COMMITTING TO CHILD SURVIVAL
A PROMISE RENEWED

Committing to Child Survival: A Promise Renewed

Progress Report 2015

unicef

Please contact:
Division of Data, Research and Policy, UNICEF
3 United Nations Plaza, New York, NY 10017, USA

Note on maps: All maps included in this publication are stylized and not to scale. They do not reflect a position by UNICEF on the legal status of any country or area or the delimitation of any frontiers. The dotted line represents approximately the Line of Control agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the Parties. The final boundary between the Republic of the Sudan and the Republic of South Sudan has not yet been determined. The final status of the Abyei area has not yet been determined.

This report, additional online content and corrigenda are available at <www.apromiserenewed.org>
For the latest data, please visit <data.unicef.org>

ISBN: 978-92-806-4815-7

Photograph credits

Cover	© UNICEF/PFPG2015-3428/Shrestha
Page 4:	© UNICEF/MADA2014-00042/Ramasom
Page 6:	© UNICEF/LAO-2015-Noorani-0214
Page 8:	© UNICEF/GHAA2015-01367/Quarmyn
Page 11:	© UNICEF/NYHQ2013-1525/Pirozzi
Page 12:	© UNICEF/NYHQ2014-3418/Nesbitt
Page 14:	© UNICEF/BANA2014-00457/Mawa
Page 17:	© UNICEF/UKLA2014 - 1419/Dawe
Page 22:	© UNICEF/NYHQ2014-3622/Pirozzi
Page 26:	© UNICEF/NYHQ2015-1731/Beechey
Page 32:	© UNICEF/UKLA2013-00055/Lane
Page 34:	© UNICEF/NYHQ2014-3166/Zmey
Page 36:	© UNICEF/SLRA2013-0286/Asselin
Page 41:	© UNICEF/NYHQ2013-1513/Pirozzi
Page 43:	© UNICEF/UNI180558/Yong
Page 49:	© UNICEF/HIVA2015-0002/Schermbrucker
Page 50:	© UNICEF/NYHQ2012-2247/Markisz
Page 59:	© UNICEF/MENA2015-00001/Rashidi
Page 60:	© UNICEF/NYHQ2014-3524/Pirozzi
Page 70:	© UNICEF/UNI175310a/Noorani
Page 71:	© UNICEF/NYHQ2014-3189/Zaidi
Page 72:	© UNICEF/NYHQ2009-1229/Pirozzi
Page 75:	© UNICEF/NYHQ2015-0250/El Baba
Page 76:	© UNICEF/NYHQ2015-1464/Calvin
Page 79:	© UNICEF/INDA2015-00030/Biswas
Page 80:	© UNICEF/NYHQ2013-1537/Ferguson
Page 82:	© UNICEF/NYHQ2009-1089/Furrer
Page 83:	© UNICEF/UKLA2014-1349/Fabres
Page 86:	© UNICEF/SUDA2014-XX567/Noorani

COMMITTING TO CHILD SURVIVAL
A PROMISE RENEWED

Committing to Child Survival:

A Promise Renewed

Progress Report 2015

Renewing the promise — in every country, for every child

Acknowledgements

This report was prepared by UNICEF's Division of Data, Research, and Policy in collaboration with the Programme Division and the Secretariat for *A Promise Renewed*.

REPORT TEAM

Core writing team
Policy, Strategy, and Networks Section, Division of Data, Research, and Policy — Emily Garin

Data and Analytics Section, Division of Data, Research, and Policy — Priscilla Idele; Danzhen You; Lucia Hug; Agbessi Amouzou; Liliana Carvajal Velez; Jan Beise; Simon Ejdemyr; Julia Krasevec; Tom Slaymaker

Health Section, Programme Division — Nina Schwalbe

Secretariat for *A Promise Renewed* — Guy Taylor

Consultant — Chris Brazier

Additional data and analysis support
Data & Analytics Section, Division of Data, Research, and Policy — Robert Bain; Colleen Murray; Khin Wityee Oo; Shahrouh Sharif; Tyler Andrew Porth; Chiho Suzuki

Design and layout: Upasana Young

Communications: Guy Taylor

Editing: Lois Jensen

Fact checking: Hirut Gebre-Egziabher; Ami Pradhan

Policy and communication advice and support were provided by Geeta Rao Gupta, ***Deputy Executive Director;*** Yoka Brandt, ***Deputy Executive Director***; Jeffrey O'Malley, ***Director***, Division of Data, Research, and Policy; Paloma Escudero, ***Director***, Division of Communication; Ted Chaiban, ***Director***, Programme Division; Edward Carwardine, ***Deputy Director***, Division of Communication; George Laryea-Adjei, ***Deputy Director***, Division of Data, Research, and Policy.

Additional support was provided by David Anthony; Maaike Arts; Yarlini Balarajan; Valentina Buj; Theresa Diaz; Kim Dickson; Kathryn Donovan; Attila Hancioglu; Karoline Hassfurter; David Hipgrave; Henri Van Den Hombergh; Claes Johansson; Lijuan Kang; Roland Kupka; Catherine Langevin-Falcon; Ken Legins; Vivian Lopez; Chewe Luo; Craig McClure; Najwa Mekki; Padraic Murphy; Holly Newby; Rada Noeva; Rebecca Obstler; John Quinley; Kumanan Rasanathan; Hugh Reilly; Dolores Rio; Katherine Rogers; Sostena Romano; Claudia Gonzalez Romo; Jim Rosenberg; Alyssa Sharkey; Werner Schultink; Tanya Turkovich; Daniel Vadnais; Rita Ann Wallace; Tessa Wardlaw; Nabila Zaka; Flint Zulu.

Special thanks to Sherin Varkey from UNICEF Afghanistan, Alexandra Westerbeek from UNICEF Ethiopia, Victor Ngongalah from UNICEF Ghana, Caroline Den Dulk and Gagan Gupta from UNICEF India, Kyaw Aung from UNICEF Malawi, Willibald Zeck from UNICEF Philippines, Nathalie Lam from UNICEF Senegal, Sudha Sharma from UNICEF Tanzania, Ana Cristina Matos, Cristina Albuquerque, Jucilene Rocha, Maria Estela Caparelli and Rogério Carlos Borges de Oliveira from UNICEF Brazil and Paulo Cezar Galvão Pinto from Observatory of Development Indicators — SESI PR in Brazil for their assistance in providing data and information. Thanks also go to Adrienne Clermont, Yvonne Tam and Neff Walker at the Institute for International Programs, Johns Hopkins Bloomberg School of Public Health for carrying out the analyses using the Lives Saved Tool.

Special thanks to UNICEF's core and thematic donors and to supporters of UNICEF's data analysis work, including the United States Agency for International Development, the Bill and Melinda Gates Foundation, and the National Committee for UNICEF of the Republic of Korea.

Contents

Ending Preventable Child and Maternal Deaths: *A Promise Renewed*

Background

In June 2012, the Governments of Ethiopia, India and the United States of America convened the Child Survival Call to Action in Washington, D.C. This high-level forum brought together over 700 representatives from government, civil society and the private sector to rejuvenate the global child survival movement. The forum built on the success of the many partnerships, structures and interventions that already existed within and beyond the field of health.

Following the Child Survival Call to Action, 178 governments — as well as hundreds of civil society, private sector and faith-based organizations — signed a pledge vowing to do everything possible to stop women and children from dying of causes that are easily avoidable. We now call this commitment *A Promise Renewed*.

Since 2012, over 30 countries have deepened their commitments by launching sharpened country strategies for child survival, further accelerating global progress for children. Those national strategies are based on the core principles advocated by *A Promise Renewed*:

1. Fostering political commitment to end preventable child mortality by implementing sharpened country strategies for child survival and publicly committing to ambitious, measurable goals

2. Strengthening public accountability through improved monitoring, data and use of tools such as scorecards to track progress and identify priorities for action

3. Mobilizing societies and communities to take action on child survival and to hold governments accountable for their commitments.

Accelerating progress on child survival beyond 2015

Since its initiation, *A Promise Renewed* has focused on promoting two goals: first, keeping the promise of Millennium Development Goal (MDG) 4 – to reduce the under-five mortality rate by two thirds, between 1990 and 2015; and second, continuing the fight beyond 2015, until no child or mother dies from preventable causes.

To achieve these goals, partners that support *A Promise Renewed* have committed to five priority actions:

1. Increasing efforts in the countries facing the greatest challenges on under-five mortality

2. Scaling up access to underserved populations everywhere

3. Addressing the causes that account for the majority of under-five deaths

4. Increasing emphasis on the underlying drivers of child mortality, such as women's education and empowerment

5. Rallying around a shared goal and using common metrics to track progress.

By focusing on these priority actions and core principles, countries are already achieving progress, bending the curve on child mortality and moving towards a world where no mother or child dies from a preventable cause. As we begin the work of the Sustainable Development Goals, maintaining this momentum must be our top priority.

Foreword

Foreword

September 2015

Twenty-five years ago this month, when the Convention on the Rights of the Child came into force, the world made a promise to its children. It was a promise to do everything we could to keep them alive, to keep them healthy, and to help them realize their full potential.

