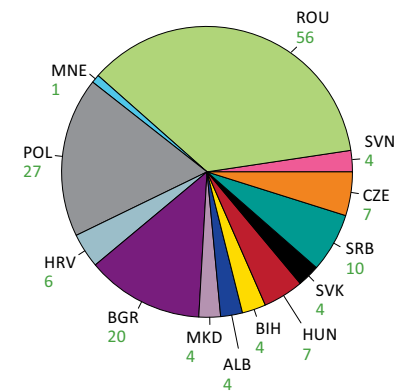
*Notes: Maternal mortality ratio (MMR): Number of women dying of pregnancy-related causes for every 100,000 live births. Neonatal mortality rate: Probability of death between birth and the 27th day of life (per 1,000 live births). Postneonatal mortality rate: Probability of death between age 1 month and 1 year (per 1,000 1-month-olds). Under-5 mortality rate: Probability of death between birth and age 5 (per 1,000 live births). * No data available.*
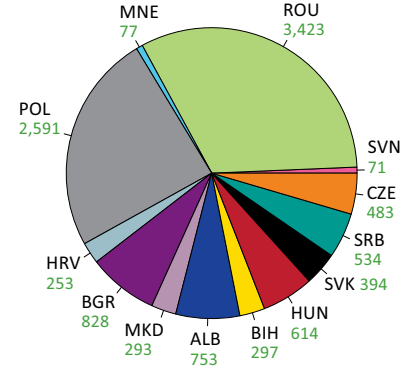
Latin America, Central: Maternal and child mortality trends

- Honduras, Nicaragua, and Guatemala had substantially higher MMRs in 2008 than their neighbors in the region, with Nicaragua actually experiencing an increase since 1990.

- Mexico represents the largest number of under-5 deaths in the region, but its under-5 mortality rate is below the average for the region. El Salvador has seen the most dramatic decrease in under-5 mortality.

- Costa Rica, El Salvador, Honduras, Mexico, and Nicaragua are all on pace to reduce under-5 mortality enough to meet MDG4. El Salvador is the only country on track to achieve MDG5.

Number of maternal deaths, 2008

MEX 1,057
PAN 31
CRI 19
HND 212
VEN 289
NIC 144
COL 425
SLV 46
GTM 400

Maternal mortality ratio, 2008

Per 100,000 live births
- < 20
- 20 to 40
- 40 to 50
- 50 to 60
- 60 to 100
- > 100

Number of under-5 deaths, 2008

MEX 37,941
PAN 1,354
CRI 746
HND 5,140
VEN 10,316
NIC 4,122
COL 15,964
SLV 2,742
GTM 16,118

Under-5 mortality rate, 2008

Per 1,000 live births
- < 10
- 10 to 18
- 18 to 22
- 22 to 30
- > 30
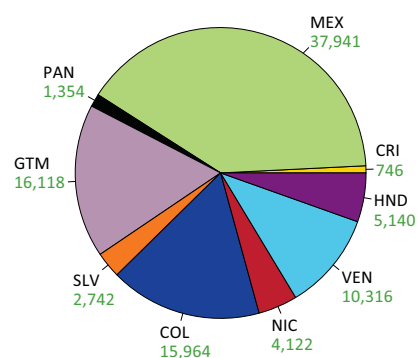
Country abbreviations

COL	Colombia
CRI	Costa Rica
GTM	Guatemala
HND	Honduras
MEX	Mexico
NIC	Nicaragua
PAN	Panama
SLV	El Salvador
VEN	Venezuela

COUNTRY	Maternal			Neonatal			Postneonatal			Under-5		
	Mortality ratio, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline
Colombia	46	2.4	86	9	2.6	103	6	4.5	63	17	3.7	85
Costa Rica	25	1.3	119	6	3.6	69	3	5.1	40	10	4.4	55
El Salvador	37	7.2	6	10	4.4	34	9	6.0	22	21	5.6	16
Guatemala	88	3.9	47	11	4.0	50	18	3.8	89	35	4.3	57
Honduras	105	2.4	84	12	3.3	82	8	5.0	43	25	4.5	50
Mexico	52	1.9	98	7	3.8	59	9	4.8	48	18	4.7	46
Nicaragua	103	-0.1	152	12	3.4	77	12	4.7	54	29	4.4	54
Panama	44	1.8	102	9	1.7	141	7	2.2	144	19	2.1	145
Venezuela	48	1.7	105	10	2.4	115	6	3.6	97	17	3.0	117
Regional	57	2.3	8	9	3.3	6	9	4.5	5	20	4.2	6
Global	251	1.3	–	24	2.1	–	17	2.3	–	55	2.1	–
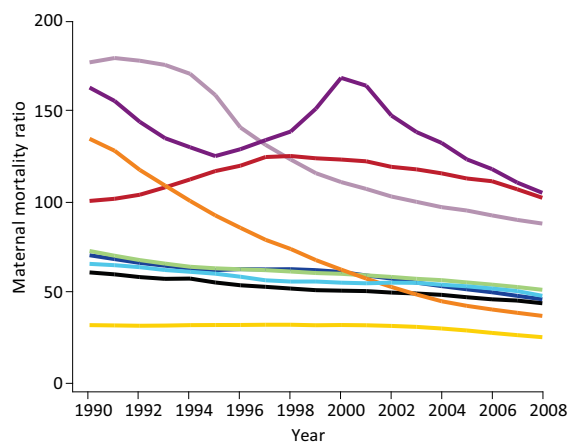
Maternal mortality ratio, 1990-2008

Under-5 mortality rate, 1990-2008 (forecasted to 2010)

Legend: COL, CRI, GTM, HND, MEX, NIC, PAN, SLV, VEN

Notes: Maternal mortality ratio (MMR): Number of women dying of pregnancy-related causes for every 100,000 live births. Neonatal mortality rate: Probability of death between birth and the 27th day of life (per 1,000 live births). Postneonatal mortality rate: Probability of death between age 1 month and 1 year (per 1,000 1-month-olds). Under-5 mortality rate: Probability of death between birth and age 5 (per 1,000 live births).
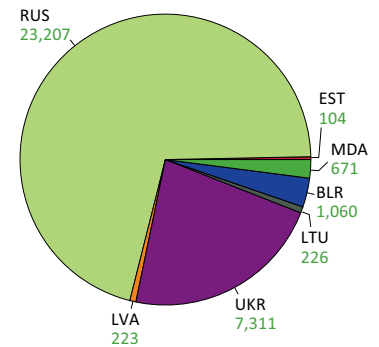
North Africa/Middle East: Maternal and child mortality trends

- This region experienced substantial progress over the past two decades in reducing the MMR. The slowest decline is in Iraq at 2.7% per year. Egypt has seen the most dramatic improvement, with an annual 8.4% decline.

- The United Arab Emirates saw the region's most dramatic decrease in under-5 mortality, with an 8.4% annual decline. Kuwait and Qatar had the slowest yearly decrease at 2% each.

- More than half of the countries are on pace to reduce under-5 mortality enough to meet MDG4, and two-thirds are on track to meet the maternal mortality targets for MDG5.

Number of maternal deaths, 2008

YEM 2,273 · QAT 2 · EGY 868 · BHR 5 · PSE 67 · SYR 294 · TUN 59 · SAU 165 · JOR 55 · DZA 472 · LBY 58 · MAR 802 · LBN 16 · IRQ 1,232 · OMN 15 · TUR 781 · KWT 13 · IRN 386 · ARE 5

Maternal mortality ratio, 2008

Per 100,000 live births
- < 10
- 10 to 20
- 20 to 30
- 30 to 40
- 40 to 50
- 50 to 100
- 100 to 200
- > 200

Number of under-5 deaths, 2008

YEM 56,160 · QAT 164 · EGY 57,455 · BHR 118 · PSE 3,486 · SYR 7,438 · TUN 2,838 · SAU 9,733 · JOR 2,487 · DZA 15,812 · LBY 2,153 · MAR 23,392 · LBN 741 · IRQ 31,758 · OMN 656 · TUR 43,586 · KWT 468 · IRN 48,304 · ARE 226

Under-5 mortality rate, 2008

Per 1,000 live births
- < 5
- 5 to 10
- 10 to 15
- 15 to 20
- 20 to 30
- 30 to 40
- > 40
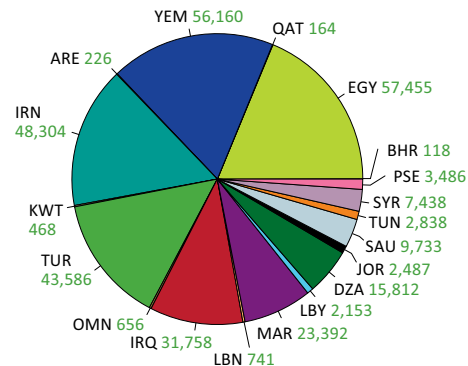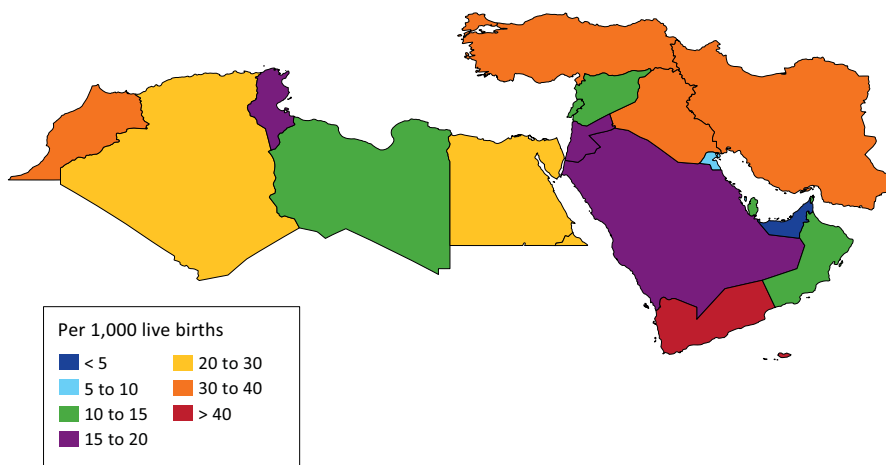
Country abbreviations

ARE	United Arab Emirates
BHR	Bahrain
DZA	Algeria
EGY	Egypt
IRN	Iran
IRQ	Iraq
JOR	Jordan
KWT	Kuwait
LBN	Lebanon
LBY	Libya
MAR	Morocco
OMN	Oman
PSE	Occupied Palestinian Territory
QAT	Qatar
SAU	Saudi Arabia
SYR	Syria
TUN	Tunisia
TUR	Turkey
YEM	Yemen

COUNTRY	Maternal			Neonatal			Postneonatal			Under-5		
	Mortality ratio, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline
Algeria	66	5.8	22	13	3.6	67	6	5.8	25	22	4.9	37
Bahrain	36	5.0	25	5	4.3	40	2	4.8	51	8	4.6	48
Egypt	43	8.4	2	16	4.1	49	9	7.2	10	28	6.2	9
Iran	28	4.6	32	18	2.6	105	11	4.3	72	34	3.6	92
Iraq	130	2.7	80	18	2.3	121	11	3.7	94	33	3.1	112
Jordan	35	6.1	20	10	3.1	85	4	5.5	33	16	4.2	62
Kuwait	26	3.4	58	6	1.6	147	2	2.5	137	9	2.0	149
Lebanon	24	6.5	13	8	4.6	30	3	7.2	11	11	5.8	13
Libya	40	6.4	14	9	4.1	45	4	6.5	19	14	5.3	26
Morocco	124	6.3	16	20	2.9	93	10	5.1	39	35	4.3	58
Occupied Palestinian Territory	46	3.9	46	14	2.4	111	7	3.9	84	23	3.2	105
Oman	24	7.0	9	7	5.4	16	3	8.7	3	11	7.0	5
Qatar	14	6.8	11	7	1.7	145	3	2.6	134	11	2.0	147
Saudi Arabia	28	6.7	12	10	2.6	104	5	4.1	77	16	3.3	98
Syria	50	6.4	15	8	4.1	46	3	6.4	20	12	5.2	27
Tunisia	36	7.6	5	10	4.1	48	5	6.7	15	17	5.7	14
Turkey	58	4.2	37	17	3.1	88	11	5.6	30	32	4.5	52
United Arab Emirates	9	7.1	7	3	7.1	3	1	10.8	1	4	8.4	2
Yemen	269	4.3	35	30	2.5	108	23	4.1	75	65	3.8	83
Regional	76	4.9	2	16	3.1	8	10	5.2	2	30	4.5	4
Global	251	1.3	–	24	2.1	–	17	2.3	–	55	2.1	–
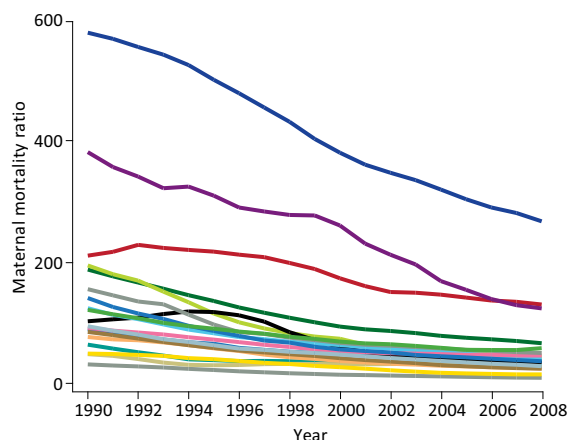
Maternal mortality ratio, 1990-2008

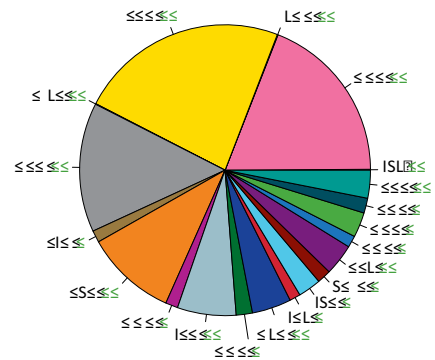## Under-5 mortality rate, 1990-2008 (forecasted to 2010)

Notes: Maternal mortality ratio (MMR): Number of women dying of pregnancy-related causes for every 100,000 live births. Neonatal mortality rate: Probability of death between birth and the 27th day of life (per 1,000 live births). Postneonatal mortality rate: Probability of death between age 1 month and 1 year (per 1,000 1-month-olds). Under-5 mortality rate: Probability of death between birth and age 5 (per 1,000 live births).
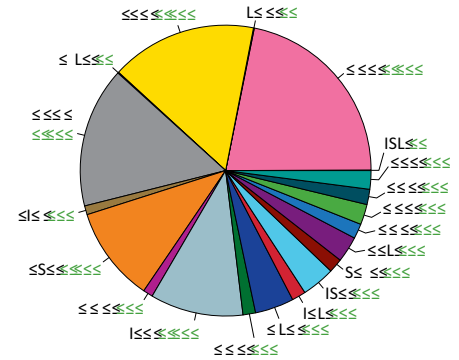
Oceania: Maternal and child mortality trends

- There is enormous variation across countries in their MMRs. However, all countries in the region have seen similar annual progress in reducing their MMRs, with the steepest decline in Vanuatu at 3.5% annually and the slowest in Papua New Guinea at 2.3%.

- Papua New Guinea has the region's highest under-5 mortality rate, and Samoa and Tonga have the lowest.

- Vanuatu will fall just short of meeting MDG4 for under-5 mortality, and it will also miss the MDG5 target for maternal mortality, although it has the strongest pace of decline in the region for both child and maternal mortality.

Number of maternal deaths, 2008

PNG 645
FSM 4
SLB 44
WSM 4
FJI 15
VUT 13
TON 3

Maternal mortality ratio, 2008

FSM

MHL

Per 100,000 live births
- < 100
- 100 to 110
- 110 to 150
- 150 to 200
- 200 to 300
- > 300

Number of under-5 deaths, 2008

PNG 17,552
FSM 79
SLB 492
WSM 86
FJI 492
VUT 178
TON 57

Under-5 mortality rate, 2008

FSM

MHL

Per 1,000 live births
- < 20
- 20 to 25
- 25 to 30
- 30 to 40
- 40 to 80
- > 80
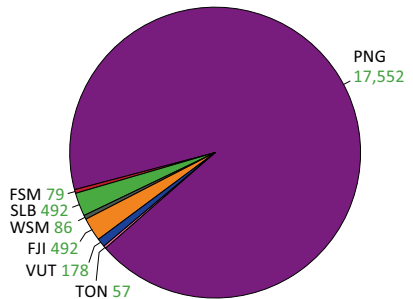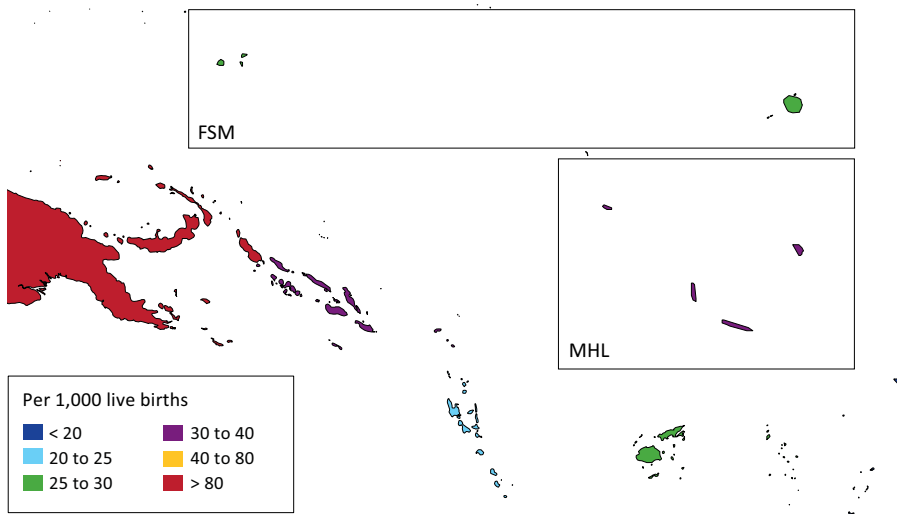
Country abbreviations

FJI	Fiji
FSM	Micronesia, Federated States of
KIR	Kiribati
MHL	Marshall Islands
PNG	Papua New Guinea
SLB	Solomon Islands
TON	Tonga
VUT	Vanuatu
WSM	Samoa

COUNTRY	Maternal			Neonatal			Postneonatal			Under-5		
	Mortality ratio, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline
Fiji	85	2.5	83	15	1.2	162	9	1.5	165	27	1.4	166
Kiribati	*	*	*	25	2.1	129	17	2.7	127	49	2.4	136
Marshall Islands	*	*	*	21	1.3	159	13	1.7	159	39	1.5	163
Micronesia, Federated States of	127	3.2	66	15	3.5	74	9	4.3	66	28	3.9	72
Papua New Guinea	312	2.3	88	40	0.8	174	31	1.1	173	85	0.9	176
Samoa	104	2.8	76	11	2.0	133	6	2.5	136	20	2.2	141
Solomon Islands	284	3.2	67	17	1.0	166	11	1.2	170	31	1.1	171
Tonga	113	2.9	73	11	1.3	160	6	1.6	163	20	1.4	165
Vanuatu	178	3.5	57	14	3.7	65	8	4.6	60	25	4.2	64
Regional	279	2.2	10	35	0.7	17	27	0.9	17	73	0.8	17
Global	251	1.3	–	24	2.1	–	17	2.3	–	55	2.1	–
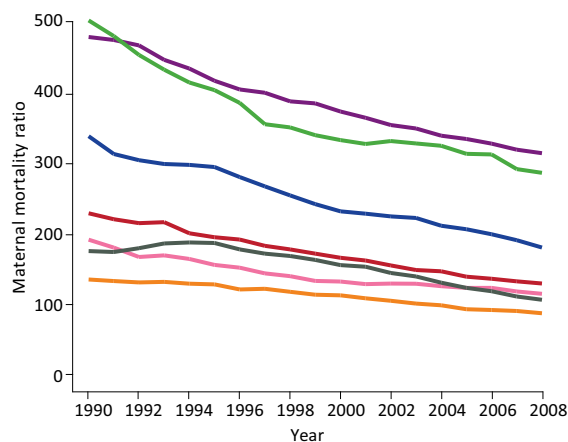
Maternal mortality ratio, 1990-2008

Under-5 mortality rate, 1990-2008 (forecasted to 2010)

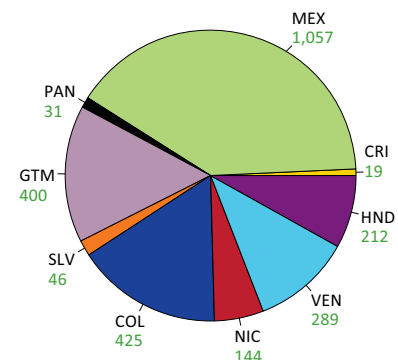Legend: FJI, FSM, KIR, MHL, PNG, SLB, TON, VUT, WSM

*Notes: Maternal mortality ratio (MMR): Number of women dying of pregnancy-related causes for every 100,000 live births. Neonatal mortality rate: Probability of death between birth and the 27th day of life (per 1,000 live births). Postneonatal mortality rate: Probability of death between age 1 month and 1 year (per 1,000 1-month-olds). Under-5 mortality rate: Probability of death between birth and age 5 (per 1,000 live births). * No data available.*

South America: Maternal and child mortality trends

- Bolivia and Ecuador are top performers on maternal mortality in the region, substantially reducing their MMRs from relatively high levels seen in the early 1990s. Chile also made substantial progress and has the region's lowest MMR. Bolivia has the region's highest MMR.

- South America is ranked third globally for decline in under-5 mortality, with an annualized rate of decline of more than 4.7%.

- Peru experienced the region's most dramatic improvement in under-5 mortality and is on track to achieve MDG4, along with Brazil and Chile. No countries are on pace to achieve MDG5 for maternal mortality reductions.

Number of maternal deaths, 2008

BRA 1,694
URY 12
ARG 337
ECU 216
BOL 473
PRY 174
PER 495
CHL 53

Maternal mortality ratio, 2008

Per 100,000 live births
- < 25
- 25 to 50
- 50 to 70
- 70 to 100
- 100 to 150
- > 150

Number of under-5 deaths, 2008

BRA 68,996
URY 630
ARG 9,602
ECU 6,750
BOL 13,177
PRY 3,488
PER 16,975
CHL 1,864

Under-5 mortality rate, 2008

Per 1,000 live births
- < 10
- 10 to 15
- 15 to 25
- 25 to 30
- > 30
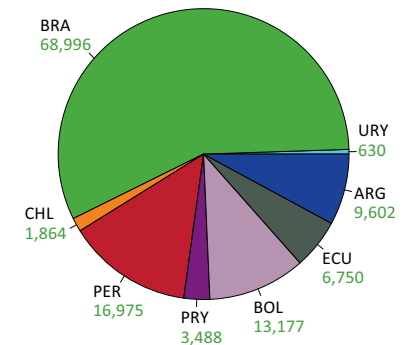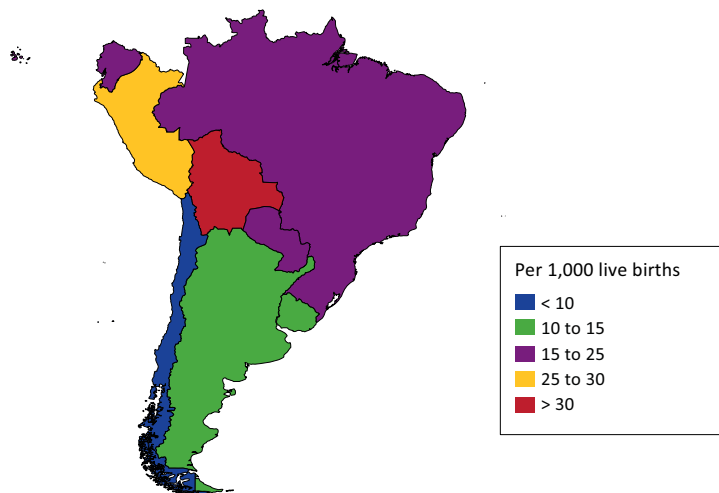
Country abbreviations

ARG	Argentina
BOL	Bolivia
BRA	Brazil
CHL	Chile
ECU	Ecuador
PER	Peru
PRY	Paraguay
URY	Uruguay

COUNTRY	Maternal			Neonatal			Postneonatal			Under-5		
	Mortality ratio, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline
Argentina	49	1.1	125	9	3.2	83	4	5.2	38	14	3.9	74
Bolivia	180	5.0	27	20	3.2	84	18	4.1	74	49	4.1	66
Brazil	55	3.9	45	11	3.8	56	9	5.4	36	22	4.9	39
Chile	21	4.1	42	4	4.3	39	2	6.3	21	7	5.1	32
Ecuador	77	4.7	29	7	4.2	41	12	3.8	88	23	4.3	61
Paraguay	113	1.4	117	11	2.4	112	8	3.0	115	22	2.9	120
Peru	81	4.2	39	12	4.2	42	9	5.8	27	27	5.5	24
Uruguay	25	1.6	111	7	3.1	87	5	3.6	98	12	3.3	101
Regional	64	3.7	4	11	3.7	5	9	5.2	3	22	4.7	3
Global	251	1.3	–	24	2.1	–	17	2.3	–	55	2.1	–
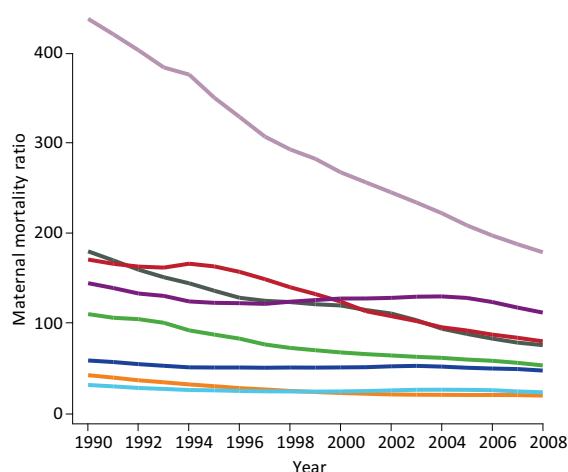
Maternal mortality ratio, 1990-2008

Under-5 mortality rate, 1990-2008 (forecasted to 2010)

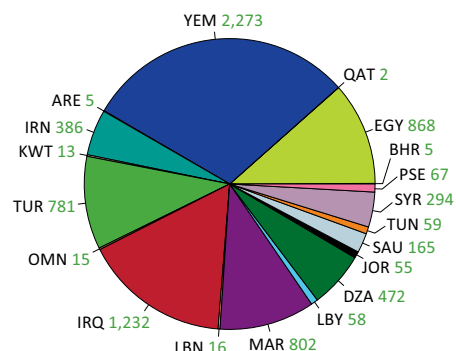Legend: ARG, BOL, BRA, CHL, ECU, PER, PRY, URY

Notes: Maternal mortality ratio (MMR): Number of women dying of pregnancy-related causes for every 100,000 live births. Neonatal mortality rate: Probability of death between birth and the 27th day of life (per 1,000 live births). Postneonatal mortality rate: Probability of death between age 1 month and 1 year (per 1,000 1-month-olds). Under-5 mortality rate: Probability of death between birth and age 5 (per 1,000 live births).
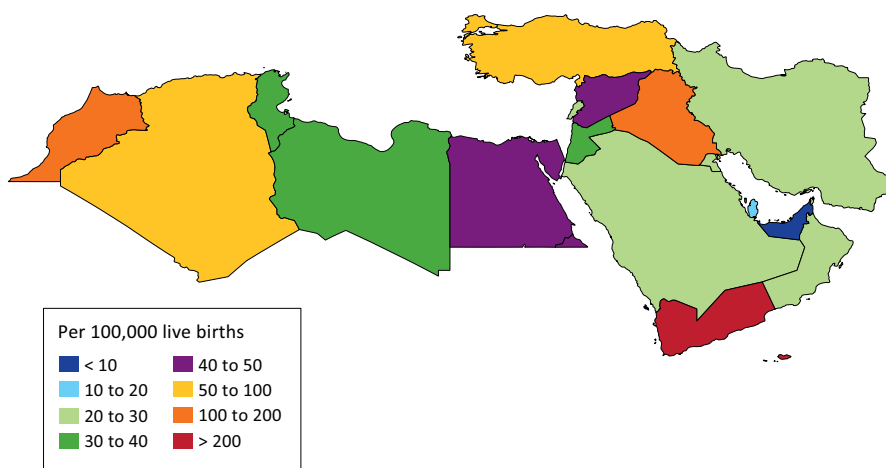
Sub-Saharan Africa, Central: Maternal and child mortality trends

- No country in the region shows continuous progress in reducing maternal mortality between 1990 and 2008, likely reflecting the impact of HIV and civil conflict. Equatorial Guinea had the greatest annual declines in its MMR – more than 5% – while Gabon's MMR increased slightly.

- Equatorial Guinea saw an annual increase in under-5 mortality of 0.1%, while the regional average for annual under-5 mortality declines is 1.8%.

- Angola has experienced the strongest pace of improvement in its under-5 mortality rate among its neighbors, but no country in this region is on pace to meet MDG4 or MDG5.