Fifteen years ago, the world extended these promises through the Millennium Development Goals. They included cutting the number of young children dying before their fifth birthdays, keeping their mothers alive, and tackling diseases and deprivations that threatened their futures.

And three years ago, we renewed those promises with the Child Survival Call to Action, which launched the *A Promise Renewed* movement to end preventable child deaths. Since then, nearly 180 countries have pledged to make child survival a priority — and 30 countries have followed this pledge with sharpened strategies to address child mortality.

This report takes stock of our collective progress towards fulfilling those promises. Since 1990, the world has cut both the rate and number of under-five deaths by more than half. Since 2000, we have saved the lives of 48 million children under 5.

These results — achieved in cities and villages, in wealthy and poor countries, in every region of the world — represent one of the first great achievements of the new millennium.

It would be tempting to focus solely on these successes — but they are by no means universal. For while some equity gaps are shrinking, far too many children still face vastly different odds of surviving their first five years because of where they are born or their families' economic status; because of their race or ethnicity … their gender … or because they have a disability.

Consider the progress we have made and the challenge we face in 2015. We estimate that this year, nearly 3 million fewer children under the age of 5 will die from infectious diseases than did in 2000. But, nonetheless, 5.9 million children under the age of 5 will still die, primarily from preventable causes. Eleven children, every minute.

Every one of these is a child who has lost her future. Every one a loss to grieving parents. Every one a child we failed.

To meet our promises to the children of the future, we must learn from everything the last 25 years have taught us — our successes and our failures.

What are those lessons?

First, we must not limit our ambitions. We can make tremendous progress, even in places facing the most difficult challenges. Countries that were failing to reduce child mortality in the 1990s are now seeing some of the world's fastest declines. And we know that focusing on the hardest to reach and most vulnerable children can actually be more cost-effective over time, saving more lives for every dollar spent.

We have learned that better data can show us where those most vulnerable children are being left behind — even in countries that have made impressive national gains.

That scaling up simple, proven, cost-effective interventions can prevent the vast majority of the under-five deaths.

That focusing on reaching mothers and their newborns — who currently account for 45 per cent of all under-five deaths — can yield huge gains.

That stronger community-based health systems — linking critical interventions and services from antenatal care to immunization to nutrition — can greatly increase our ability not only to save the lives of more children but to help those children reach their full potential.

The experience of *A Promise Renewed* has demonstrated that if we all work together — governments, international organizations, the private sector, civil society, communities and families — we can save the lives of 38 million children over the next 15 years.

As we look ahead to the promises of the Sustainable Development Goals, the lessons of our successes and our shortcomings send a clear message: We can shape the future we want for the world's children.

Will it be one in which we realize the right of every child to survive and thrive?

A world in which we honour our promises is one in which millions more children will live to fulfil their own promise — to the benefit of us all.

Anthony Lake
Executive Director, UNICEF

Main Messages of the 2015 Progress Report

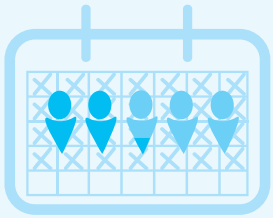
Progress and disparities in under-five mortality

2015

5.9 million under-five deaths

16,000 per day
700 per hour
11 per minute

45% of under-five deaths occur in the first 28 days of life



Progress

Both the number of under-five deaths and the rate of under-five mortality have fallen by more than half since 1990

1990
12.7M

2015
5.9M
number of under-five deaths

91 per 1,000 live births — 1990

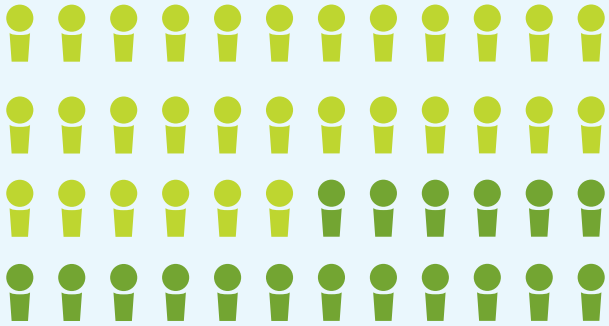
43 per 1,000 live births — 2015
under-five mortality rate

Progress is accelerating, especially in sub-Saharan Africa

Annual rate of reduction in under-five mortality

Global
1.8 — 1990s
3.8 — 2000–2015

Sub-Saharan Africa
1.6 — 1990s
4.1% — 2000–2015



48 million children under age 5 have been saved since 2000

18 million of those lives were saved because of accelerated progress since 2000

More than **4 in 5** lower-income countries have made faster progress since 2000 than they did in the 1990s

Despite progress, disparities in child survival remain high

Children from the poorest households are
1.9x as likely to die before the age of five as children from the richest households

Children of uneducated mothers are
2.8x as likely to die before the age of five as children whose mothers have at least a secondary education

Children from rural areas are
1.7x as likely to die before the age of five as children from urban areas

Nearly **9 out of 10** under-five child deaths still occur in low- and lower-middle-income countries

yet just 6 out of 10 births occur in these countries

In sub-Saharan Africa, **1 out of 12** children dies before his or her fifth birthday

In South Asia, **1 out of 19** dies

In high-income countries, **1 out of 147** dies

Children under-five in fragile contexts are nearly
2x as likely to die as children in the rest of the world

Source: UNICEF analysis based on the United Nations Inter-agency Group for Child Mortality Estimation (UN IGME), 2015.

Main Messages of the 2015 Progress Report

Over the past 25 years, the number of children who die before reaching their fifth birthday has fallen by more than half. While the world has not achieved the target of a two-thirds reduction in under-five mortality set out in Millennium Development Goal (MDG) 4, falling mortality has saved the lives of 48 million children under the age of 5 since 2000 — an enormous accomplishment.

The progress that has been made — especially the acceleration achieved in recent years — shows that tremendous advances are possible, even in places with scarce resources and with substantial burdens of child mortality. Wealth does not have to determine destiny; past performance does not have to overshadow future potential; the child mortality curve can be bent. The results communicate a clear message: We can choose a better future for the world's children.

The progress so far

Concerted global efforts have led to dramatic reductions in under-five mortality over the past 25 years…

- Since 1990, the global under-five mortality rate has fallen by 53 per cent, from 91 deaths per 1,000 live births in 1990 to 43 in 2015; neonatal mortality has fallen by 47 per cent, from 36 to 19 deaths per 1,000 live births.
- Over the same period, the number of under-five deaths per year has declined from 12.7 million to 5.9 million: 16,000 children will die every day in 2015 compared to 35,000 in 1990.
- Falling mortality since 2000 has saved the lives of 48 million children under the age of 5.
- While the world did not meet the MDG target, every region in the world reduced its under-five mortality rate by at least half during the 1990–2015 period.
- What is more, 24 out of 81 low- and lower-middle-income countries achieved the MDG 4 target, reducing under-five mortality rates by two thirds or more over the period 1990–2015.

Reductions in under-five mortality have accelerated in recent years — especially in some of the most challenging contexts

- The global annual rate of reduction in under-five mortality more than doubled, from 1.8 per cent in the 1990s to 3.9 per cent during the 2000–2015 period.
- More than four fifths of lower-income countries achieved faster progress during the period 2000–2015 than in the 1990s.
- Progress in reducing under-five mortality in sub-Saharan Africa has been faster than for the world as a whole — the annual rate of reduction in that region increased from just 1.6 per cent in 1990–2000 to 4.1 per cent in 2000–2015.
- Between 2000 and 2015, 21 sub-Saharan African countries reversed an increasing under-five mortality trend or at least tripled their rate of progress compared to the 1990s.

… but globally, progress has not been enough to achieve the MDG 4 target of reducing under-five mortality by two thirds

- Only 62 countries have reached the MDG 4 target of a two-thirds reduction in under-five mortality.
- Only two regions — East Asia and the Pacific and Latin America and the Caribbean — have met the MDG target at a regional level.
- If all countries had met the MDG target, 14 million more lives could have been saved since 2000.

The work that remains

Despite the gains achieved during the MDG era, 16,000 children under the age of 5 still die every day — 11 every minute. Between 1990 and the end of 2015, a total of 236 million children will have died before reaching their fifth birthday. The remaining burden of child mortality is not evenly shared among or within countries. Enhanced efforts are needed to drive faster progress, particularly within the countries, regions and populations where serious inequities persist.

Most under-five deaths are still caused by diseases that are readily preventable or treatable with proven, cost-effective interventions

- Globally, infectious diseases, prematurity and complications during labour and delivery are the main causes of death for children under age 5.
- Infectious diseases account for about half of global under-five deaths.
- Forty-five per cent of global under-five deaths occur during the neonatal period.

While the highest-burden regions have accelerated progress in reducing under-five mortality, the burdens that remain are still very unevenly distributed

- Sub-Saharan Africa remains the region with the highest under-five mortality rate in the world. One child in 12 there dies before his or her fifth birthday. In high income countries, the ratio is 1 in 147.
- Sub-Saharan Africa and South Asia account for more than 80 per cent of global under-five deaths.
- Low- and lower-middle-income countries account for nearly 9 in 10 under-five deaths worldwide, although they only account for around 60 per cent of the world's under-five population and live births.
- Children in fragile contexts face nearly twice the risk of dying before their fifth birthday as children in non-fragile contexts.