Number of maternal deaths, 2008

COD 15,399
GAB 195
CAF 2,418
COG 771
AGO 4,584
GNQ 76

Maternal mortality ratio, 2008

Per 100,000 live births
- < 400
- 400 to 500
- 500 to 600
- 600 to 1000
- > 1000

Number of under-5 deaths, 2008

COD 388,215
GAB 2,846
CAF 21,847
COG 13,485
AGO 112,018
GNQ 4,407

Under-5 mortality rate, 2008

Per 1,000 live births
- < 100
- 100 to 120
- 120 to 140
- 140 to 160
- > 160
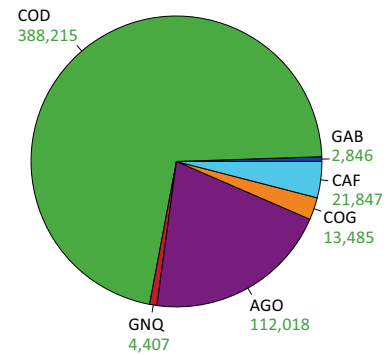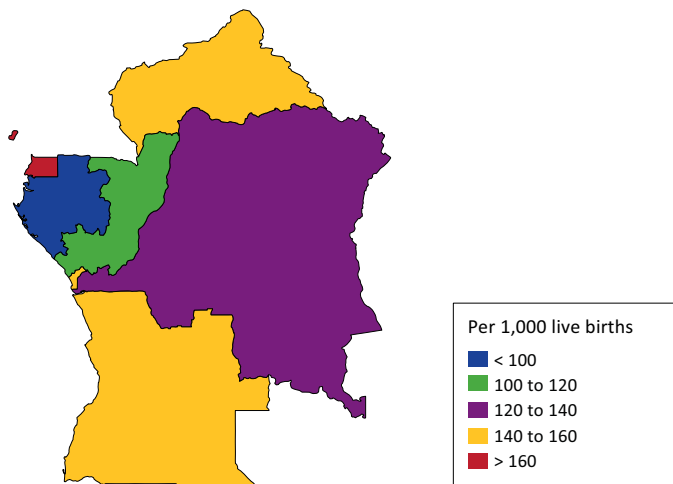
Country abbreviations

AGO   Angola
CAF   Central African Republic
COD   Congo, Democratic Republic of the
COG   Congo
GAB   Gabon
GNQ   Equatorial Guinea

COUNTRY	Maternal			Neonatal			Postneonatal			Under-5		
	Mortality ratio, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline
Angola	593	3.7	52	39	1.7	144	50	2.9	120	143	2.8	125
Central African Republic	1,570	0.6	138	42	0.6	178	51	0.9	177	141	0.8	177
Congo	617	0.0	150	30	0.1	182	38	0.0	183	108	0.1	182
Congo, Democratic Republic of the	534	0.2	146	33	1.0	165	48	1.7	156	135	1.7	158
Equatorial Guinea	302	5.2	24	44	-0.1	184	64	-0.1	184	180	-0.1	184
Gabon	493	-0.9	161	26	1.0	169	22	1.7	157	71	1.5	161
Regional	586	1.2	15	34	1.2	16	48	1.9	15	135	1.8	15
Global	251	1.3	–	24	2.1	–	17	2.3	–	55	2.1	–
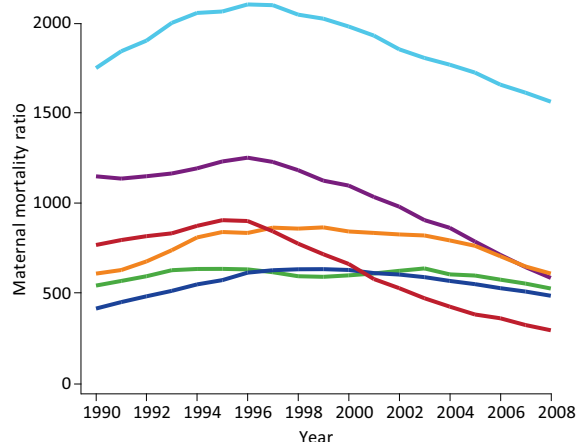
Maternal mortality ratio, 1990-2008

Under-5 mortality rate, 1990-2008 (forecasted to 2010)

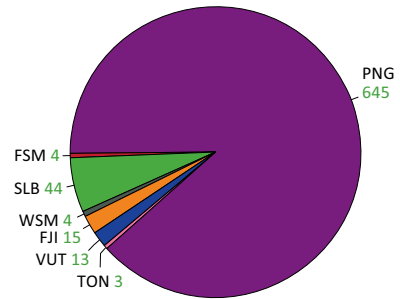*Notes: Maternal mortality ratio (MMR): Number of women dying of pregnancy-related causes for every 100,000 live births. Neonatal mortality rate: Probability of death between birth and the 27th day of life (per 1,000 live births). Postneonatal mortality rate: Probability of death between age 1 month and 1 year (per 1,000 1-month-olds). Under-5 mortality rate: Probability of death between birth and age 5 (per 1,000 live births).*
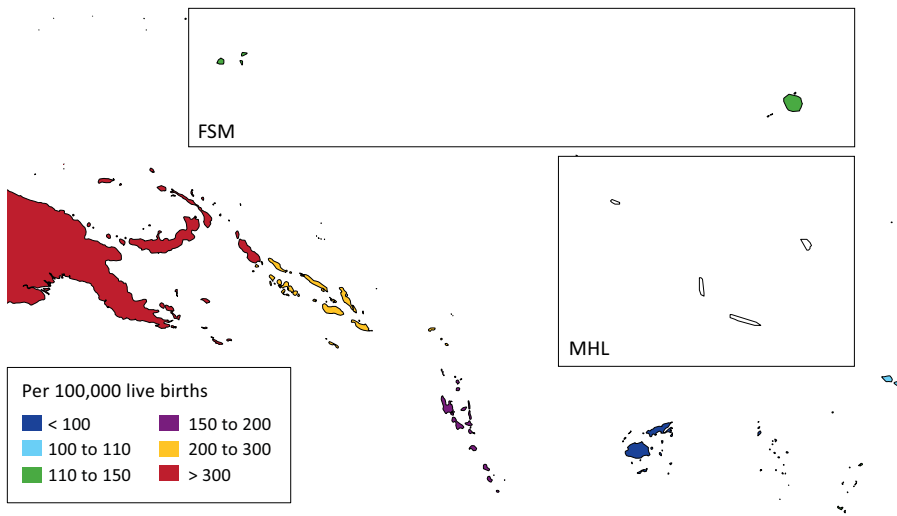
Sub-Saharan Africa, East: Maternal and child mortality trends

- MMRs in this region are among the highest in the world. There have been troubling increases in the MMRs in Malawi, Mozambique, and Zambia. Some countries, such as Comoros, Rwanda, and Sudan, have seen more encouraging declines in their MMRs since 1990.

- Every country in this region has seen an annual decrease in under-5 mortality of at least 1%.

- Madagascar and Malawi have each made significant strides in reducing under-5 mortality by more than 4% annually, but they will fall just short of meeting MDG4. No countries are on track to achieve MDG5.

Number of maternal deaths, 2008

Country	Deaths
DJI	112
ETH	18,240
COM	48
MWI	6,825
ZMB	3,270
MDG	2,564
MOZ	5,248
SOM	2,667
SDN	3,969
RWA	1,545
KEN	6,227
BDI	1,581
UGA	5,163
ERI	1,367
TZA	7,954

Maternal mortality ratio, 2008

Per 100,000 live births
- < 300
- 300 to 350
- 350 to 400
- 400 to 500
- 500 to 600
- 600 to 800
- > 800

COM

Number of under-5 deaths, 2008

Country	Deaths
DJI	1,722
ETH	330,480
COM	1,415
MWI	60,901
ZMB	64,220
MDG	52,161
MOZ	119,186
SOM	46,399
SDN	122,692
RWA	42,263
KEN	127,780
BDI	36,543
UGA	173,145
ERI	14,945
TZA	174,015

Under-5 mortality rate, 2008

Per 1,000 live births
- < 70
- 70 to 80
- 80 to 90
- 90 to 100
- 100 to 110
- 110 to 130
- > 130

COM
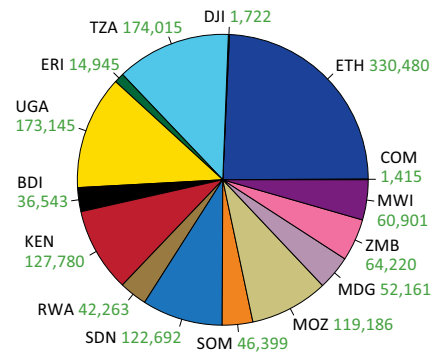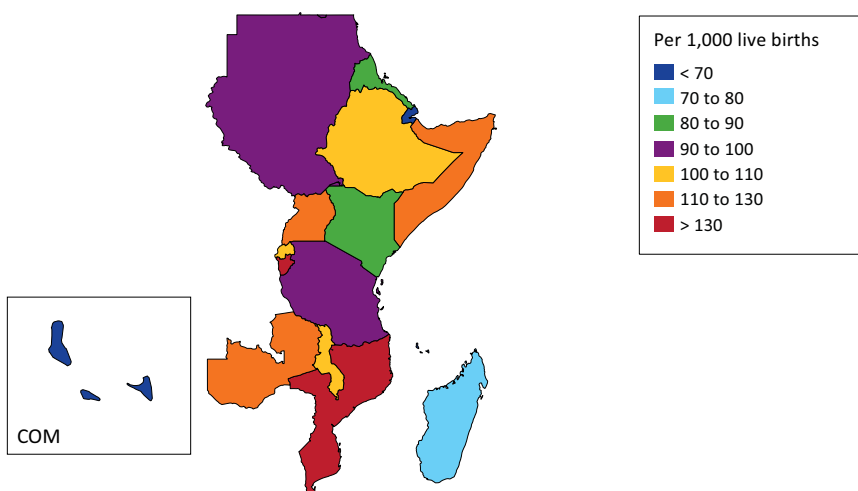
Country abbreviations

BDI	Burundi
COM	Comoros
DJI	Djibouti
ERI	Eritrea
ETH	Ethiopia
KEN	Kenya
MDG	Madagascar
MOZ	Mozambique
MWI	Malawi
RWA	Rwanda
SDN	Sudan
SOM	Somalia
TZA	Tanzania
UGA	Uganda
ZMB	Zambia

COUNTRY	Maternal			Neonatal			Postneonatal			Under-5		
	Mortality ratio, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline
Burundi	570	1.2	122	32	1.0	170	37	1.3	168	134	1.5	162
Comoros	225	3.8	48	31	2.4	113	22	3.3	109	65	3.2	109
Djibouti	462	1.5	115	23	1.8	139	24	2.4	138	70	2.5	133
Eritrea	751	3.1	69	23	2.1	128	23	2.7	129	82	3.1	115
Ethiopia	590	2.8	79	36	2.6	101	35	3.4	103	106	3.6	94
Kenya	413	0.5	141	27	0.7	177	32	1.0	175	85	1.1	174
Madagascar	373	1.5	116	23	2.7	98	27	3.9	81	75	4.2	65
Malawi	1,140	-2.3	172	28	3.1	86	37	3.6	99	101	4.1	68
Mozambique	599	-2.4	173	39	2.3	119	58	2.7	128	135	2.9	122
Rwanda	383	4.2	40	33	1.8	138	32	2.4	139	106	2.6	131
Somalia	675	2.0	96	34	1.5	151	39	2.1	149	117	2.2	142
Sudan	306	3.7	54	31	0.8	173	25	1.2	171	94	1.3	169
Tanzania	449	1.7	108	29	1.7	146	38	2.2	143	100	2.4	137
Uganda	352	2.7	81	33	1.4	154	42	1.7	158	120	1.9	153
Zambia	603	-0.1	151	29	1.4	155	41	1.8	154	119	2.0	146
Regional	508	1.7	14	31	1.9	14	36	2.4	13	104	2.6	14
Global	251	1.3	–	24	2.1	–	17	2.3	–	55	2.1	–
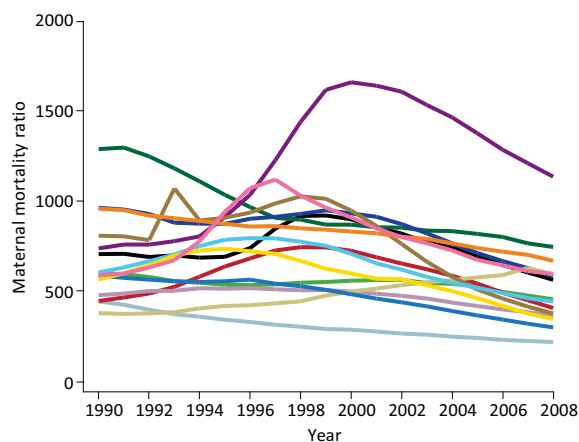
Maternal mortality ratio, 1990-2008

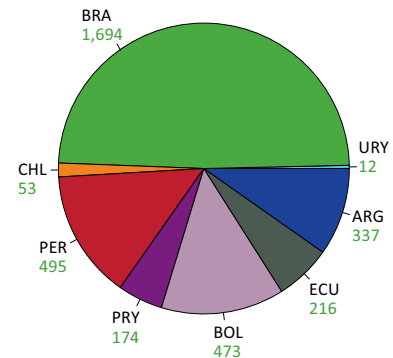**Under-5 mortality rate, 1990-2008 (forecasted to 2010)**

Notes: Maternal mortality ratio (MMR): Number of women dying of pregnancy-related causes for every 100,000 live births. Neonatal mortality rate: Probability of death between birth and the 27th day of life (per 1,000 live births). Postneonatal mortality rate: Probability of death between age 1 month and 1 year (per 1,000 1-month-olds). Under-5 mortality rate: Probability of death between birth and age 5 (per 1,000 live births).

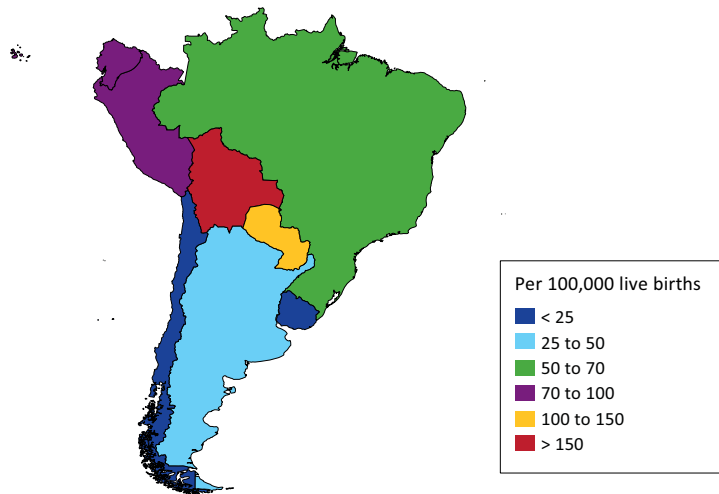# Sub-Saharan Africa, South: Maternal and child mortality trends

- The effect of the region's HIV epidemic on maternal mortality is evident, with all countries experiencing an MMR increase. The most significant annual increase is in Zimbabwe at 5.5%. South Africa had the lowest MMR in the region, while Lesotho had the highest – four times South Africa's MMR in 2008.

- This region is ranked last globally for its rate of decline in both maternal and under-5 mortality. However, Namibia is one bright spot in under-5 mortality, with an annual decline of 1.3%. Both Lesotho and Swaziland saw increases in under-5 mortality.

- No country is on track to achieve MDG4 or MDG5.

Number of maternal deaths, 2008

Maternal mortality ratio, 2008

Per 100,000 live births
- < 300
- 300 to 600
- 600 to 700
- 700 to 800
- > 800

Number of under-5 deaths, 2008

Under-5 mortality rate, 2008

Per 1,000 live births
- < 60
- 60 to 100
- > 100
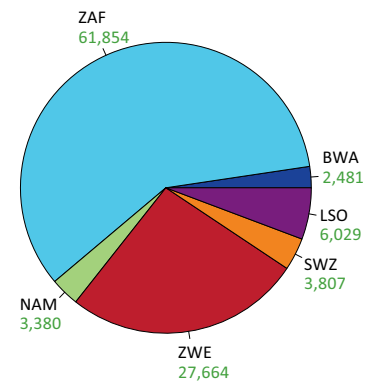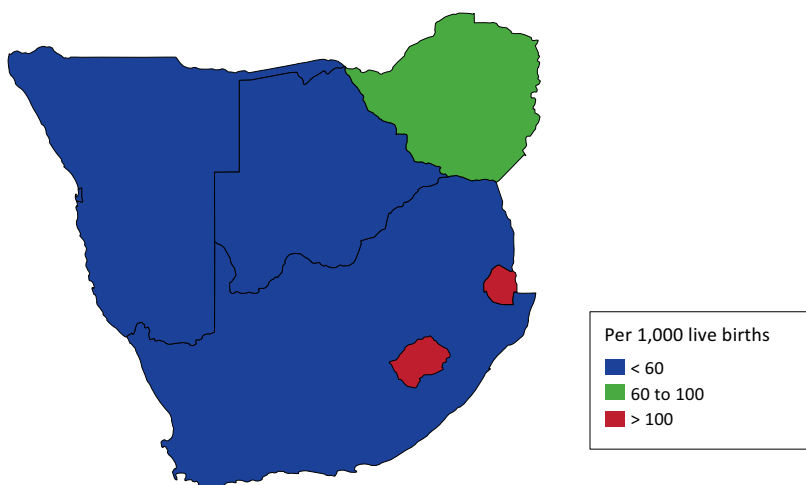
Country abbreviations

BWA   Botswana
LSO   Lesotho
NAM   Namibia
SWZ   Swaziland
ZAF   South Africa
ZWE   Zimbabwe

COUNTRY	Maternal			Neonatal			Postneonatal			Under-5		
	Mortality ratio, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline
Botswana	519	-4.4	178	20	0.2	180	17	0.4	180	52	0.3	180
Lesotho	964	-5.4	179	40	-0.2	186	38	-0.4	186	100	-0.3	186
Namibia	586	-2.8	175	23	0.7	176	17	1.6	161	57	1.3	168
South Africa	237	-3.7	176	17	0.1	181	25	0.2	181	56	0.2	181
Swaziland	736	-4.0	177	24	-1.2	187	46	-2.3	187	107	-2.1	187
Zimbabwe	624	-5.5	180	23	0.0	183	25	0.1	182	73	0.0	183
Regional	381	-4.4	18	20	0.1	18	26	0.1	18	62	0.1	18
Global	251	1.3	–	24	2.1	–	17	2.3	–	55	2.1	–
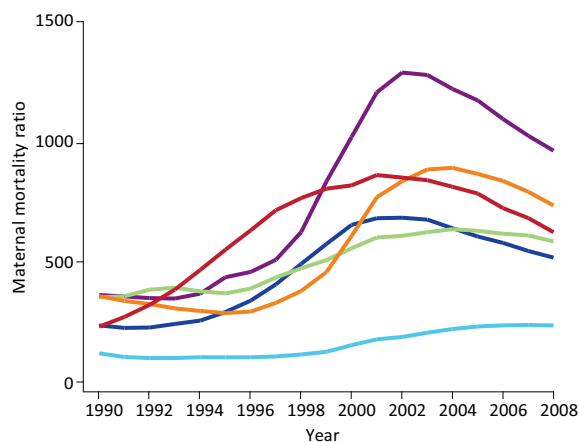
Maternal mortality ratio, 1990-2008

Under-5 mortality rate, 1990-2008 (forecasted to 2010)

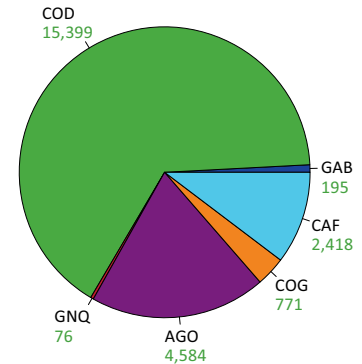Notes: Maternal mortality ratio (MMR): Number of women dying of pregnancy-related causes for every 100,000 live births. Neonatal mortality rate: Probability of death between birth and the 27th day of life (per 1,000 live births). Postneonatal mortality rate: Probability of death between age 1 month and 1 year (per 1,000 1-month-olds). Under-5 mortality rate: Probability of death between birth and age 5 (per 1,000 live births).
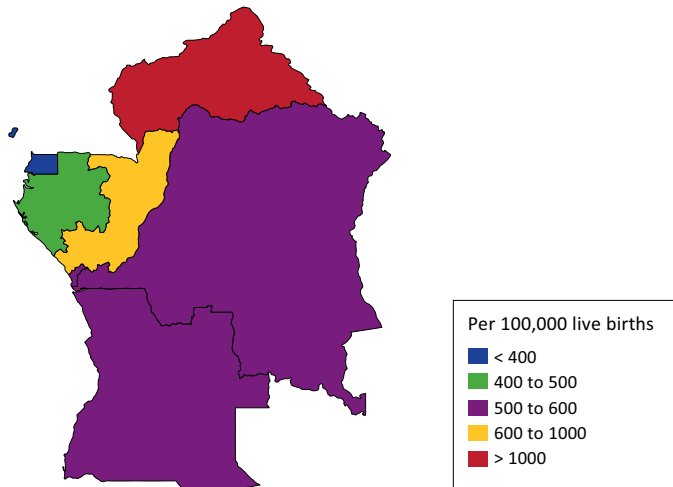
Sub-Saharan Africa, West: Maternal and child mortality trends

- MMRs in this region are among the world's highest. Chad and Sierra Leone had 2008 MMRs of more than 1,000 deaths per 100,000 live births. Côte d'Ivoire, Cameroon, Liberia, and Nigeria have experienced substantial increases in their MMRs since 1990. Cape Verde has dramatically lower maternal mortality than its neighbors, with Gambia, Mauritania, and Sao Tome and Principe making solid progress.

- Every country saw an annual decline of at least 1% in under-5 mortality.

- Liberia experienced the most dramatic decline in under-5 mortality and is the only country on pace to meet MDG4. Cape Verde is the only country on pace to achieve MDG5.

Number of maternal deaths, 2008

NGA 36,666
CPV 9
STP 15
NER 4,749
SEN 1,884
GMB 172
GIN 3,372
BFA 2,396
BEN 1,602
MRT 769
GHA 3,096
MLI 3,632
SLE 2,305
GNB 523
CIV 6,815
TCD 5,309
LBR 1,249
TGO 951
CMR 4,963

Maternal mortality ratio, 2008

Per 100,000 live births

- < 100
- 100 to 300
- 300 to 400
- 400 to 500
- 500 to 700
- 700 to 800
- 800 to 1000
- > 1000

CPV

STP

Under-5 mortality rate, 2008

Per 1,000 live births

- < 40
- 40 to 80
- 80 to 100
- 100 to 120
- 120 to 150
- 150 to 170
- > 170

CPV

STP

Number of under-5 deaths, 2008

NGA 956,539
STP 321
CPV 432
SEN 43,868
NER 128,958
GIN 54,971
GMB 5,300
BEN 36,215
BFA 97,540
GHA 61,669
MRT 9,627
SLE 33,074
MLI 91,219
CIV 80,697
GNB 10,668
TGO 20,521
TCD 84,900
CMR 82,573
LBR 15,042

Country abbreviations

BEN	Benin
BFA	Burkina Faso
CIV	Côte d'Ivoire
CMR	Cameroon
CPV	Cape Verde
GHA	Ghana
GIN	Guinea
GMB	Gambia
GNB	Guinea-Bissau
LBR	Liberia
MLI	Mali
MRT	Mauritania
NER	Niger
NGA	Nigeria
SEN	Senegal
SLE	Sierra Leone
STP	Sao Tome and Principe
TCD	Chad
TGO	Togo

COUNTRY	Maternal			Neonatal			Postneonatal			Under-5		
	Mortality ratio, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline	Mortality rate, 2008	Annualized rate of decline (%) 1990-2008	Global rank by rate of decline
Benin	469	1.2	123	31	2.2	125	32	2.8	124	106	2.8	123
Burkina Faso	332	2.1	89	33	1.9	134	40	2.1	148	139	2.2	144
Cameroon	705	-1.6	170	35	1.0	167	35	1.0	174	118	1.1	173
Cape Verde	75	6.2	18	14	2.1	127	10	3.0	117	35	2.9	121
Chad	1,065	-1.0	163	42	1.0	168	55	1.0	176	173	1.1	172
Côte d'Ivoire	944	-2.7	174	38	1.4	156	37	1.6	164	111	1.6	160
Gambia	281	4.5	33	27	2.3	118	25	2.9	119	86	3.0	118
Ghana	409	1.6	110	29	1.7	143	20	2.3	142	81	2.3	140
Guinea	860	0.7	137	40	2.2	124	43	2.6	133	139	2.7	128
Guinea-Bissau	804	1.1	128	45	1.6	149	49	1.9	152	165	1.9	150
Liberia	859	-0.9	162	33	3.9	55	41	4.8	50	103	4.6	47
Mali	670	1.2	124	49	1.9	136	43	2.2	145	169	2.3	139
Mauritania	712	3.3	61	34	0.9	171	24	1.4	167	89	1.3	167
Niger	601	2.1	90	33	2.8	96	45	3.0	118	168	3.2	110
Nigeria	608	-1.4	166	42	0.9	172	41	1.1	172	160	1.1	175
Sao Tome and Principe	296	3.2	65	21	2.4	114	18	3.2	113	62	3.1	111
Senegal	401	1.7	109	30	1.5	152	21	2.6	135	92	2.6	132
Sierra Leone	1,033	0.1	148	41	2.3	116	58	2.7	126	148	2.7	127
Togo	447	1.1	129	31	1.6	148	25	2.2	146	96	2.2	143
Regional	629	-0.4	16	38	1.4	15	39	1.6	16	142	1.6	16
Global	251	1.3	–	24	2.1	–	17	2.3	–	55	2.1	–
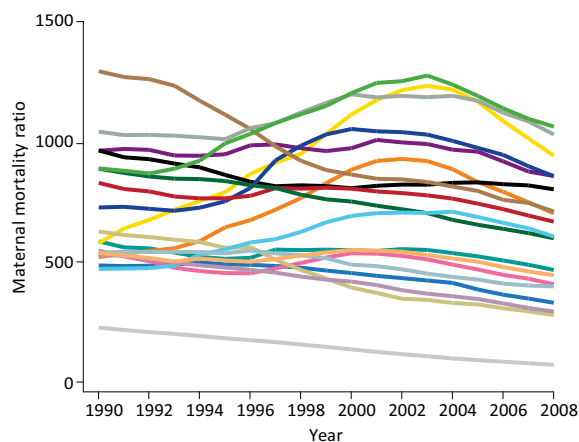
Maternal mortality ratio, 1990-2008

Under-5 mortality rate, 1990-2008 (forecasted to 2010)

Legend: BEN, BFA, CIV, CMR, CPV, GHA, GIN, GMB, GNB, LBR, MLI, MRT, NER, NGA, SEN, SLE, STP, TCD, TGO
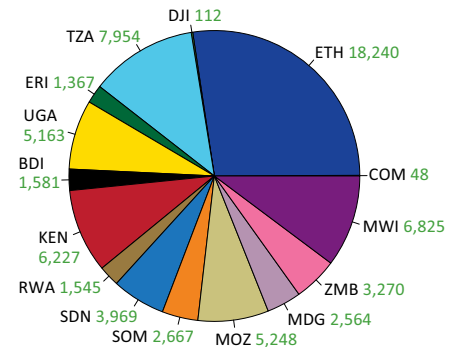
Notes: Maternal mortality ratio (MMR): Number of women dying of pregnancy-related causes for every 100,000 live births. Neonatal mortality rate: Probability of death between birth and the 27th day of life (per 1,000 live births). Postneonatal mortality rate: Probability of death between age 1 month and 1 year (per 1,000 1-month-olds). Under-5 mortality rate: Probability of death between birth and age 5 (per 1,000 live births).
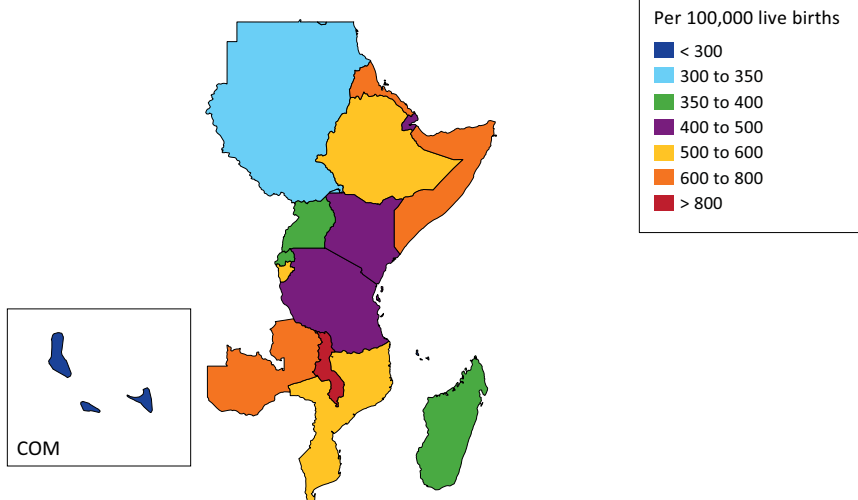
Country data

	Maternal									Neonatal								
	1990		2000		2008		Annualized rate of decline (%) 1990-2008	Global rank by annualized rate of decline		1990		2000		2008		Annualized rate of decline (%) 1990-2008	Global rank by annualized rate of decline	
	Maternal mortality ratio	No. of deaths	Maternal mortality ratio	No. of deaths	Maternal mortality ratio	No. of deaths				Mortality rate	No. of deaths (thousands)	Mortality rate	No. of deaths (thousands)	Mortality rate	No. of deaths (thousands)			
Afghanistan	1,261	8,793	1,957	20,814	1,575	19,982	-1.2	165		70	48.6	63	66.5	58	72.9	1.1	164	
Albania	36	28	12	6	8	4	8.3	4		9	0.7	5	0.3	4	0.2	4.8	26	
Algeria	189	1,520	94	592	66	472	5.8	22		25	20.2	18	11.6	13	9.3	3.6	67	
Andorra	*	*	*	*	*	*	*	*		6	<0.1	4	<0.1	3	<0.1	3.3	81	
Angola	1,156	6,569	1,105	7,703	593	4,584	3.7	52		52	29.7	46	32.2	39	29.9	1.7	144	
Antigua and Barbuda	*	*	*	*	*	*	*	*		11	<0.1	13	<0.1	9	<0.1	0.8	175	
Argentina	60	420	52	360	49	337	1.1	125		15	10.8	12	8.0	9	6.0	3.2	83	
Armenia	36	26	39	16	30	14	1.1	127		23	1.7	17	0.7	12	0.6	3.4	79	
Australia	6	16	5	13	5	14	1.3	121		6	1.5	4	0.9	3	0.8	3.8	57	
Austria	8	7	5	4	6	4	2.1	92		7	0.6	4	0.3	2	0.2	5.4	15	
Azerbaijan	39	75	50	70	37	62	0.2	144		30	5.9	24	3.4	19	3.1	2.7	100	
Bahamas	80	5	66	4	59	3	1.7	106		20	0.1	11	<0.1	11	<0.1	3.4	78	
Bahrain	89	13	49	6	36	5	5.0	25		11	0.2	7	<0.1	5	<0.1	4.3	40	
Bangladesh	724	29,014	574	21,923	338	11,603	4.2	36		65	258.8	45	171.8	33	114.3	3.7	66	
Barbados	86	3	94	3	78	2	0.5	142		15	<0.1	12	<0.1	7	<0.1	3.9	54	
Belarus	28	40	26	24	19	18	2.0	94		13	1.8	10	0.9	6	0.6	4.2	43	
Belgium	8	10	10	12	9	11	-0.7	159		6	0.7	3	0.4	2	0.3	4.7	27	
Belize	88	6	87	6	74	5	1.0	132		23	0.2	17	0.1	14	0.1	2.9	92	
Benin	588	1,294	551	1,548	469	1,602	1.2	123		45	10.0	37	10.5	31	10.4	2.2	125	
Bhutan	1,145	233	481	75	255	38	8.3	3		64	1.3	44	0.7	32	0.5	3.7	62	
Bolivia	439	1,071	269	703	180	473	5.0	27		36	8.7	24	6.3	20	5.3	3.2	84	
Bosnia and Herzegovina	32	20	20	8	12	4	5.6	23		10	0.6	6	0.2	5	0.2	3.8	58	
Botswana	237	111	655	307	519	245	-4.4	178		21	1.0	22	1.0	20	1.0	0.2	180	
Brazil	112	4,032	69	2,509	55	1,694	3.9	45		22	78.4	14	52.3	11	33.8	3.8	56	
Brunei Darussalam	62	4	44	3	37	3	2.8	78		7	<0.1	5	<0.1	5	<0.1	2.1	130	
Bulgaria	34	34	36	24	28	20	1.1	126		9	0.9	9	0.6	6	0.4	2.5	106	
Burkina Faso	488	2,055	456	2,419	332	2,396	2.1	89		46	19.4	39	20.9	33	23.5	1.9	134	
Burundi	712	1,862	904	2,241	570	1,581	1.2	122		38	9.8	34	8.5	32	8.8	1.0	170	
Cambodia	409	1,736	511	1,841	266	960	2.3	87		42	17.6	38	13.8	26	9.6	2.5	107	
Cameroon	523	2,685	886	5,313	705	4,963	-1.6	170		41	21.3	41	24.3	35	24.4	1.0	167	
Canada	6	22	6	21	7	23	-0.9	160		5	2.1	4	1.4	3	1.1	2.9	91	
Cape Verde	229	31	139	18	75	9	6.2	18		20	0.3	17	0.2	14	0.2	2.1	127	
Central African Republic	1,757	2,131	1,988	2,937	1,570	2,418	0.6	138		47	5.6	45	6.6	42	6.4	0.6	178	
Chad	891	2,585	1,205	4,873	1,065	5,309	-1.0	163		51	14.7	46	18.6	42	21.1	1.0	168	
Chile	44	133	24	61	21	53	4.1	42		9	2.8	6	1.6	4	1.1	4.3	39	
China	87	21,438	55	10,297	40	7,279	4.3	34		25	623.5	20	379.5	10	186.8	5.0	21	
Colombia	71	640	61	560	46	425	2.4	86		15	13.4	12	11.1	9	8.5	2.6	103	
Comoros	450	73	293	54	225	48	3.8	48		47	0.8	37	0.7	31	0.7	2.4	113	
Congo	616	576	850	944	617	771	0.0	150		30	2.8	31	3.5	30	3.7	0.1	182	
Congo, Democratic Republic of the	550	10,415	607	15,365	534	15,399	0.2	146		40	75.3	38	94.9	33	95.5	1.0	165	
Costa Rica	32	27	32	25	25	19	1.3	119		11	0.9	8	0.7	6	0.4	3.6	69	
Côte d'Ivoire	580	3,026	1,116	7,178	944	6,815	-2.7	174		48	25.2	43	27.4	38	27.2	1.4	156	
Croatia	15	8	15	7	14	6	0.2	145		9	0.5	6	0.3	4	0.2	4.3	36	