Higher rates of under-five mortality reflect longstanding sources of disadvantage and persistent inequities

- Children from wealthier families, urban households or mothers with at least secondary education stand a far better chance of surviving their early years than children from poorer families, rural households or mothers without education.
- Children from the poorest households are, on average, 1.9 times as likely to die before the age of 5 as children from the richest households.
- Children from rural areas are 1.7 times as likely to die before the age of 5 as children from urban areas.
- Children of mothers who lack education are 2.8 times as likely to die before the age of 5 as children whose mothers have secondary or higher education.

What is working

More children are surviving their first days and years of life thanks to the scale-up of high-impact newborn and child survival interventions and the strengthening of the health systems that deliver them. Those health systems require continued investment in order to maintain and expand provision of high-quality services to those who need them most.

THE FIRST 28 DAYS: The use of proven, cost-effective interventions can have a major impact on neonatal deaths, but too few mothers and newborns are benefitting from them

- Antenatal visits and skilled attendance at birth are crucial for healthy pregnancies, safe deliveries and neonatal survival. In 2014, 71 per cent of births had a skilled attendant, compared to 59 per cent in 1990. Despite this progress, in 2014 about 36 million births in low- and middle-income countries occurred with no skilled attendant present.
- Infants who are exclusively breastfed have a substantially lower risk of death from diarrhoea and pneumonia, yet only two in five babies worldwide are exclusively breastfed for the first six months of life.
- Postnatal check-ups for women who have recently given birth and their babies can effectively identify and address many of the most dangerous postnatal complications, provide nutritional counselling for mother and baby, and bring about important reductions in newborn mortality. However, less than 40 per cent of women and just a quarter of newborns receive a health check within two days of delivery in least developed countries.
- Early initiation of antiretroviral medicines for the prevention of mother-to-child transmission of HIV has helped to reduce the estimated number of new HIV infections among children by nearly 60 per cent between 2000 and 2014; further efforts are now needed to ensure that mothers continue to receive antiretroviral medicines during the breastfeeding period, where transmission is now more highly concentrated.

MONTHS 1 TO 59: Scale-up of high-impact preventive and curative interventions has made substantial contributions to falling under-five mortality

- Pneumonia-related deaths have fallen, in part thanks to the rapid roll-out of vaccines, better nutrition and improved care-seeking and treatment for symptoms of pneumonia.
- Diarrhoea-related deaths are declining in large part because of improvements in drinking water, sanitation and hygiene, the roll-out of a rotavirus vaccine and treatment with oral rehydration salts solutions and zinc.
- Since 2001, prevention, treatment and elimination efforts have averted an estimated 6.1 million under-five deaths from malaria; insecticide-treated bednets are an inexpensive, cost-effective prevention measure and require further scaling up.
- Vitamin A supplementation can reduce child mortality by nearly a quarter, and integrated child health events have helped expand the reach of vitamin A supplementation efforts to roughly two thirds of targeted children.

The future we want

The final results of the Sustainable Development Goal (SDG) agenda will not be tallied for another 15 years, but the decisions that are made now — at the outset of the SDGs — will determine whether those results will be achieved.

Greater attention to equity can accelerate reductions of the remaining under-five deaths

- In a key group of high-mortality countries (which account for almost 90 per cent of global under-five deaths), a quarter of all such deaths in 2015 could be averted if those countries scaled up coverage of key interventions to the levels enjoyed by the wealthiest households.
- In all countries — including low-mortality countries — high-quality disaggregated data are key to identifying and eliminating disparities in child survival.

The differences between slowing, maintaining or accelerating momentum on under-five mortality are stark

- If levels of under-five mortality for each country remain at today's levels, 94 million children under the age of 5 will die between 2016 and 2030.
- If countries' 2000–2015 rates of decline in under-five mortality are sustained, more than 25 million of these 94 million children will be saved between 2016 and 2030.
- If progress is accelerated to meet the SDG target on child mortality by 2030, 38 million of these 94 million children will be saved. Even more children will be saved if countries meet the SDG target earlier, which is possible in some countries.

Reaching the Sustainable Development Goal target for child mortality* will require faster progress, particularly in high-mortality countries

- Over two thirds of low-income countries and more than a third of lower-middle-income countries must accelerate progress in order to meet the SDG target for under-five mortality.
- In 79 countries, under-five mortality rates are currently higher than 25 deaths per 1,000 live births — the SDG target rate. At current rates of progress, only 32 of these 79 countries are set to achieve the SDG target by 2030.
- To achieve the SDG target for under-five mortality, 30 countries will need to at least double their current rate of reduction. Of these, 11 will need to triple their current rate of reduction.
- Even greater acceleration is required to achieve the SDG target for neonatal mortality.
- The countries that need to accelerate progress can be found in most regions of the world, although West and Central Africa has the highest proportion of countries requiring faster progress.

Global commitment, accountability and action

The past 25 years have provided ample evidence that we can make good on the promises we have made to children

- Under the banner of *A Promise Renewed*, nearly 180 countries have signed a pledge committing to take action to address child mortality; 30 countries have carried out launches of sharpened child survival strategies.
- Countries have integrated the vision of *A Promise Renewed* into the heart of the Sustainable Development Goals, recognizing its essential ambition in the SDG target on child survival and building on existing commitments from countries.
- The principles advocated by *A Promise Renewed* — political commitment, accountability and social mobilization — have deepened the impact of efforts to end preventable child mortality and are key to realizing the Sustainable Development Goals.
- The world is rallying around the commitments set out in the UN Secretary-General's updated Global Strategy for Women's, Children's, and Adolescents' Health, and the Every Woman Every Child movement, laying a foundation for accelerated progress.

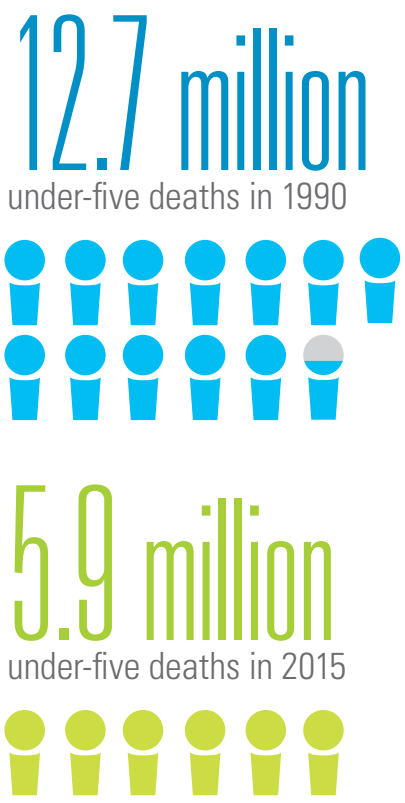
The world has achieved tremendous progress in promoting child rights in the 25 years since the ratification of the Convention on the Rights of the Child. Addressing the sources of inequity that persist in many contexts will be key to achieving further progress and bending the curve on child survival. We know what needs to be done to address under-five mortality. We must now muster political will, engage communities to strengthen government accountability, and build global commitment to achieve the future we want for the world's children.

*By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-five mortality to at least as low as 25 per 1,000 live births

1| The progress so far

1 | The progress so far

In 1990, one in seven children in Bangladesh died before the age of 5. Today, that risk has fallen by nearly three quarters.[1] Over the course of the past 15 years, improvements in child survival have helped an additional 1.6 million Bangladeshi children reach their fifth birthday. This remarkable progress is not an outlier. Bangladesh's accomplishment is one among many. In total, 24 low- and lower-middle-income countries including Cambodia, El Salvador, Georgia, Malawi and Niger have all achieved similarly impressive results — cutting mortality by two thirds or more.

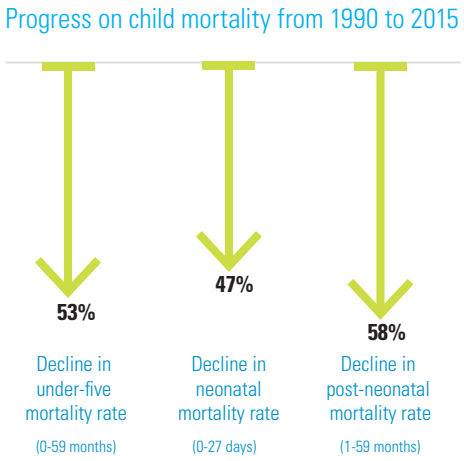


These successes combine to tell a stunning global story. In 1990, 12.7 million children around the world died before reaching their fifth birthday; in 2015, that number has fallen to 5.9 million children. The world as a whole has cut under-five mortality by more than half. Since 2000, falling mortality has saved the lives of 48 million children under the age of 5.

This progress has been achieved in a world that has increased in population, stared down natural hazards, been wracked by violent conflict and confronted the scourge of epidemics. Success in the face of such challenges reflects both changing behaviours of women and families as well as the dedicated work of governments, health workers, communities and their partners across the globe. The most promising conclusion of the data is the fact that major strides are being made in many of the places that need progress most, including low-income countries and the regions with the highest burdens of under-five mortality.