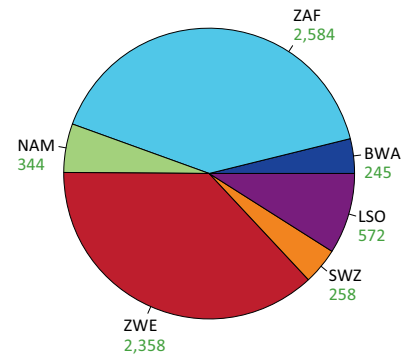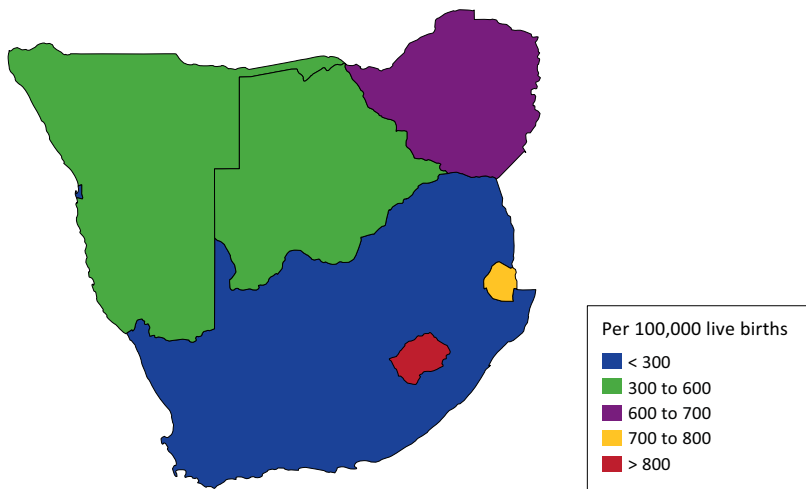*Maternal mortality ratio: the number of women dying of pregnancy-related causes for every 100,000 live births*

Neonatal mortality rate: the probability of death between birth and the 27th day of life (per 1,000 live births)
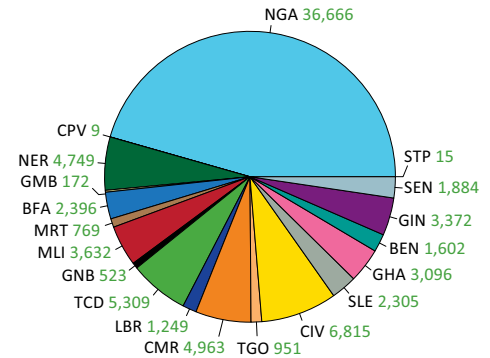
| Postneonatal | | | | | | | | Under-5 | | | | | | | |
| 1990 | | 2000 | | 2008 | | Annualized rate of decline (%) 1990-2008 | Global rank by annualized rate of decline | 1990 | | 2000 | | 2008 | | Annualized rate of decline (%) 1990-2008 | Global rank by annualized rate of decline |
Mortality rate	No. of deaths (thousands)	Mortality rate	No. of deaths (thousands)	Mortality rate	No. of deaths (thousands)			Mortality rate	No. of deaths (thousands)	Mortality rate	No. of deaths (thousands)	Mortality rate	No. of deaths (thousands)		
49	31.2	42	41.4	37	44.0	1.6	162	164	112.0	141	147.8	126	158.0	1.5	164
24	1.9	13	0.7	9	0.4	5.5	32	40	3.2	22	1.2	16	0.8	5.0	33
19	15.0	11	7.1	6	4.7	5.8	25	52	43.5	34	22.2	22	15.8	4.9	37
3	<0.1	2	<0.1	2	<0.1	3.3	107	9	<0.1	7	<0.1	5	<0.1	3.3	100
84	44.8	68	45.6	50	37.9	2.9	120	236	130.6	194	135.1	143	112.0	2.8	125
5	<0.1	7	<0.1	5	<0.1	0.8	178	18	<0.1	23	<0.1	16	<0.1	0.8	178
11	7.3	7	4.6	4	2.9	5.2	38	28	19.7	20	13.7	14	9.6	3.9	74
23	1.7	12	0.5	7	0.3	6.9	13	51	3.9	32	1.4	21	1.0	4.9	36
3	0.8	2	0.5	2	0.4	3.4	105	10	2.5	6	1.6	5	1.4	3.7	89
3	0.3	2	0.2	1	0.1	5.0	42	11	1.0	6	0.5	4	0.3	5.2	28
38	7.2	25	3.5	14	2.3	5.5	31	79	15.2	56	8.3	37	6.3	4.1	67
12	<0.1	6	<0.1	6	<0.1	4.1	78	36	0.2	18	0.1	19	0.1	3.7	88
5	<0.1	3	<0.1	2	<0.1	4.8	51	19	0.3	12	0.2	8	0.1	4.6	48
38	148.9	23	89.6	15	53.3	5.0	41	139	579.9	88	349.4	60	214.5	4.7	45
8	<0.1	7	<0.1	4	<0.1	4.6	61	26	0.1	22	<0.1	12	<0.1	4.2	63
7	1.0	5	0.5	4	0.4	3.2	111	21	3.2	17	1.6	11	1.1	3.8	82
4	0.4	2	0.3	2	0.2	3.7	90	10	1.2	6	0.7	5	0.6	4.3	60
14	0.1	10	<0.1	8	<0.1	3.5	101	44	0.3	31	0.2	25	0.2	3.2	107
53	11.2	42	11.4	32	10.8	2.8	124	176	38.4	137	38.4	106	36.2	2.8	123
43	0.9	25	0.4	16	0.2	5.4	35	145	3.1	88	1.4	60	0.9	4.9	34
38	9.1	23	6.0	18	4.7	4.1	74	104	25.8	62	16.8	49	13.2	4.1	66
7	0.4	4	0.1	3	<0.1	4.6	57	18	1.1	10	0.4	9	0.3	4.0	69
18	0.8	20	0.9	17	0.8	0.4	180	54	2.5	59	2.8	52	2.5	0.3	180
24	86.8	13	48.7	9	28.1	5.4	36	52	194.8	31	114.3	22	69.0	4.9	39
3	<0.1	3	<0.1	2	<0.1	1.6	160	11	<0.1	9	<0.1	8	<0.1	1.9	152
8	0.8	7	0.5	4	0.3	3.0	116	18	1.9	17	1.2	11	0.8	2.7	130
59	23.4	50	25.7	40	28.1	2.1	148	205	84.1	172	91.0	139	97.5	2.2	144
46	11.7	41	9.8	37	9.8	1.3	168	176	45.2	150	38.1	134	36.5	1.5	162
46	18.9	40	15.0	23	8.2	3.8	85	121	51.7	105	41.2	61	22.0	3.8	76
42	20.2	41	23.7	35	23.6	1.0	174	143	71.8	140	83.7	118	82.6	1.1	173
3	1.0	2	0.7	2	0.6	2.6	132	9	3.5	7	2.2	5	1.9	2.8	124
17	0.2	13	0.2	10	0.1	3.0	117	58	0.8	45	0.6	35	0.4	2.9	121
60	6.9	56	7.9	51	7.6	0.9	177	164	19.6	153	22.5	141	21.8	0.8	177
66	17.9	59	22.6	55	26.1	1.0	176	211	59.7	189	73.9	173	84.9	1.1	172
8	2.3	4	1.1	2	0.6	6.3	21	18	5.6	11	2.9	7	1.9	5.1	32
12	278.9	9	181.7	5	92.7	4.6	59	40	976.7	32	613.4	17	307.1	4.8	42
13	11.5	9	8.1	6	5.3	4.5	63	33	30.6	25	22.9	17	16.0	3.7	85
39	0.6	28	0.5	22	0.5	3.3	109	116	1.9	83	1.5	65	1.4	3.2	109
38	3.4	40	4.5	38	4.6	0.0	183	109	10.0	114	13.2	108	13.5	0.1	182
66	117.8	59	143.3	48	135.8	1.7	156	183	332.8	165	407.4	135	388.2	1.7	158
8	0.7	6	0.4	3	0.3	5.1	40	21	1.8	15	1.2	10	0.7	4.4	55
49	24.1	42	26.3	37	25.9	1.6	164	149	76.6	129	82.3	111	80.7	1.6	160
4	0.2	2	<0.1	1	<0.1	5.2	37	13	0.7	9	0.4	6	0.3	4.5	51

Postneonatal mortality rate: the probability of death before age 1 year, conditional on surviving to age 1 month (per 1,000 1-month-olds)

Under-5 mortality rate: the probability of death between birth and age 5 (per 1,000 live births)