The remainder of this chapter provides further detail on the advances that have been made in reducing child mortality since 1990.

Global progress: Worldwide, both the under-five mortality rate and annual number of under-five deaths have fallen by more than half since 1990

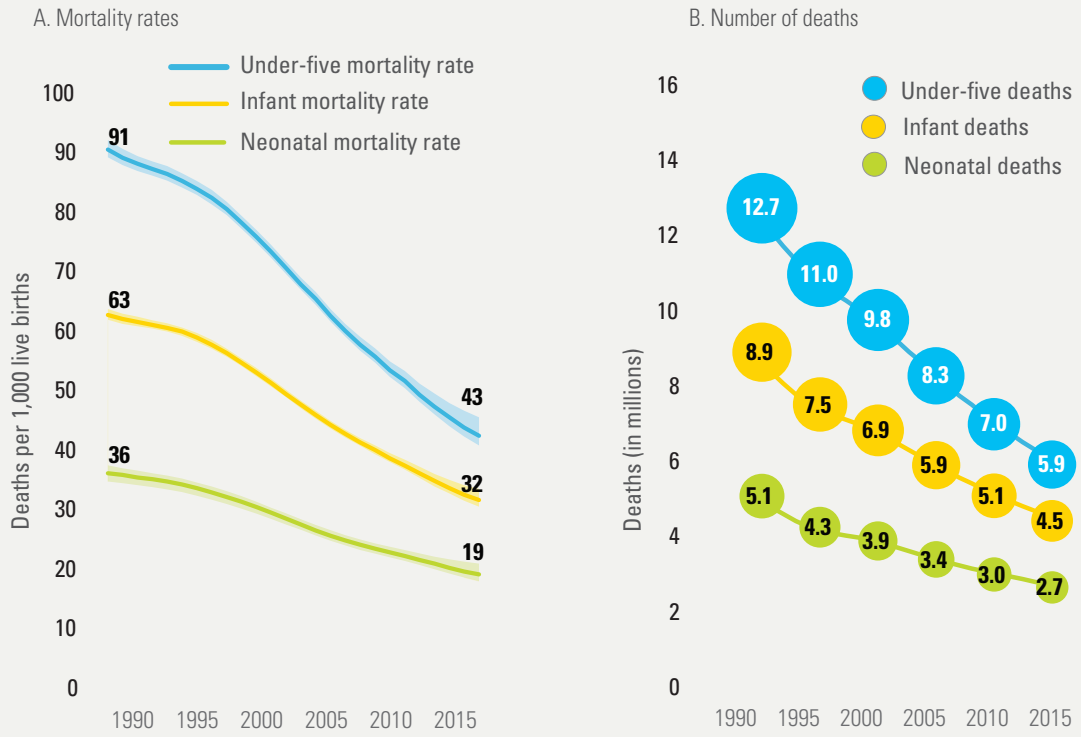


In 1990, global leaders at the World Summit for Children committed themselves to tackling the quiet catastrophe represented by the deaths of 35,000 children under the age of 5 every day. A decade later, the world redoubled its commitment to ending preventable child deaths when the Millennium Development Goals (MDGs) set a target of reducing the 1990 under-five mortality rate by two thirds by 2015.

Since those promises were made, the global under-five mortality rate has fallen by 53 per cent, from 91 deaths per 1,000 live births in 1990 to a projected 43 in 2015 (Figure 1A). The infant mortality rate has fallen by nearly half. Neonatal mortality has declined less steeply than the other rates, dropping 47 per cent. Over the same period, the absolute number of child deaths per year has also fallen substantially (Figure 1B).

This progress, while remarkable, falls short of the MDG 4 target of a two-thirds reduction in the under-five mortality rate. If every country had further accelerated progress in improving child survival since 2000 and achieved the MDG 4 target by 2015, an additional 14 million under-five deaths would have been averted between 2000 and 2015.

FIG.1 Both the under-five mortality rate and the number of under-five deaths have fallen by more than half since 1990
Global under-five, infant and neonatal mortality rates and number of deaths, 1990–2015



Note: The shaded bands in Figure 1A are the 90 per cent uncertainty intervals around the estimates of under-five mortality rates.

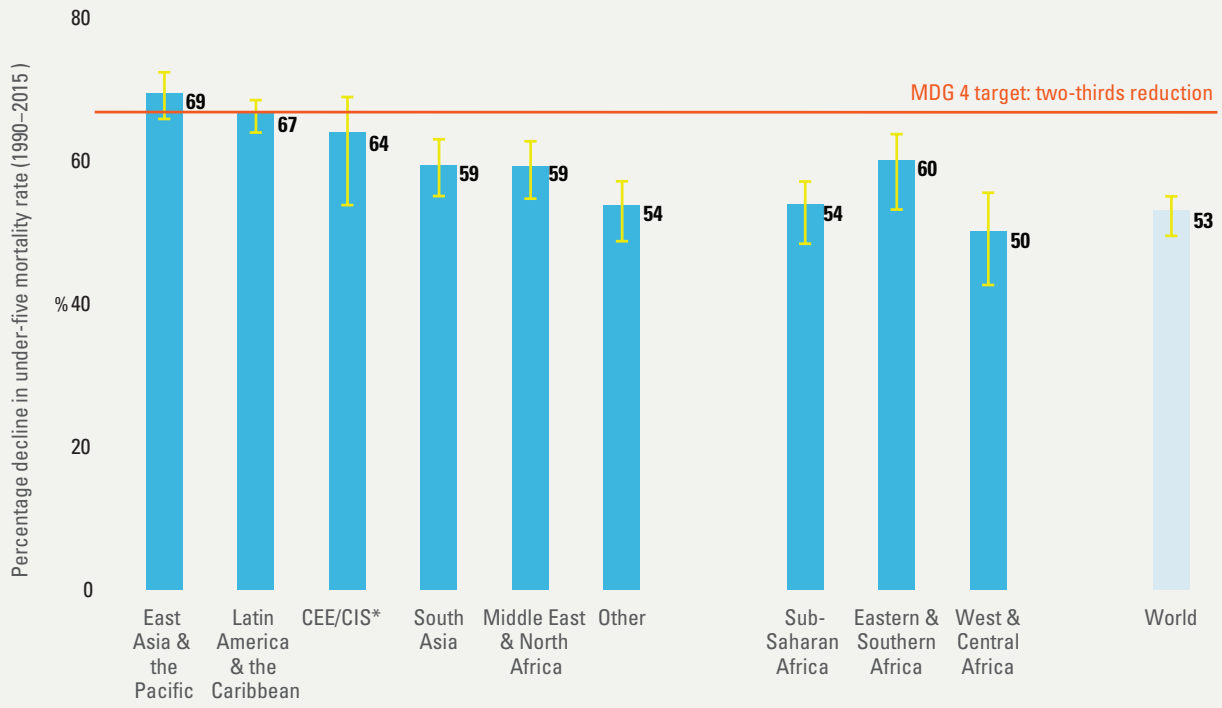
Source: UN IGME 2015

Regional progress: All regions have cut the under-five mortality rate by at least half

At a regional level, the overall trends are positive, though progress has varied among regions. Since 1990, every region of the world has reduced its under-five mortality rate by at least half (Figure 2). East Asia and the Pacific and Latin America and the Caribbean each met the MDG 4 target of a two-thirds reduction in the under-five mortality rate.

FIG.2 **Every region has reduced under-five mortality by at least half since 1990**

Percentage decline in under-five mortality rate by region, 1990–2015



*Central and Eastern Europe and the Commonwealth of Independent States

Note: The blue bars show the median estimates and the yellow vertical lines represent the 90 per cent uncertainty intervals around the value. All regional estimates refer to UNICEF's regional classification. Sub-Saharan Africa includes West & Central Africa, Eastern & Southern Africa, Djibouti and Sudan. For further details on this classification please refer to <http://data.unicef.org/regionalclassifications> and page 87.