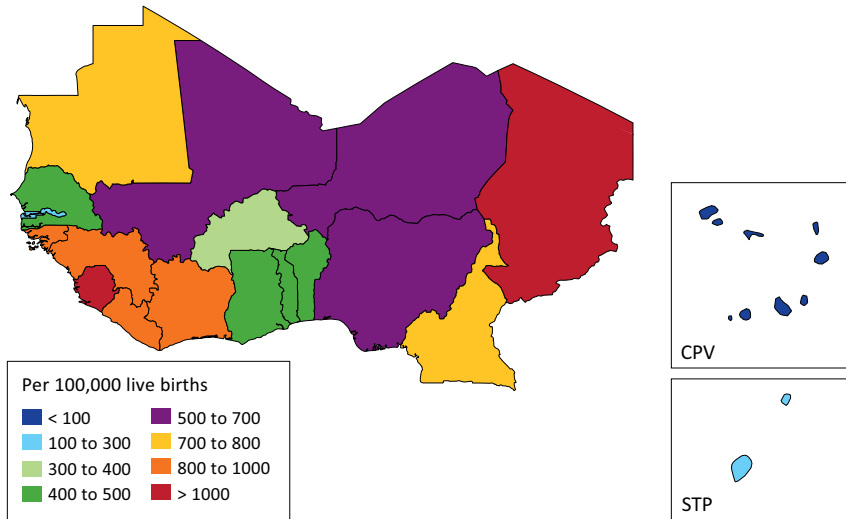** No data available*

	Maternal								Neonatal							
	1990		2000		2008		Annualized rate of decline (%) 1990-2008	Global rank by annualized rate of decline	1990		2000		2008		Annualized rate of decline (%) 1990-2008	Global rank by annualized rate of decline
	Maternal mortality ratio	No. of deaths	Maternal mortality ratio	No. of deaths	Maternal mortality ratio	No. of deaths			Mortality rate	No. of deaths (thousands)	Mortality rate	No. of deaths (thousands)	Mortality rate	No. of deaths (thousands)		
Cuba	47	82	51	71	40	47	0.9	135	8	1.4	5	0.7	3	0.4	5.1	20
Cyprus	*	*	*	*	*	*	*	*	8	<0.1	4	<0.1	2	<0.1	7.5	1
Czech Republic	12	16	7	6	7	7	3.3	63	8	1.0	4	0.4	3	0.3	6.2	7
Denmark	7	4	7	4	9	6	-1.5	169	5	0.3	4	0.2	3	0.2	3.9	52
Djibouti	607	137	565	134	462	112	1.5	115	32	0.7	28	0.7	23	0.6	1.8	139
Dominica	*	*	*	*	*	*	*	*	14	<0.1	12	<0.1	10	<0.1	1.7	142
Dominican Republic	96	213	74	164	66	149	2.1	93	25	5.6	19	4.2	16	3.5	2.7	99
Ecuador	181	542	121	363	77	216	4.7	29	14	4.3	10	2.9	7	1.9	4.2	41
Egypt	195	3,753	74	1,354	43	868	8.4	2	32	62.4	22	40.4	16	31.5	4.1	49
El Salvador	135	228	63	91	37	46	7.2	6	22	3.8	15	2.1	10	1.3	4.4	34
Equatorial Guinea	775	145	670	144	302	76	5.2	24	44	0.8	44	1.0	44	1.1	-0.1	184
Eritrea	1,293	1,617	874	1,243	751	1,367	3.1	69	34	4.2	26	3.7	23	4.2	2.1	128
Estonia	28	6	24	3	22	4	1.4	118	11	0.2	6	<0.1	3	<0.1	6.4	5
Ethiopia	968	22,594	937	25,949	590	18,240	2.8	79	58	136.4	44	122.2	36	112.7	2.6	101
Fiji	133	28	111	22	85	15	2.5	83	19	0.4	16	0.3	15	0.3	1.2	162
Finland	7	5	7	4	7	4	0.1	147	5	0.3	3	0.2	2	0.1	4.5	33
France	14	106	11	87	10	75	1.9	97	5	3.8	3	2.2	2	1.7	4.6	31
Gabon	422	151	637	247	493	195	-0.9	161	31	1.1	29	1.1	26	1.0	1.0	169
Gambia	628	248	396	211	281	172	4.5	33	41	1.6	35	1.9	27	1.7	2.3	118
Georgia	28	25	27	15	37	19	-1.4	168	20	1.8	17	1.0	13	0.7	2.3	120
Germany	12	98	8	57	7	46	2.8	77	5	4.6	3	2.4	3	1.9	3.7	61
Ghana	549	3,229	538	3,628	409	3,096	1.6	110	40	23.3	34	22.7	29	22.0	1.7	143
Greece	8	8	8	9	8	9	-0.5	156	7	0.8	5	0.5	3	0.3	5.7	11
Grenada	99	3	66	1	47	1	4.2	38	15	<0.1	12	<0.1	8	<0.1	3.5	75
Guatemala	178	622	111	460	88	400	3.9	47	23	8.0	16	6.4	11	5.0	4.0	50
Guinea	965	2,801	976	3,475	860	3,372	0.7	137	60	17.5	48	17.3	40	15.9	2.2	124
Guinea-Bissau	966	418	809	457	804	523	1.1	128	59	2.6	51	2.9	45	2.9	1.6	149
Guyana	162	30	164	28	143	19	0.7	136	32	0.6	25	0.4	21	0.3	2.2	123
Haiti	898	2,386	783	2,110	582	1,591	2.4	85	44	11.7	30	8.0	22	6.0	3.9	53
Honduras	164	309	169	334	105	212	2.4	84	22	4.2	16	3.2	12	2.5	3.3	82
Hungary	16	20	10	9	7	7	4.7	31	12	1.4	7	0.7	4	0.4	6.0	8
Iceland	9	0	8	0	7	0	1.5	114	4	<0.1	3	<0.1	2	<0.1	4.7	28
India	523	142,982	318	88,125	254	68,310	4.0	43	54	1,472.4	43	1,197.9	36	967.1	2.3	122
Indonesia	253	11,528	290	12,710	229	9,645	0.6	139	27	125.5	22	94.9	19	78.5	2.2	126
Iran	64	1,217	35	457	28	386	4.6	32	29	55.8	23	30.6	18	25.4	2.6	105
Iraq	212	1,472	174	1,542	130	1,232	2.7	80	27	18.8	22	19.2	18	17.0	2.3	121
Ireland	7	4	7	4	6	4	0.9	133	6	0.3	4	0.2	3	0.2	4.3	37
Israel	11	11	8	10	6	8	3.2	64	7	0.7	4	0.5	3	0.4	4.9	24
Italy	7	41	5	25	4	21	3.6	56	7	3.9	4	2.3	3	1.4	5.5	14
Jamaica	50	31	37	21	34	18	2.1	91	19	1.2	14	0.8	11	0.6	2.8	95
Japan	12	150	8	93	7	70	3.0	70	3	4.3	2	2.5	2	1.7	4.0	51
Jordan	103	125	59	87	35	55	6.1	20	18	2.2	14	2.1	10	1.6	3.1	85
Kazakhstan	61	229	58	140	44	134	1.8	101	22	8.2	19	4.7	16	4.8	1.9	137
Kenya	452	4,473	730	8,831	413	6,227	0.5	141	30	29.8	29	35.5	27	39.9	0.7	177
Kiribati	*	*	*	*	*	*	*	*	37	<0.1	30	<0.1	25	<0.1	2.1	129
Korea (North)	68	283	70	264	64	210	0.3	143	33	13.7	29	11.1	23	7.5	2.0	132
Korea (South)	18	123	14	79	11	51	2.7	82	7	4.6	6	3.1	4	1.6	3.7	63
Kuwait	48	23	31	13	26	13	3.4	58	8	0.4	8	0.3	6	0.3	1.6	147
Kyrgyzstan	65	89	71	77	69	83	-0.3	154	28	3.9	23	2.5	21	2.6	1.6	150

Maternal mortality ratio: the number of women dying of pregnancy-related causes for every 100,000 live births

Neonatal mortality rate: the probability of death between birth and the 27th day of life (per 1,000 live births)

	Postneonatal								Under-5							
	1990		2000		2008		Annualized rate of decline (%) 1990-2008	Global rank by annualized rate of decline	1990		2000		2008		Annualized rate of decline (%) 1990-2008	Global rank by annualized rate of decline
	Mortality rate	No. of deaths (thousands)	Mortality rate	No. of deaths (thousands)	Mortality rate	No. of deaths (thousands)			Mortality rate	No. of deaths (thousands)	Mortality rate	No. of deaths (thousands)	Mortality rate	No. of deaths (thousands)		
	5	0.8	3	0.4	2	0.2	4.9	45	14	2.5	9	1.2	6	0.7	4.9	38
	4	<0.1	2	<0.1	1	<0.1	7.4	8	13	0.2	7	<0.1	3	<0.1	7.4	4
	5	0.7	2	0.2	1	0.1	7.4	9	14	1.8	7	0.7	4	0.5	6.5	8
	2	0.2	2	0.1	1	<0.1	3.7	93	9	0.5	6	0.4	4	0.3	3.8	77
	37	0.8	31	0.7	24	0.6	2.4	138	110	2.4	90	2.2	70	1.7	2.5	133
	7	<0.1	6	<0.1	5	<0.1	2.0	150	24	<0.1	21	<0.1	17	<0.1	1.9	154
	19	4.2	12	2.7	9	2.0	4.3	71	57	12.9	38	8.6	30	6.8	3.6	90
	24	7.1	17	5.1	12	3.4	3.8	88	50	15.4	34	10.5	23	6.8	4.3	61
	32	62.9	16	29.3	9	17.7	7.2	10	85	175.2	46	86.7	28	57.5	6.2	9
	25	4.3	14	2.1	9	1.1	6.0	22	59	10.5	34	5.2	21	2.7	5.6	16
	63	1.1	64	1.3	64	1.5	-0.1	184	179	3.2	180	3.8	180	4.4	-0.1	184
	37	4.6	27	3.8	23	4.1	2.7	129	143	18.3	101	14.1	82	14.9	3.1	115
	5	0.1	4	<0.1	2	<0.1	4.6	56	18	0.4	11	0.1	7	0.1	5.6	18
	65	141.6	45	122.9	35	106.3	3.4	103	202	462.3	137	390.1	106	330.5	3.6	94
	12	0.2	10	0.2	9	0.2	1.5	165	35	0.7	31	0.6	27	0.5	1.4	166
	2	0.1	1	<0.1	1	<0.1	3.8	87	7	0.5	4	0.3	3	0.2	4.3	59
	3	2.6	2	1.5	2	1.1	4.6	62	10	7.1	5	4.1	4	3.2	4.5	49
	30	1.0	26	1.0	22	0.9	1.7	157	94	3.3	83	3.3	71	2.8	1.5	161
	43	1.6	36	1.9	25	1.5	2.9	119	146	5.6	121	6.5	86	5.3	3.0	118
	18	1.6	13	0.8	8	0.4	4.5	64	45	4.1	35	2.1	25	1.3	3.3	102
	3	2.2	2	1.1	1	0.9	3.7	92	9	7.6	5	3.9	5	3.1	3.7	87
	30	17.3	25	16.1	20	14.9	2.3	142	122	71.9	99	66.7	81	61.7	2.3	140
	3	0.3	2	0.2	1	0.1	5.5	34	11	1.2	7	0.7	4	0.4	5.6	20
	8	<0.1	7	<0.1	4	<0.1	4.0	79	27	<0.1	22	<0.1	14	<0.1	3.7	84
	35	12.0	24	9.9	18	7.9	3.8	89	76	27.0	50	20.9	35	16.1	4.3	57
	69	18.8	54	18.5	43	16.5	2.6	133	227	64.8	174	62.6	139	55.0	2.7	128
	68	2.8	56	3.0	49	3.0	1.9	152	233	9.8	191	10.7	165	10.7	1.9	150
	21	0.4	15	0.3	13	0.2	2.7	130	61	1.2	47	0.8	39	0.5	2.4	135
	57	14.8	38	10.3	28	7.6	3.9	80	149	40.5	100	27.8	73	20.3	4.0	71
	19	3.6	12	2.4	8	1.6	5.0	43	56	10.8	37	7.4	25	5.1	4.5	50
	4	0.5	3	0.3	2	0.2	4.8	47	17	2.1	10	1.0	6	0.6	5.5	22
	2	<0.1	1	<0.1	1	<0.1	4.7	52	7	<0.1	4	<0.1	3	<0.1	4.7	44
	31	836.3	22	612.8	17	454.0	3.4	102	114	3,168.5	85	2,400.7	66	1,827.7	3.0	116
	26	117.7	17	74.7	13	56.2	3.7	95	71	340.0	49	218.4	39	168.2	3.4	97
	24	46.6	16	21.2	11	15.5	4.3	72	66	131.8	47	63.1	34	48.3	3.6	92
	21	14.3	15	12.8	11	10.2	3.7	94	58	40.6	43	38.3	33	31.8	3.1	112
	3	0.2	2	0.1	1	<0.1	4.8	49	10	0.5	7	0.4	4	0.3	4.5	53
	4	0.4	2	0.3	2	0.2	4.7	53	12	1.2	7	0.9	5	0.7	4.7	43
	2	1.3	1	0.8	1	0.5	5.7	28	10	5.6	6	3.4	4	2.0	5.5	23
	11	0.7	8	0.4	6	0.3	3.4	106	34	2.1	25	1.5	20	1.0	3.1	114
	2	2.9	2	1.9	1	1.4	2.8	123	7	8.6	4	5.3	4	3.7	3.4	95
	11	1.3	7	1.1	4	0.7	5.5	33	33	4.1	24	3.5	16	2.5	4.2	62
	25	9.1	19	4.7	13	3.9	3.6	96	53	20.1	44	11.0	32	9.8	2.8	126
	39	36.9	37	43.7	32	47.2	1.0	175	104	101.4	100	119.3	85	127.8	1.1	174
	28	<0.1	21	<0.1	17	<0.1	2.7	127	76	0.1	59	0.1	49	0.1	2.4	136
	15	6.2	14	5.1	11	3.5	1.9	153	51	21.3	46	17.5	36	11.9	1.9	151
	3	2.1	3	1.5	2	0.9	2.8	122	11	7.6	9	5.3	6	2.8	3.4	96
	4	0.2	4	0.2	2	0.1	2.5	137	13	0.6	12	0.5	9	0.5	2.0	149
	32	4.4	21	2.3	18	2.1	3.3	108	70	9.7	51	5.7	45	5.4	2.5	134

Postneonatal mortality rate: the probability of death before age 1 year, conditional on surviving to age 1 month (per 1,000 1-month-olds)

Under-5 mortality rate: the probability of death between birth and age 5 (per 1,000 live births)

* No data available

	Maternal								Neonatal							
	1990		2000		2008		Annualized rate of decline (%) 1990-2008	Global rank by annualized rate of decline	1990		2000		2008		Annualized rate of decline (%) 1990-2008	Global rank by annualized rate of decline
	Maternal mortality ratio	No. of deaths	Maternal mortality ratio	No. of deaths	Maternal mortality ratio	No. of deaths			Mortality rate	No. of deaths (thousands)	Mortality rate	No. of deaths (thousands)	Mortality rate	No. of deaths (thousands)		
Laos	1,215	2,119	630	1,103	339	576	7.1	8	45	7.8	36	6.2	30	5.0	2.3	117
Latvia	30	11	24	5	18	4	2.9	74	10	0.4	8	0.2	5	0.1	3.6	70
Lebanon	76	60	37	28	24	16	6.5	13	17	1.4	9	0.7	8	0.5	4.6	30
Lesotho	363	212	1,021	626	964	572	-5.4	179	39	2.3	41	2.5	40	2.4	-0.2	186
Liberia	729	719	1,055	1,210	859	1,249	-0.9	162	66	6.5	50	5.7	33	4.7	3.9	55
Libya	124	142	63	81	40	58	6.4	14	20	2.3	13	1.7	9	1.4	4.1	45
Lithuania	22	12	18	6	16	5	1.9	100	8	0.4	6	0.2	4	0.1	4.5	32
Luxembourg	7	0	6	0	5	0	1.8	103	6	<0.1	3	<0.1	2	<0.1	5.8	10
Macedonia	20	7	19	5	17	4	1.0	131	15	0.5	11	0.3	8	0.2	3.5	73
Madagascar	484	2,474	505	3,175	373	2,564	1.5	116	37	19.1	29	17.9	23	15.7	2.7	98
Malawi	743	3,389	1,662	8,922	1,140	6,825	-2.3	172	49	22.1	37	20.1	28	16.6	3.1	86
Malaysia	76	419	59	319	42	234	3.3	62	9	5.2	6	3.4	4	2.2	4.7	29
Maldives	366	32	125	7	75	4	8.8	1	33	0.3	18	0.1	10	<0.1	6.6	4
Mali	831	3,362	807	3,721	670	3,632	1.2	124	68	27.7	59	27.3	49	26.4	1.9	136
Malta	15	1	9	0	6	0	4.8	28	7	<0.1	4	<0.1	4	<0.1	3.8	60
Marshall Islands	*	*	*	*	*	*	*	*	26	*	25	<0.1	21	<0.1	1.3	159
Mauritania	1,295	1,030	866	828	712	769	3.3	61	41	3.2	37	3.5	34	3.7	0.9	171
Mauritius	65	14	34	7	28	5	4.7	30	15	0.3	13	0.3	10	0.2	2.4	109
Mexico	73	1,719	60	1,347	52	1,057	1.9	98	14	33.1	10	21.3	7	14.7	3.8	59
Micronesia, Federated States of	227	7	164	5	127	4	3.2	66	28	<0.1	20	<0.1	15	<0.1	3.5	74
Moldova	42	34	31	15	20	9	4.0	44	17	1.4	10	0.5	6	0.3	5.7	12
Mongolia	404	285	257	120	207	103	3.7	53	33	2.3	24	1.1	18	0.9	3.4	80
Montenegro	33	2	27	2	19	1	3.0	71	14	<0.1	8	<0.1	6	<0.1	4.8	25
Morocco	384	2,815	262	1,651	124	802	6.3	16	34	25.4	26	16.5	20	13.2	2.9	93
Mozambique	385	2,333	505	4,053	599	5,248	-2.4	173	59	36.0	46	36.6	39	34.5	2.3	119
Myanmar	662	7,273	411	4,148	219	2,236	6.1	19	41	44.5	31	31.0	25	25.8	2.6	102
Namibia	354	188	558	317	586	344	-2.8	175	26	1.4	24	1.4	23	1.3	0.7	176
Nepal	471	3,479	343	2,731	240	1,758	3.7	51	59	43.6	38	30.3	27	20.0	4.3	38
Netherlands	9	17	10	19	8	14	1.0	130	6	1.1	4	0.8	3	0.5	3.7	64
New Zealand	11	6	8	5	8	5	1.3	120	5	0.3	4	0.2	3	0.2	3.5	76
Nicaragua	101	155	124	176	103	144	-0.1	152	22	3.4	15	2.2	12	1.7	3.4	77
Niger	890	3,935	754	4,396	601	4,749	2.1	90	54	23.8	42	24.4	33	25.7	2.8	96
Nigeria	473	21,227	694	36,974	608	36,666	-1.4	166	49	219.4	45	241.7	42	252.0	0.9	172
Norway	7	4	7	4	8	4	-0.6	158	5	0.3	3	0.2	2	0.1	5.0	22
Occupied Palestinian Territory	92	91	52	67	46	67	3.9	46	21	2.1	16	2.1	14	2.0	2.4	111
Oman	85	59	41	26	24	15	7.0	9	19	1.4	10	0.6	7	0.4	5.4	16
Pakistan	541	25,125	415	20,088	376	20,091	2.0	95	55	254.3	48	233.7	44	233.2	1.3	161
Panama	61	39	51	35	44	31	1.8	102	13	0.8	11	0.8	9	0.7	1.7	141
Papua New Guinea	476	725	371	713	312	645	2.3	88	47	7.1	43	8.4	40	8.3	0.8	174
Paraguay	146	207	129	193	113	174	1.4	117	17	2.4	13	1.9	11	1.7	2.4	112
Peru	172	1,121	125	786	81	495	4.2	39	26	16.9	17	10.5	12	7.4	4.2	42
Philippines	174	3,591	103	2,202	84	1,870	4.1	41	20	41.5	16	34.6	14	31.1	2.1	131
Poland	21	119	10	39	7	27	5.9	21	12	6.7	6	2.4	5	1.8	5.2	18
Portugal	16	19	12	13	10	10	3.0	72	8	1.0	5	0.5	2	0.2	7.4	2
Qatar	49	5	26	3	14	2	6.8	11	10	0.1	8	<0.1	7	0.1	1.7	145
Romania	92	292	42	95	26	56	7.0	10	11	3.4	8	1.9	6	1.4	2.8	97
Russia	48	968	45	604	34	527	1.9	99	16	32.4	13	17.2	9	13.2	3.6	72
Rwanda	813	2,414	952	2,914	383	1,545	4.2	40	45	13.5	45	13.7	33	13.1	1.8	138