Source: UNICEF analysis based on UN IGME 2015

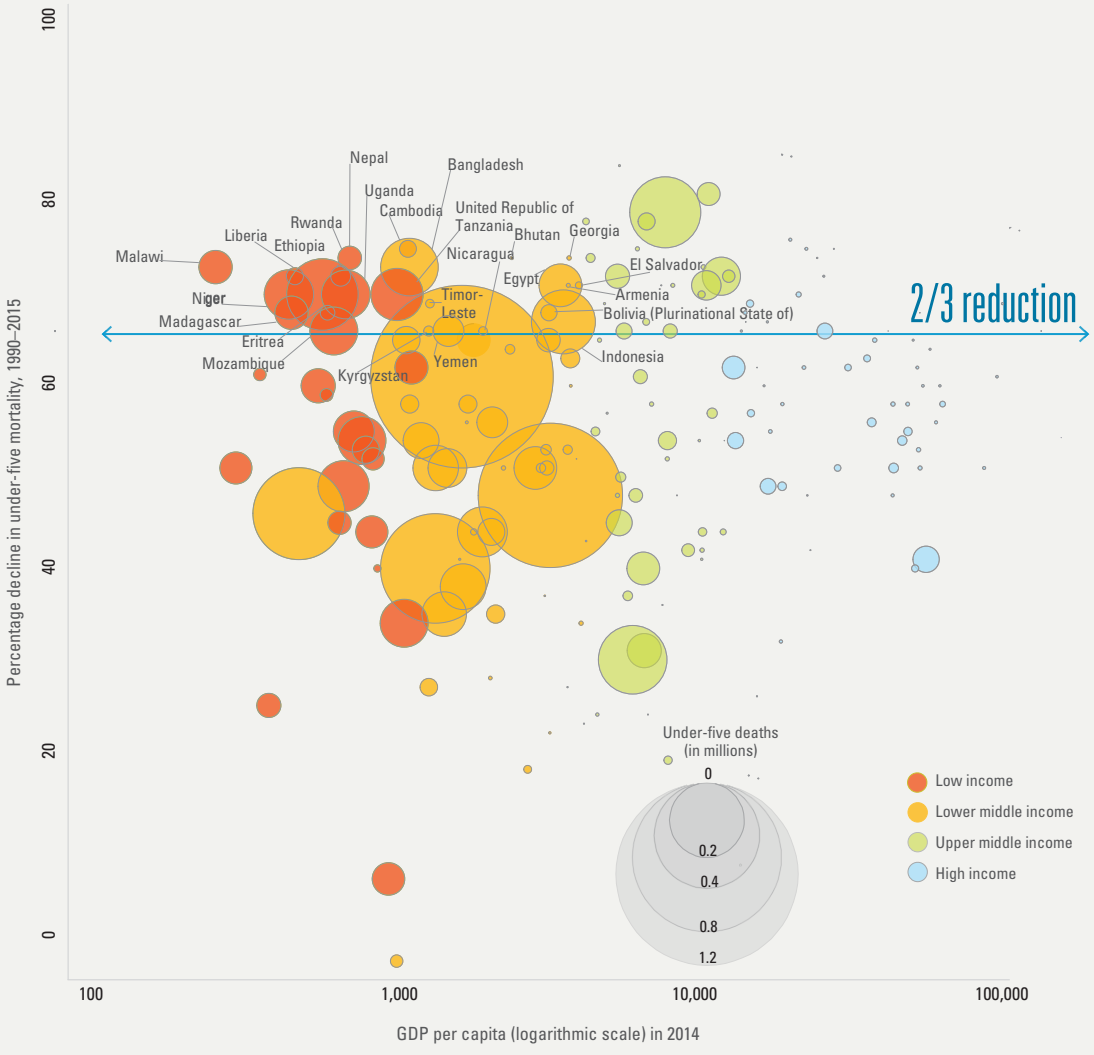
National progress: Two dozen low- and lower-middle-income countries have met the Millennium Development Goal target for reducing under-five mortality

Sixty-two countries have met the MDG 4 target for reducing under-five mortality by two thirds between 1990 and 2015. Among them are 12 low-income countries and another dozen lower-middle-income countries (Figure 3). These successes demonstrate that dramatic reductions are possible even in resource-constrained settings.

While falling short of the MDG 4 target, another 74 countries cut their under-five mortality rates by at least half. Combined, 70 per cent of the 195 countries with available data reduced under-five mortality by 50 per cent or more.

FIG. 3 Sixty-two countries met the MDG 4 target of reducing under-five mortality rates by two thirds from 1990 levels

Percentage decline in under-five mortality rate, 1990–2015 and gross domestic product (GDP) per capita, by country, 2014



Twenty-four low- and lower-middle-income countries have cut their child mortality rates by at least two thirds since 1990

Cambodia	Armenia
Ethiopia	Bangladesh
Eritrea	Bhutan
Liberia	Bolivia (Plurinational State of)
Madagascar	Egypt
Malawi	El Salvador
Mozambique	Georgia
Nepal	Indonesia
Niger	Kyrgyzstan
Rwanda	Nicaragua
Uganda	Timor-Leste
United Republic of Tanzania	Yemen

How to read the graph: Each bubble represents a country. The size of each bubble represents the number of estimated under-five deaths in the country in 2015. Countries above the blue horizontal line achieved a two thirds reduction.

Note: The income classification follows the World Bank income classification, 2015. Details can be found at: <http://data.worldbank.org/about/country-classifications/country-and-lending-groups>, accessed on 11 July 2015.

Source: UNICEF analysis based on UN IGME 2015

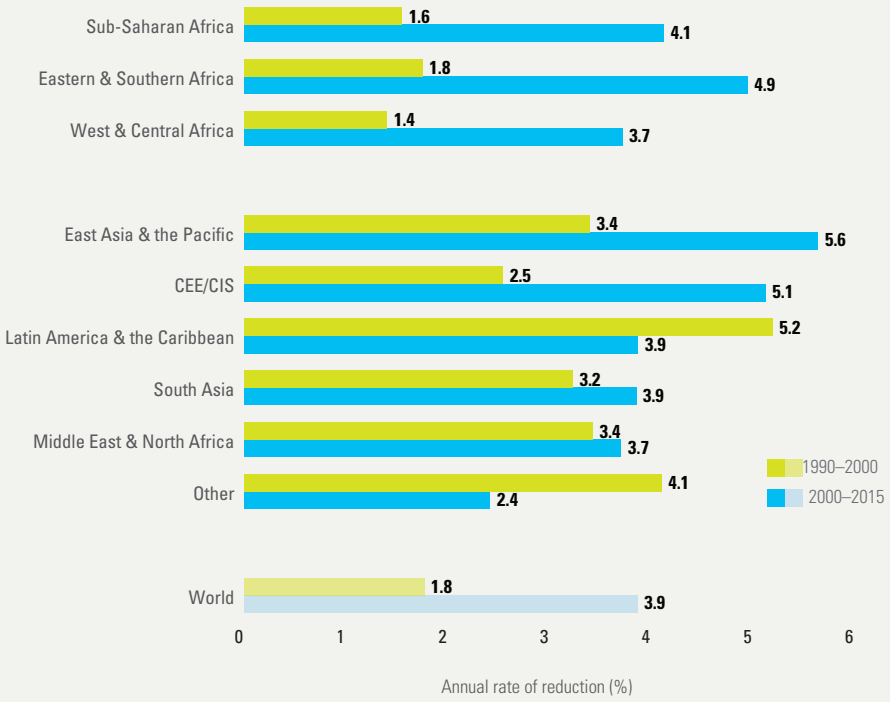
Acceleration in progress: Declines in under-five mortality rates have accelerated in recent years — especially in many of the places most in need of progress

The overall gains in reducing under-five mortality have not come at a consistent pace — global progress in improving child survival has accelerated in recent years. In the 1990s, the global annual rate of reduction in the under-five mortality rate was just 1.8 per cent; the rate in 2000–2015 was more than twice that at 3.9 per cent.

Promisingly, progress in reducing under-five mortality in sub-Saharan Africa – the region with the highest under-five mortality rate in the world – has been accelerating even faster than the global average. Its annual rate of reduction increased from just 1.6 per cent in the 1990s to 4.1 per cent over the 2000-2015 period (Figure 4).

FIG. 4 **Progress on reducing under-five mortality is accelerating**

Annual rate of reduction in the under-five mortality rate, per cent, by region, 1990–2000 and 2000–2015

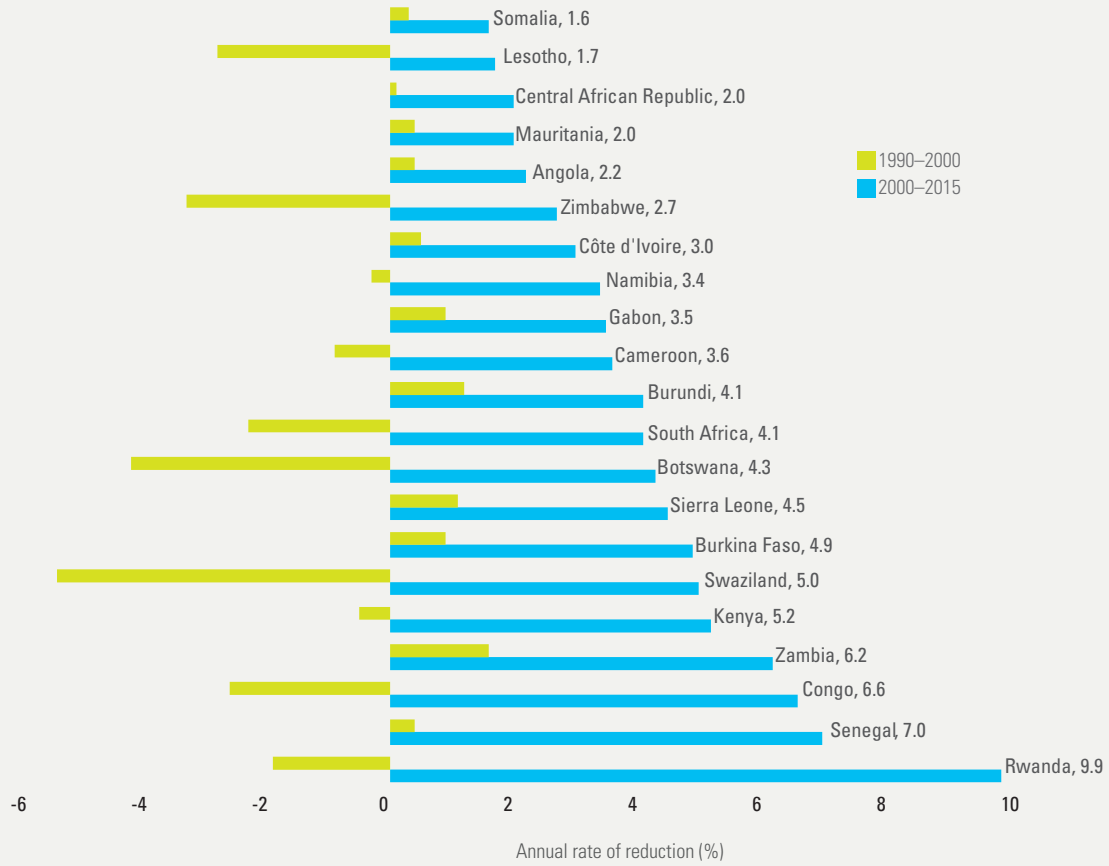


Source: UNICEF analysis based on UN IGME 2015.