Maternal mortality ratio: the number of women dying of pregnancy-related causes for every 100,000 live births

Neonatal mortality rate: the probability of death between birth and the 27th day of life (per 1,000 live births)

| | Postneonatal | | | | | | | | Under-5 | | | | | | |
| | 1990 | | 2000 | | 2008 | | Annualized rate of decline (%) 1990-2008 | Global rank by annualized rate of decline | 1990 | | 2000 | | 2008 | | Annualized rate of decline (%) 1990-2008 | Global rank by annualized rate of decline |
	Mortality rate	No. of deaths (thousands)	Mortality rate	No. of deaths (thousands)	Mortality rate	No. of deaths (thousands)			Mortality rate	No. of deaths (thousands)	Mortality rate	No. of deaths (thousands)	Mortality rate	No. of deaths (thousands)		
	48	8.1	32	5.7	24	4.0	3.9	83	145	25.5	98	18.1	73	12.7	3.8	80
	5	0.2	5	<0.1	3	<0.1	2.9	121	17	0.6	15	0.3	10	0.2	3.2	103
	10	0.8	4	0.3	3	0.2	7.2	11	31	2.6	14	1.1	11	0.7	5.8	13
	35	2.0	40	2.3	38	2.2	-0.4	186	94	5.5	105	6.4	100	6.0	-0.3	186
	96	8.9	70	7.6	41	5.8	4.8	50	235	23.7	172	19.7	103	15.0	4.6	47
	13	1.5	7	0.8	4	0.6	6.5	19	38	4.5	22	2.9	14	2.2	5.3	26
	5	0.3	4	0.1	3	<0.1	3.3	110	14	0.8	11	0.4	7	0.2	3.9	73
	3	<0.1	2	<0.1	1	<0.1	5.7	29	9	<0.1	5	<0.1	3	<0.1	5.7	15
	10	0.3	6	0.2	4	<0.1	4.7	55	26	0.9	18	0.5	13	0.3	3.9	75
	55	27.2	37	23.5	27	18.4	3.9	81	158	79.7	105	67.6	75	52.2	4.2	65
	70	30.2	52	27.8	37	21.7	3.6	99	211	94.5	148	83.0	101	60.9	4.1	68
	5	2.5	2	1.3	1	0.7	7.0	12	16	9.2	10	5.4	6	3.2	5.8	12
	29	0.3	10	<0.1	4	<0.1	10.5	2	88	0.8	34	0.2	16	<0.1	9.3	1
	65	24.4	54	23.7	43	22.7	2.2	145	254	101.9	212	98.1	169	91.2	2.3	139
	3	<0.1	2	<0.1	2	<0.1	3.7	91	11	<0.1	7	<0.1	6	<0.1	3.7	86
	18	*	16	<0.1	13	<0.1	1.7	159	51	*	47	<0.1	39	<0.1	1.5	163
	30	2.3	27	2.5	24	2.5	1.4	167	113	8.9	100	9.5	89	9.6	1.3	167
	7	0.2	5	0.1	3	<0.1	4.3	69	24	0.5	19	0.4	14	0.3	3.1	113
	21	50.1	13	28.9	9	18.4	4.8	48	42	100.8	26	58.9	18	37.9	4.7	46
	20	<0.1	13	<0.1	9	<0.1	4.3	66	56	0.2	38	0.1	28	<0.1	3.9	72
	15	1.2	10	0.5	7	0.3	4.1	76	35	2.9	23	1.2	15	0.7	4.8	41
	48	3.4	26	1.2	14	0.7	6.7	16	95	6.9	58	2.9	37	1.9	5.1	29
	10	<0.1	5	<0.1	3	<0.1	5.8	26	25	0.2	14	0.1	10	<0.1	5.1	30
	26	19.2	16	10.1	10	6.7	5.1	39	77	59.0	50	33.0	35	23.4	4.3	58
	94	53.4	69	53.6	58	49.2	2.7	128	227	136.5	164	132.0	135	119.2	2.9	122
	40	43.2	27	26.8	19	19.0	4.2	73	120	136.0	80	83.6	58	60.7	4.0	70
	23	1.2	19	1.1	17	1.0	1.6	161	72	3.9	62	3.5	57	3.4	1.3	168
	40	28.7	22	17.7	14	10.3	5.9	24	137	103.7	78	65.0	52	39.0	5.4	25
	2	0.4	2	0.3	1	0.2	3.9	82	9	1.7	7	1.3	5	0.8	3.8	81
	5	0.3	3	0.2	3	0.2	3.2	112	11	0.7	8	0.4	6	0.4	3.3	99
	29	4.4	17	2.5	12	1.7	4.7	54	64	10.3	39	5.8	29	4.1	4.4	54
	77	31.8	59	33.3	45	34.6	3.0	118	297	127.7	224	130.1	168	129.0	3.2	110
	50	212.4	46	233.1	41	239.2	1.1	172	194	852.8	177	933.0	160	956.5	1.1	175
	3	0.2	2	<0.1	1	<0.1	5.0	44	9	0.5	5	0.3	4	0.2	4.9	35
	14	1.4	9	1.2	7	1.0	3.9	84	42	4.2	29	3.8	23	3.5	3.2	105
	12	0.9	4	0.3	3	0.2	8.7	3	37	2.7	16	1.0	11	0.7	7.0	5
	36	160.7	29	138.4	25	129.9	2.0	151	113	527.6	95	463.7	83	443.0	1.7	156
	11	0.7	9	0.6	7	0.5	2.2	144	28	1.8	23	1.6	19	1.4	2.1	145
	38	5.4	34	6.3	31	6.2	1.1	173	100	15.1	92	17.6	85	17.6	0.9	176
	14	1.9	10	1.5	8	1.2	3.0	115	38	5.5	28	4.2	22	3.5	2.9	120
	25	16.6	14	8.8	9	5.5	5.8	27	73	49.0	41	26.6	27	17.0	5.5	24
	17	34.7	12	24.8	9	20.4	3.4	104	54	114.8	38	83.1	31	69.5	3.2	108
	6	3.1	3	1.0	2	0.6	6.7	17	19	10.6	10	3.7	7	2.6	5.6	19
	5	0.6	2	0.3	1	0.1	8.5	4	15	1.8	8	0.9	4	0.4	7.6	3
	4	<0.1	3	<0.1	3	<0.1	2.6	134	16	0.2	13	0.1	11	0.2	2.0	147
	17	5.4	12	2.7	8	1.7	4.3	70	30	9.9	22	5.2	16	3.4	3.6	93
	8	16.2	7	9.0	5	7.6	2.8	125	27	54.8	22	29.4	15	23.2	3.2	106
	49	13.8	48	14.3	32	12.4	2.4	139	169	51.5	166	50.7	106	42.3	2.6	131

Postneonatal mortality rate: the probability of death before age 1 year, conditional on surviving to age 1 month (per 1,000 1-month-olds)

Under-5 mortality rate: the probability of death between birth and age 5 (per 1,000 live births)

* No data available

	Maternal								Neonatal							
	1990		2000		2008		Annualized rate of decline (%) 1990-2008	Global rank by annualized rate of decline	1990		2000		2008		Annualized rate of decline (%) 1990-2008	Global rank by annualized rate of decline
	Maternal mortality ratio	No. of deaths	Maternal mortality ratio	No. of deaths	Maternal mortality ratio	No. of deaths			Mortality rate	No. of deaths (thousands)	Mortality rate	No. of deaths (thousands)	Mortality rate	No. of deaths (thousands)		
Saint Lucia	92	3	57	2	46	1	3.8	49	13	<0.1	10	<0.1	8	<0.1	3.0	89
Saint Vincent and the Grenadines	82	2	59	1	45	1	3.3	59	14	<0.1	14	<0.1	14	<0.1	-0.1	185
Samoa	173	10	154	8	104	4	2.8	76	16	<0.1	13	<0.1	11	<0.1	2.0	133
Sao Tome and Principe	531	23	420	21	296	15	3.2	65	33	0.1	24	0.1	21	0.1	2.4	114
Saudi Arabia	94	539	47	275	28	165	6.7	12	16	9.4	13	7.5	10	6.1	2.6	104
Senegal	542	1,809	491	1,964	401	1,884	1.7	109	39	13.1	36	14.4	30	14.2	1.5	152
Serbia	12	17	10	12	9	10	1.6	112	8	1.2	5	0.6	3	0.4	5.3	17
Seychelles	*	*	*	*	*	*	*	*	11	<0.1	11	<0.1	9	<0.1	1.3	158
Sierra Leone	1,044	1,758	1,200	2,206	1,033	2,305	0.1	148	62	10.4	52	9.5	41	9.1	2.3	116
Singapore	12	6	14	6	16	6	-1.4	167	5	0.2	2	0.1	1	<0.1	6.3	6
Slovakia	13	11	8	4	7	4	3.6	55	8	0.6	6	0.3	4	0.2	3.6	68
Slovenia	16	3	21	4	19	4	-1.0	164	7	0.1	3	<0.1	2	<0.1	5.8	9
Solomon Islands	500	62	330	48	284	44	3.2	67	20	0.3	18	0.3	17	0.3	1.0	166
Somalia	963	2,844	837	2,832	675	2,667	2.0	96	44	13.1	39	13.2	34	13.3	1.5	151
South Africa	121	1,305	155	1,718	237	2,584	-3.7	176	18	19.1	14	15.1	17	18.9	0.1	181
Spain	9	34	7	26	7	33	1.5	113	6	2.2	3	1.4	3	1.3	4.4	35
Sri Lanka	52	188	40	139	30	109	3.1	68	19	6.8	11	3.9	8	2.8	5.1	19
Sudan	593	6,628	490	6,196	306	3,969	3.7	54	36	39.9	33	41.4	31	39.9	0.8	173
Suriname	106	10	128	13	116	11	-0.5	157	25	0.2	24	0.2	20	0.2	1.1	163
Swaziland	359	132	609	214	736	258	-4.0	177	19	0.7	23	0.8	24	0.8	-1.2	187
Sweden	6	7	5	4	5	5	1.7	107	5	0.5	3	0.3	2	0.2	5.6	13
Switzerland	7	6	7	5	7	5	-0.3	153	5	0.4	4	0.3	3	0.2	3.6	71
Syria	156	727	67	328	50	294	6.4	15	17	8.1	12	5.7	8	4.9	4.1	46
Taiwan	26	88	12	36	14	28	3.3	60	5	1.8	5	1.6	4	0.7	1.9	135
Tajikistan	90	184	72	138	46	88	3.8	50	36	7.3	30	5.7	23	4.5	2.4	110
Tanzania	610	6,892	714	10,207	449	7,954	1.7	108	38	43.4	34	48.3	29	50.6	1.7	146
Thailand	44	496	43	421	47	460	-0.3	155	15	16.6	10	9.4	7	6.9	4.1	44
Timor-Leste	1,016	328	953	351	929	408	0.5	140	36	1.2	32	1.2	28	1.2	1.4	153
Togo	540	892	552	1,070	447	951	1.1	129	41	6.9	35	6.9	31	6.6	1.6	148
Tonga	189	5	130	4	113	3	2.9	73	14	<0.1	12	<0.1	11	<0.1	1.3	160
Trinidad and Tobago	66	17	52	10	40	8	2.8	75	20	0.5	21	0.4	19	0.4	0.5	179
Tunisia	141	316	56	89	36	59	7.6	5	21	4.8	15	2.3	10	1.7	4.1	48
Turkey	121	1,751	69	963	58	781	4.2	37	30	43.7	20	28.0	17	23.6	3.1	88
Turkmenistan	67	86	41	44	22	24	6.3	17	34	4.3	29	3.0	16	1.8	4.1	47
Uganda	571	5,014	604	7,094	352	5,163	2.7	81	42	37.0	37	43.1	33	47.8	1.4	154
Ukraine	35	236	35	140	30	137	0.9	134	14	9.6	13	5.2	10	4.7	1.8	140
United Arab Emirates	31	15	14	8	9	5	7.1	7	10	0.5	5	0.3	3	0.2	7.1	3
United Kingdom	8	65	8	59	8	61	0.1	149	6	4.4	4	2.8	3	2.5	2.9	94
United States	12	468	13	550	17	732	-2.0	171	7	29.3	5	20.5	4	18.6	3.0	90
Uruguay	33	19	26	14	25	12	1.6	111	12	0.7	9	0.5	7	0.3	3.1	87
Uzbekistan	61	438	49	281	45	247	1.8	104	24	16.9	21	12.3	19	10.2	1.4	157
Vanuatu	336	19	230	14	178	13	3.5	57	27	0.1	18	0.1	14	<0.1	3.7	65
Venezuela	66	373	56	320	48	289	1.7	105	15	8.4	12	7.1	10	5.8	2.4	115
Vietnam	158	3,286	84	1,305	64	961	5.0	26	21	43.6	13	19.7	9	12.8	5.0	23
Yemen	582	3,732	383	2,820	269	2,273	4.3	35	46	29.5	38	27.7	30	25.0	2.5	108
Zambia	594	2,067	914	4,293	603	3,270	-0.1	151	37	12.8	32	15.2	29	15.5	1.4	155
Zimbabwe	232	906	819	3,125	624	2,358	-5.5	180	23	9.0	23	8.8	23	8.7	0.0	183

Maternal mortality ratio: the number of women dying of pregnancy-related causes for every 100,000 live births

Neonatal mortality rate: the probability of death between birth and the 27th day of life (per 1,000 live births)