All but five of the 49 sub-Saharan African countries had higher annual rates of reduction in 2000-2015 than in the 1990s. Twenty-one sub-Saharan African countries have at least tripled their annual rates of reduction from the 1990s, including 10 countries that had actually been moving backwards during that time (primarily due to the ravaging effects of HIV and AIDS) (Figure 5).

FIG. 5 Twenty-one sub-Saharan African countries made much faster progress between 2000 and 2015 than they did in the 1990s

Annual rate of reduction in the under-five mortality rate, per cent, in sub-Saharan African countries with the greatest acceleration, 1990–2000 and 2000–2015



Note: Countries in this figure have at least tripled their rate of progress or reversed an increasing mortality trend in 2000–2015 compared to the 1990s. The increasing or stagnation trends in1990–2000 in the under-five mortality rate observed for some countries in sub-Saharan Africa can be attributed partly to the impact of the AIDS epidemic.

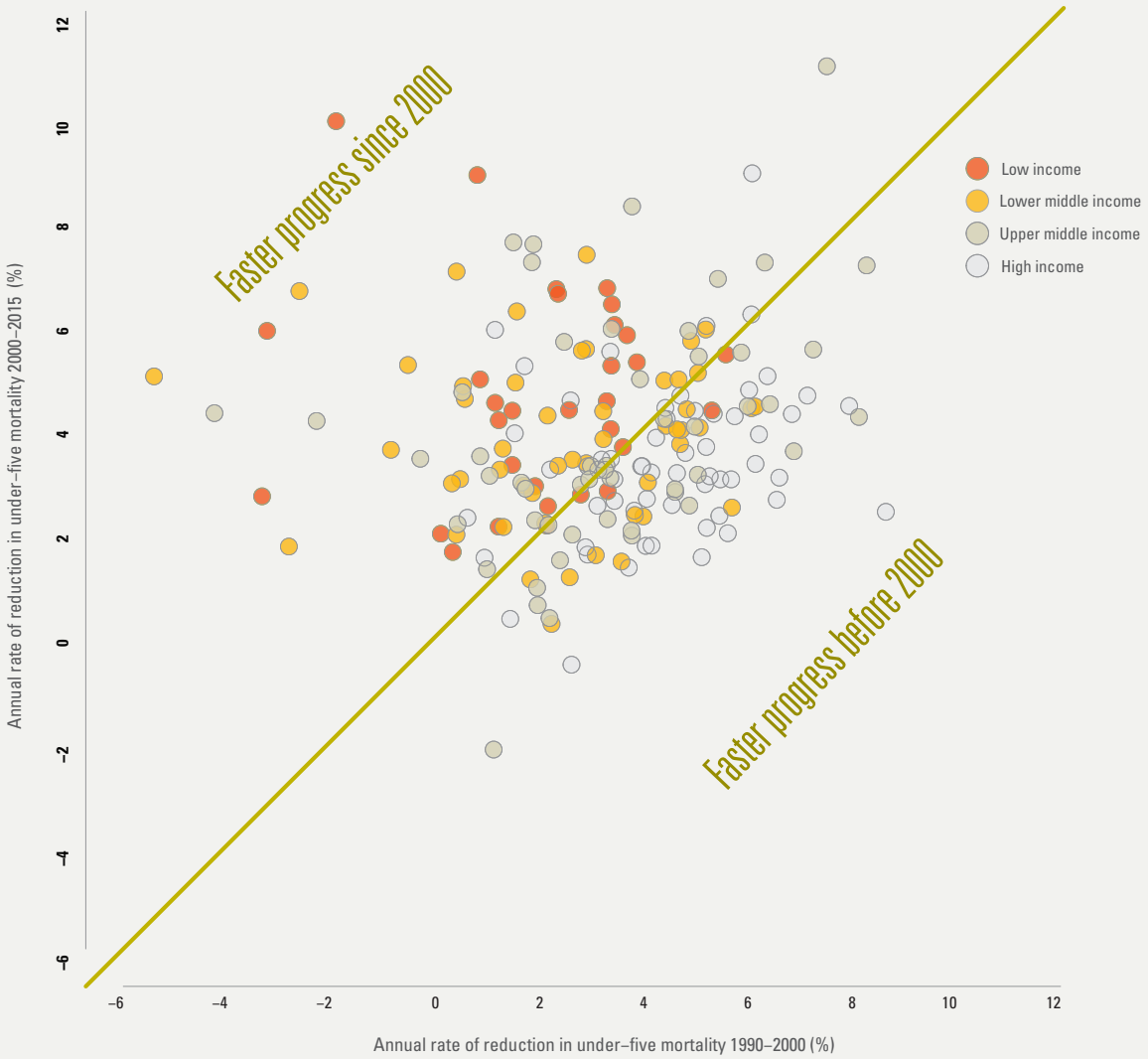
Source: UNICEF analysis based on UN IGME 2015

Within sub-Saharan Africa and beyond it, this positive trend has also been notable in low-income countries. Twenty-six of the world's 31 low-income countries have accelerated progress in reducing under-five mortality since 2000 (Figure 6) — an important achievement in countries where the remaining burden of under-five mortality continues to claim too many young lives. In addition, two thirds of lower-middle-income countries, half of upper-middle-income countries and a quarter of high-income countries reduced child mortality faster in 2000–2015 than they had before.

The trend of accelerated progress in many low- and lower-middle-income countries demonstrates that nations are bound by neither their income status nor their past performance in achieving progress for children.

FIG. 6 **More than four in five low- and lower-middle-income countries made faster progress in 2000–2015 than in the 1990s**

Annual rate of reduction in the under-five mortality rate, per cent, 1990–2000 and 2000–2015 by country



Note: The income classification follows the World Bank income classification, 2015.

Source: UNICEF analysis based on UN IGME 2015

Lives saved: Since 2000, declines in mortality rates have saved the lives of 48 million children under age 5

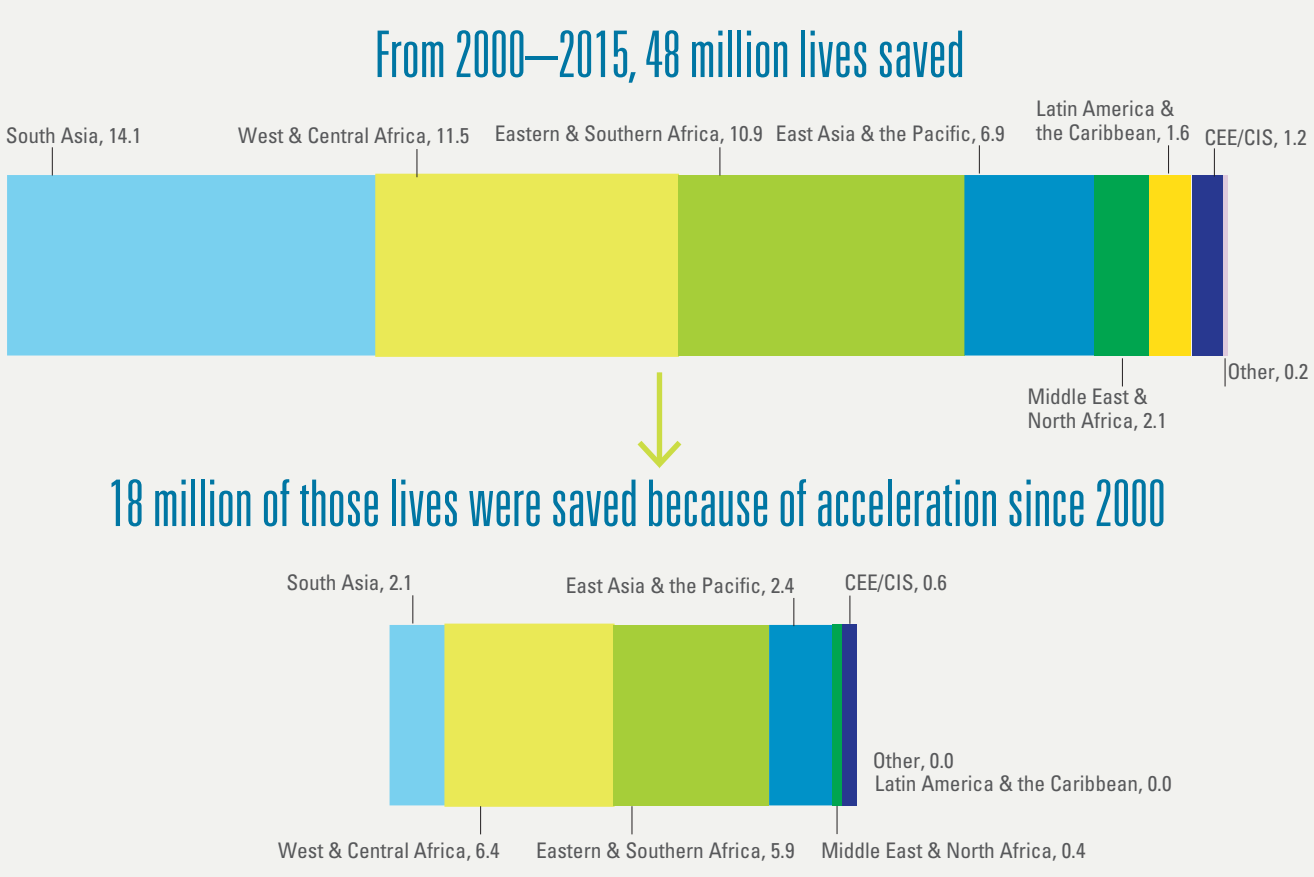
The substantial decline in under-five mortality rates since 2000 has saved the lives of 48 million children under the age of 5. These 48 million children — more than the current population of Spain — would not have survived to see their fifth birthday if the under-five mortality rate from 2000 to 2015 had remained at the 2000 level.