Postneonatal								Under-5							
1990		2000		2008		Annualized rate of decline (%) 1990-2008	Global rank by annualized rate of decline	1990		2000		2008		Annualized rate of decline (%) 1990-2008	Global rank by annualized rate of decline
Mortality rate	No. of deaths (thousands)	Mortality rate	No. of deaths (thousands)	Mortality rate	No. of deaths (thousands)			Mortality rate	No. of deaths (thousands)	Mortality rate	No. of deaths (thousands)	Mortality rate	No. of deaths (thousands)		
7	<0.1	5	<0.1	4	<0.1	3.5	100	23	<0.1	16	<0.1	13	<0.1	3.2	104
8	<0.1	7	<0.1	8	<0.1	-0.2	185	25	<0.1	24	<0.1	26	<0.1	-0.2	185
10	<0.1	8	<0.1	6	<0.1	2.5	136	30	0.2	24	0.1	20	<0.1	2.2	141
32	0.1	22	0.1	18	<0.1	3.2	113	109	0.5	75	0.4	62	0.3	3.1	111
9	5.4	7	3.8	5	2.7	4.1	77	30	17.1	22	12.9	16	9.7	3.3	98
34	10.9	29	11.2	21	9.8	2.6	135	147	48.7	124	49.7	92	43.9	2.6	132
4	0.5	2	0.3	1	0.1	6.5	18	13	1.8	8	1.0	5	0.5	5.6	17
5	<0.1	5	<0.1	3	<0.1	2.1	147	19	<0.1	17	<0.1	14	<0.1	1.7	157
95	15.1	78	13.6	58	12.6	2.7	126	242	40.7	197	36.2	148	33.1	2.7	127
2	0.1	1	<0.1	1	<0.1	4.6	58	8	0.4	4	0.2	3	0.1	5.5	21
5	0.4	4	0.2	2	0.1	4.3	68	14	1.1	10	0.6	7	0.4	3.8	78
3	<0.1	1	<0.1	1	<0.1	6.9	14	11	0.2	5	<0.1	4	<0.1	6.0	11
13	0.2	12	0.2	11	0.2	1.2	170	38	0.5	35	0.5	31	0.5	1.1	171
57	16.0	48	15.7	39	15.1	2.1	149	174	51.5	145	49.0	117	46.4	2.2	142
26	28.1	16	17.7	25	27.2	0.2	181	58	64.2	37	41.2	56	61.9	0.2	181
3	1.1	2	0.7	1	0.6	4.4	65	9	3.7	6	2.2	4	2.1	4.3	56
10	3.4	4	1.5	2	0.9	7.7	7	35	12.8	18	6.2	11	4.0	6.6	7
31	33.4	27	33.4	25	31.4	1.2	171	118	131.2	104	131.6	94	122.7	1.3	169
15	0.1	14	0.1	12	0.1	1.3	169	46	0.4	44	0.5	37	0.4	1.2	170
31	1.1	43	1.4	46	1.6	-2.3	187	74	2.8	99	3.4	107	3.8	-2.1	187
2	0.2	1	0.1	1	<0.1	4.3	67	7	0.8	5	0.4	3	0.3	5.1	31
3	0.2	2	0.1	1	<0.1	3.8	86	9	0.7	6	0.5	5	0.3	3.6	91
10	4.8	5	2.7	3	1.9	6.4	20	32	15.1	19	9.4	12	7.4	5.2	27
3	0.9	3	0.8	2	0.4	1.7	155	9	3.0	9	2.6	6	1.3	1.8	155
58	11.6	40	7.7	24	4.7	4.8	46	108	22.4	81	16.0	55	10.8	3.8	79
57	61.3	48	67.4	38	65.0	2.2	143	153	170.0	127	184.3	100	174.0	2.4	137
6	6.5	3	3.1	2	2.0	5.9	23	23	27.0	14	13.9	10	9.7	4.8	40
34	1.1	27	1.0	22	0.9	2.3	140	101	3.3	83	3.1	67	2.9	2.3	138
37	6.0	30	5.7	25	5.2	2.2	146	142	23.5	114	22.1	96	20.5	2.2	143
8	<0.1	7	<0.1	6	<0.1	1.6	163	26	<0.1	22	<0.1	20	<0.1	1.4	165
7	0.2	8	0.1	6	0.1	0.6	179	30	0.8	32	0.6	27	0.5	0.5	179
16	3.7	9	1.4	5	0.8	6.7	15	47	11.1	27	4.5	17	2.8	5.7	14
30	43.3	15	21.2	11	14.6	5.6	30	71	106.4	40	58.1	32	43.6	4.5	52
51	6.4	36	3.9	12	1.4	8.0	6	98	12.6	75	8.3	32	3.7	6.2	10
56	46.7	48	54.5	42	59.0	1.7	158	168	143.1	141	163.6	120	173.1	1.9	153
5	3.4	5	1.8	4	1.7	1.5	166	22	15.0	20	8.0	16	7.3	1.7	159
4	0.2	2	<0.1	1	<0.1	10.8	1	16	0.8	7	0.4	4	0.2	8.4	2
3	2.6	2	1.6	2	1.4	3.1	114	10	7.6	7	4.8	6	4.3	2.9	119
3	13.9	3	10.6	2	10.0	2.3	141	12	47.3	8	34.1	7	31.5	2.7	129
9	0.5	7	0.4	5	0.2	3.6	98	22	1.3	16	0.9	12	0.6	3.3	101
27	19.1	23	13.1	17	9.3	2.6	131	66	47.2	57	34.1	46	25.6	2.0	148
19	0.1	12	<0.1	8	<0.1	4.6	60	53	0.3	35	0.2	25	0.2	4.2	64
11	6.3	9	4.9	6	3.5	3.6	97	29	16.6	23	13.6	17	10.3	3.0	117
11	23.9	5	7.8	3	3.8	8.3	5	46	100.6	22	38.6	13	20.1	7.0	6
49	30.1	35	25.4	23	19.6	4.1	75	128	82.1	93	70.3	65	56.2	3.8	83
57	19.0	49	22.5	41	21.8	1.8	154	173	58.0	143	67.4	119	64.2	2.0	146
26	9.7	26	9.7	25	9.4	0.1	182	73	28.4	74	28.4	73	27.7	0.0	183

Postneonatal mortality rate: the probability of death before age 1 year, conditional on surviving to age 1 month (per 1,000 1-month-olds)

Under-5 mortality rate: the probability of death between birth and age 5 (per 1,000 live births)

References

1 Arnold F. Assessment of the quality of birth history data in the demographic and health surveys. Columbia, MD: Institute for Resource Development Inc., 1990. Report No. 1: An Assessment of DHS-I Data Quality. http://www.measuredhs.com/pubs/pdf/MR1/MR1.pdf (accessed April 26, 2010).

2 Artzrouni M, Zaba B. HIV-induced bias in the estimation of child mortality using birth history reports. Presented at the Technical Meeting on HIV and Child Mortality London. 2003.

3 Boerma JT, Stanecki KA, Newell ML, Luo C, Beusenberg M, Garnett GP et al. Monitoring the scale-up of antiretroviral therapy programmes: methods to estimate coverage. *Bull World Health Organ.* 2006; 84:145–50.

4 Brass W. Methods for Estimating Fertility and Mortality from Limited and Defective Data. Chapel Hill, NC: Laboratories for Population Statistics at the University of North Carolina at Chapel Hill, 1975.

5 Bryce J, Daelmans B, Dwivedi A, Fauveau V, Lawn JE, Mason E et al. Countdown to 2015 for maternal, newborn, and child survival: the 2008 report on tracking coverage of interventions. *Lancet.* 2008; 371:1247–58.

6 Bryce J, Terreri N, Victora C, Mason E, Daelmans B, Bhutta Z et al. Countdown to 2015: tracking intervention coverage for child survival. *Lancet.* 2006; 368:1067–76.

7 Centre for Research on the Epidemiology of Disasters. CE-DAT: The Complex Emergency Database. Brussels, Belgium: Université catholique de Louvain, 2009. www.cedat.org (accessed March 11, 2010).

8 Centre for Research on the Epidemiology of Disasters. Deaths due to Natural Disasters, 1900-2007. 2009. http://www.emdat.be/Database/AdvanceSearch/advsearch.php (accessed Oct. 12, 2009).

9 Child Mortality Coordination Group. Tracking progress towards the Millennium Development Goals: reaching consensus on child mortality levels and trends. *Bull World Health Organ.* 2006; 84:225–32.

10 Tomz M, Wittenberg J, King G. Clarify: Software for Interpreting and Presenting Statistical Results. *J Stat Software.* 2003; 8:1-30.

11 Curtis SL. Assessment of the quality of data used for direct estimation of infant and child mortality in DHS-II surveys. Calverton, MD: Macro International Inc., 1995. Occasional Papers No. 3. http://www.measuredhs.com/pubs/pdf/OP3/OP3.pdf

12 DFID. The International Health Partnership Launched Today. 2007. http://www.dfid.gov.uk/Media-Room/News-Stories/2007/The-International-Health-Partnership-Launched-Today/ (accessed March 18, 2010).

13 Garenne M, Gakusi E. Health transitions in sub-Saharan Africa: overview of mortality trends in children under 5 years old (1950-2000). *Bull World Health Organ.* 2006; 84:470–8.

14 Gaskell GD, Wright DB, O'Muircheartaigh CA. Telescoping of Landmark Events: Implications for Survey Research. *Public Opin Q.* 2000; 64:77–89.

15 GAVI Alliance. Investing in immunisation through the GAVI Alliance: The evidence base. Geneva, Switzerland: GAVI Alliance, 2010.

16 Global Health Council News. Women and Children First: A Sneak Peek at the Global Business Plan for Maternal, Newborn and Child Health. 2007. (accessed Sept. 13, 2007).

17 Gregson S, Hallett TB, Kurwa F, Garnett GP, Dube S, Chawira G et al. Monitoring progress towards Millennium Development Goal 4 in generalised HIV epidemics: measurement and correction for bias in child mortality statistics. IUSSP International Population Conference; Marrakech, Morocco, Sept. 27, 2009.

18 Guillot M, Lim S. Infant Mortality in Kyrgyzstan Before and After the Break-up of the Soviet Union. In: Harris K, Moffit R, eds. Detroit, MI: Population Association of America Annual Meeting, April 30, 2009.

19 Harvard University, Institute for Health Metrics and Evaluation at the University of Washington, Johns Hopkins University, University of Queensland, and World Health Organization. Global Burden of Disease Study Operations Manual. Seattle, WA: Institute for Health Metrics and Evaluation, 2009. http://www.globalburden.org/GBD_Study_Operations_Manual_Jan_20_2009.pdf (accessed March 9, 2010).

20 Hill K, Thomas K, AbouZahr C, Walker N, Say L, Inoue M et al. Estimates of maternal mortality worldwide between 1990 and 2005: an assessment of available data. *Lancet.* 2007; 370:1311-9.

21 Hogan MC, Foreman KJ, Naghavi M, Ahn SY, Wang M, Makela SM et al. Maternal mortality for 181 countries, 1980-2008: a systematic analysis of progress towards Millennium Development Goal 5. *Lancet.* 2010; 375:1609-23.

22 Kleinschmidt I, Schwabe C, Benavente L, Torrez M, Ridl FC, Segura JL et al. Marked Increase in Child Survival after Four Years of Intensive Malaria Control. *Am J Trop Med Hyg.* 2009; 80:882–8.

23 Lessler JT, Sirken MG. Laboratory-Based Research on the Cognitive Aspects of Survey Methodology: The Goals and Methods of the National Center for Health Statistics Study. *Milbank Q.* 1985; 63:565–81.

24 Lim SS, Myerson R, Rosenfeld LC, Murray CJL. Safe pregnancy and delivery: A systematic analysis of trends in the coverage of antenatal and intrapartum care. *Forthcoming.*

25 Mahy M. Measuring Child Mortality in AIDS-Affected Countries. Sept. 4, 2003.http://www.un.org/esa/population/publications/adultmort/UNICEF_Paper15.pdf (accessed Dec. 18, 2009).

26 Murray CJL, Laakso T, Shibuya K, Hill K, Lopez AD. Can we achieve Millennium Development Goal 4? New analysis of country trends and forecasts of under-5 mortality to 2015. *Lancet.* 2007; 370:1040–54.

27 Nakiyingi JS, Bracher M, Whitworth JA et al. Child survival in relation to mother's HIV infection and survival: evidence from a Ugandan cohort study. *AIDS.* 2003; 17:1827-34.

28 Ndirangu J, Newell ML, Tanser F, Herbst AJ, Bland R. Decline in early life mortality in a high HIV prevalence rural area of South Africa: evidence of HIV prevention or treatment impact? *AIDS.* 2010; 24.

29 Paciorek CJ. Nonstationary Gaussian Process for Regression and Spatial Modelling. Pittsburgh, PA: Carnegie Mellon University, 2003.

30 Preker AS, Wang J, Bos E, Peabody J, Jamison DT. Measuring Country Performance on Health: Selected Indicators for 115 Countries. Washington, DC: World Bank, 1999.

31 Rajaratnam JK, Marcus JR, Flaxman A, Wang H, Levin-Rector A, Dwyer L et al. Neonatal, postneonatal, childhood, and under-5 mortality for 187 countries, 1970–2010: a systematic analysis of progress towards Millennium Development Goal 4. *Lancet*. In press.

32 Rajaratnam JK, Tran LN, Lopez AD, Murray CJL. Measuring under-five mortality: validation of new low-cost methods. *PLoS Med.* 2010; 7(4):e1000253.

33 Rasmussen CE, Williams CKI. Gaussian Processes for Machine Learning. Cambridge, MA: MIT Press, 2006.

34 Ravishankar N, Gubbins P, Cooley R, Leach-Kemon K, Michaud C, Jamison D et al. Financing of global health: tracking development assistance for health from 1990 to 2007. *Lancet.* 2009; 373:2113–24.

35 Thompson P. Optimum smoothing two-dimensional fields. *Tellus.* 1956; 8:84–93.

36 UNFPA News. Second Regular Session UNDP/UNFPA Executive Board: statement by Thoraya Ahmed Obaid, Executive Director, UNFPA. 2007. (accessed March 18, 2010).

37 UNICEF, WHO, The World Bank, and UN Population Division. Levels and Trends of Child Mortality in 2006: Estimates developed by the Inter-agency Group for Child Mortality Estimation. http://www.childinfo.org/files/infant_child_mortality_2006.pdf (accessed April 26, 2010).

38 UNICEF. Child mortality database: estimates for 2007. UNICEF, Nov 20, 2009. http://www.childmortality.org (accessed March 18, 2010).

39 UNICEF. Child mortality database: estimates for 2008. UNICEF, Nov. 20, 2009. http://www.childmortality.org (accessed March 18, 2010).

40 United Nations Population Division. World Population Prospects: the 2008 Revision Population Database. New York, NY: United Nations. 2009.

41 Uppsala Conflict Data Program. UCDP Non-state Actor Dataset v. 1-2009. Uppsala, Sweden: Uppsala University, 2009. http://www.pcr.uu.se/research/UCDP/database.htm (accessed March 2, 2010).

42 Uppsala Conflict Data Program. UCDP Non-State Conflict Dataset v. 2.1 2002-2007. Uppsala, Sweden: Uppsala University, 2009. www.ucdp.uu.se/database (accessed March 2, 2010).

43 Uppsala Conflict Data Program. UCDP/PRIO Armed Conflict Dataset v.4-2009, 1946 – 2008. Uppsala, Sweden: Uppsala University, 2009. www.ucdp.uu.se/database (accessed March 2, 2010).

44 Ward P, Zaba B. The Effect of HIV on the Estimation of Child Mortality Using the Children Surviving/Children Ever Born Technique. *S Afr J Dem.* 2008; 11.

45 Wiener N. Extrapolation, Interpolation, and Smoothing of Stationary Time Series. Cambridge, MA: MIT Press, 1949.

46 World Bank. World Development Report 1993: Investing in Health. New York, NY: Oxford University Press, 1993.

47 World Health Organization. World malaria report. Geneva, Switzerland: World Health Organization, 2008.

48 You D, Wardlaw T, Salama P, Jones G, UNICEF. Levels and trends in under 5 mortality, 1990-2008. *Lancet.* 2009; 375:100–3.

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