If child mortality had continued to fall along the modest downward trend that it followed in the 1990s, only about 30 million of those 48 million lives would have been saved. The other 18 million lives saved were the result of accelerated progress since 2000 — gains that went above and beyond those that would have occurred if the rates of decline from the 1990s had continued from 2000 to 2015.

The vast majority of the 48 million children under age 5 saved due to falling mortality rates over these years are located in sub-Saharan Africa (47 per cent) and South Asia (29 per cent) (Figure 7). Of the 18 million lives saved by accelerated progress, an even greater proportion — 70 per cent — live in sub-Saharan Africa (Figure 7).

Progress in improving child survival over the past decades has altered the trajectories of child mortality for dozens of countries and saved the lives of millions of children. It is one of the most substantial outcomes of the MDGs and should be celebrated. The lessons of this success also provide great cause for optimism. The MDG period has shown that tremendous advances are possible in places with scarce resources and with substantial burdens to overcome. These results send a clear message as the world prepares new plans for ending preventable maternal and child deaths: We can choose a better future for the world's children.

FIG. 7 **Three quarters of the 48 million under-five lives saved since 2000 were in sub-Saharan Africa and South Asia**
Number of lives saved by region, 2000–2015 (in millions)



Source: UNICEF analysis based on UN IGME 2015

League table of under-five mortality rates, 2015

Africa

Countries and areas	Under-five mortality rate (U5MR)	U5MR rank
Angola	**157**	1
Chad	**139**	2
Somalia	**137**	3
Central African Republic	**130**	4
Sierra Leone	**120**	5
Mali	**115**	6
Nigeria	**109**	7
Benin	**100**	8
Democratic Republic of the Congo	**98**	9
Niger+	**96**	10
Equatorial Guinea	**94**	11
Guinea	**94**	11
Côte d'Ivoire	**93**	13
Guinea-Bissau	**93**	13
South Sudan	**93**	13
Lesotho	**90**	17
Burkina Faso	**89**	18
Cameroon	**88**	19
Mauritania	**85**	20
Burundi	**82**	21
Mozambique+	**79**	23
Togo	**78**	24
Comoros	**74**	25
Zimbabwe	**71**	26
Liberia+	**70**	27
Sudan	**70**	27
Gambia	**69**	29
Djibouti	**65**	32
Malawi+	**64**	33
Zambia	**64**	33
Ghana	**62**	35
Swaziland	**61**	36
Ethiopia+	**59**	37
Uganda+	**55**	40
Gabon	**51**	42
Madagascar+	**50**	44
Kenya	**49**	46
United Republic of Tanzania+	**49**	46
Eritrea+	**47**	49
Sao Tome and Principe	**47**	49
Senegal	**47**	49
Congo	**45**	52
Namibia	**45**	52
Botswana	**44**	55
Rwanda+	**42**	56
South Africa	**41**	58
Morocco	**28**	73
Algeria	**26**	79
Cabo Verde	**25**	80
Egypt+	**24**	82
Mauritius	**14**	112
Seychelles	**14**	112
Tunisia+	**14**	112
Libya+	**13**	120

Asia

Countries and areas	Under-five mortality rate (U5MR)	UMR rank
Afghanistan	**91**	16
Pakistan	**81**	22
Lao People's Democratic Republic	**67**	31
Timor-Leste+	**53**	41
Turkmenistan	**51**	42
Myanmar	**50**	44
India	**48**	48
Tajikistan	**45**	52
Yemen+	**42**	56
Uzbekistan	**39**	59
Bangladesh+	**38**	61
Nepal+	**36**	63
Bhutan+	**33**	67
Azerbaijan	**32**	68
Iraq	**32**	68
Cambodia+	**29**	71
Philippines	**28**	73
Indonesia+	**27**	77
Democratic People's Republic of Korea	**25**	80
Mongolia+	**22**	84
Viet Nam	**22**	84
Kyrgyzstan+	**21**	89
State of Palestine	**21**	89
Jordan	**18**	96
Iran (Islamic Republic of)+	**16**	104
Saudi Arabia+	**15**	110
Armenia+	**14**	112
Kazakhstan+	**14**	112
Turkey+	**14**	112
Syrian Arab Republic	**13**	120
Georgia+	**12**	125
Oman+	**12**	125
Thailand+	**12**	125
China+	**11**	130
Brunei Darussalam	**10**	133
Sri Lanka	**10**	133
Kuwait	**9**	139
Maldives+	**9**	139
Lebanon+	**8**	142
Qatar	**8**	142
Malaysia	**7**	148
United Arab Emirates	**7**	148
Bahrain+	**6**	153
Israel	**4**	166
Cyprus+	**3**	182
Japan	**3**	182
Republic of Korea	**3**	182
Singapore	**3**	182

Europe

Countries and areas	Under-five mortality rate (U5MR)	U5MR rank
Republic of Moldova	**16**	104
Albania	**14**	112
Romania+	**11**	130
Bulgaria	**10**	133
Russian Federation	**10**	133
Ukraine	**9**	139
Latvia	**8**	142
Serbia+	**7**	148
Slovakia	**7**	148
Hungary+	**6**	153
Malta	**6**	153
The former Yugoslav Republic of Macedonia+	**6**	153
Belarus+	**5**	159
Bosnia and Herzegovina+	**5**	159
Greece	**5**	159
Lithuania+	**5**	159
Montenegro+	**5**	159
Poland+	**5**	159
Austria	**4**	166
Belgium	**4**	166
Croatia+	**4**	166
Denmark	**4**	166
France	**4**	166
Germany	**4**	166
Ireland	**4**	166
Italy	**4**	166
Monaco	**4**	166
Netherlands	**4**	166
Portugal+	**4**	166
Spain	**4**	166
Switzerland	**4**	166
United Kingdom	**4**	166
Andorra+	**3**	182
Czech Republic+	**3**	182
Estonia+	**3**	182
Norway+	**3**	182
San Marino+	**3**	182
Slovenia+	**3**	182
Sweden	**3**	182
Finland	**2**	193
Iceland+	**2**	193
Luxembourg+	**2**	193
Holy See	-	-
Liechtenstein	-	-

League table of under-five mortality rates, 2015

Americas			Oceania		
Countries and areas	Under-five mortality rate (U5MR)	U5MR rank	Countries and areas	Under-five mortality rate (U5MR)	U5MR rank
Haiti	**69**	29	Papua New Guinea	**57**	38
Guyana	**39**	59	Kiribati	**56**	39
Bolivia (Plurinational State of)+	**38**	61	Marshall Islands	**36**	63
Dominican Republic	**31**	70	Micronesia (Federated States of)	**35**	65
Guatemala	**29**	71	Nauru	**35**	65
Ecuador	**22**	84	Solomon Islands	**28**	73
Nicaragua+	**22**	84	Vanuatu	**28**	73
Dominica	**21**	89	Tuvalu	**27**	77
Paraguay	**21**	89	Niue	**23**	83
Suriname	**21**	89	Fiji	**22**	84
Honduras	**20**	94	Samoa	**18**	96
Trinidad and Tobago	**20**	94	Tonga	**17**	99
Saint Vincent and the Grenadines	**18**	96	Palau	**16**	104
Belize	**17**	99	Cook Islands+	**8**	142
El Salvador+	**17**	99	New Zealand	**6**	153
Panama	**17**	99	Australia	**4**	166
Peru+	**17**	99			
Brazil+	**16**	104			
Colombia	**16**	104			
Jamaica	**16**	104			
Venezuela (Bolivarian Republic of)	**15**	110			
Saint Lucia	**14**	112			
Argentina	**13**	120			
Barbados	**13**	120			
Mexico+	**13**	120			
Bahamas	**12**	125			
Grenada	**12**	125			
Saint Kitts and Nevis	**11**	130			
Costa Rica	**10**	133			
Uruguay	**10**	133			
Antigua and Barbuda+	**8**	142			
Chile	**8**	142			
United States	**7**	148			
Cuba	**6**	153			
Canada	**5**	159			

DEFINITIONS OF INDICATORS

Under-five mortality rate (U5MR) — Probability of dying between birth and exactly five years of age, expressed per 1,000 live births.
U5MR rank: Countries and areas are ranked in descending order of their U5MRs.

EXPLANATION OF SYMBOLS

+ Met the MDG 4 target for reducing the under-five mortality rate by two thirds between 1990 and 2015 based on the point estimate.
– Data are not available

Source: UN IGME 2015

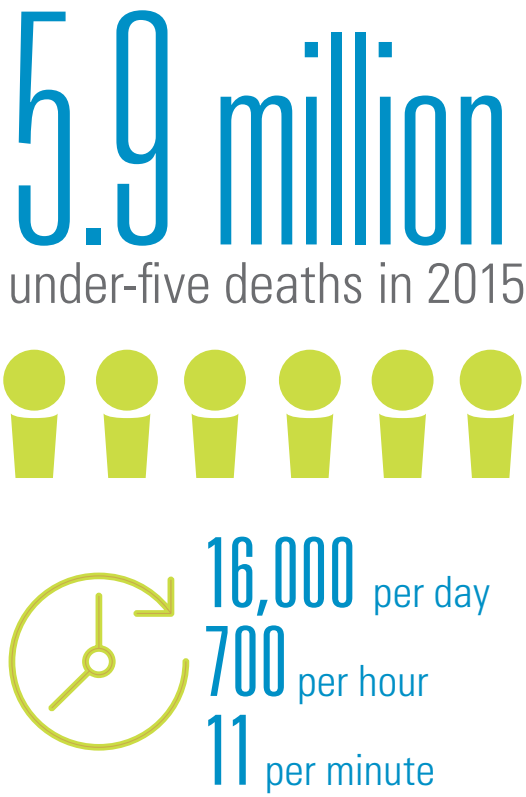
2| The work that remains

2 | The work that remains

As the MDG era gives way to a new global agenda and an even more ambitious target for reducing child mortality, it is time to take stock of the work still to be done. Even with the progress made in reducing under-five deaths during the MDG period, between 1990 and the end of 2015, a total of 236 million children will have died before reaching their fifth birthday. This number is staggering — more than the current population of Brazil, the world's fifth most populous country. About 16,000 children under the age of 5 still die every day.

The remaining burden of child mortality is not evenly shared among nations or among communities and households. Disparate starting points and uneven progress mean that special focus is needed in certain areas and among certain demographics. This chapter outlines the characteristics of the under-five deaths that remain to be tackled.

Where under-five deaths are occurring: Despite progress, sub-Saharan Africa, South Asia, lower-income countries and fragile contexts still bear the heaviest burdens of under-five mortality



Over the course of 2015, an estimated 5.9 million children will die before they reach the age of 5. These deaths are heavily concentrated in sub-Saharan Africa and South Asia, lower-income countries and in fragile contexts. These concentrations of high under-five mortality underscore the stark reality that a child's place of birth has a profound effect on his or her chances of survival.

Large disparities in under-five mortality rates continue to separate countries and regions

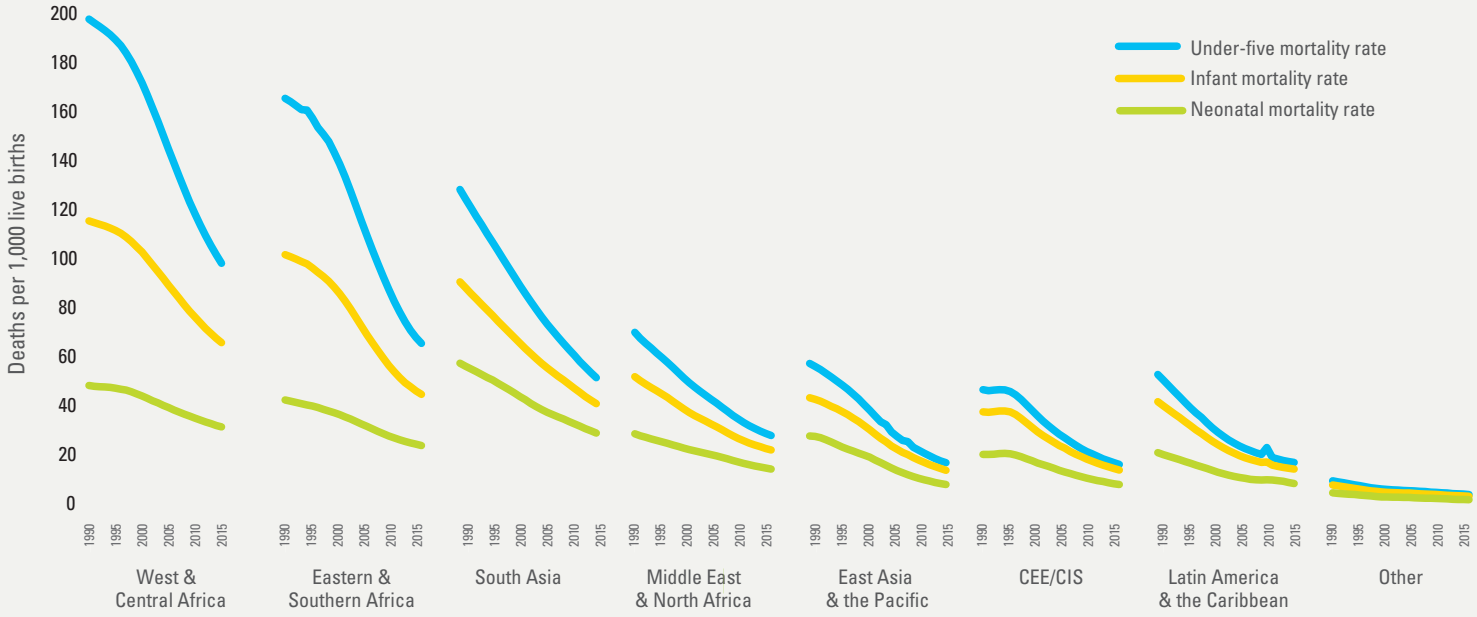
In sub-Saharan Africa, 1 child in 12 dies before his or her fifth birthday; in the world's high-income countries, that ratio is 1 in 147. A child born in the highest under-five mortality country faces about 80 times the risk of dying before age 5 as her or his counterpart in the lowest mortality country.

While the highest-burden regions have accelerated progress in reducing under-five mortality, the burden that remains is still very unevenly distributed (Figure 8).

Sub-Saharan Africa and South Asia account for more than 80 per cent of the total under-five deaths that will occur over the course of 2015 (Figure 9).

FIG. 8 **Accelerated progress in reducing under-five mortality in high-burden regions has not eliminated major regional disparities**

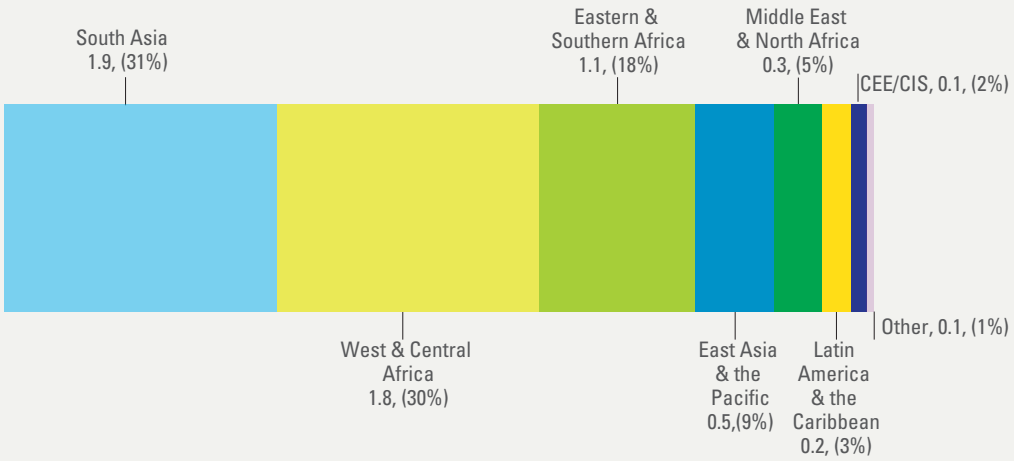
Under-five, infant and neonatal mortality rate by region, 1990–2015



Source: UN IGME 2015

FIG. 9 **Four in five deaths in children under 5 occur in sub-Saharan Africa and South Asia**

Under-five deaths by region, 2015, in millions (percentage share of global deaths)



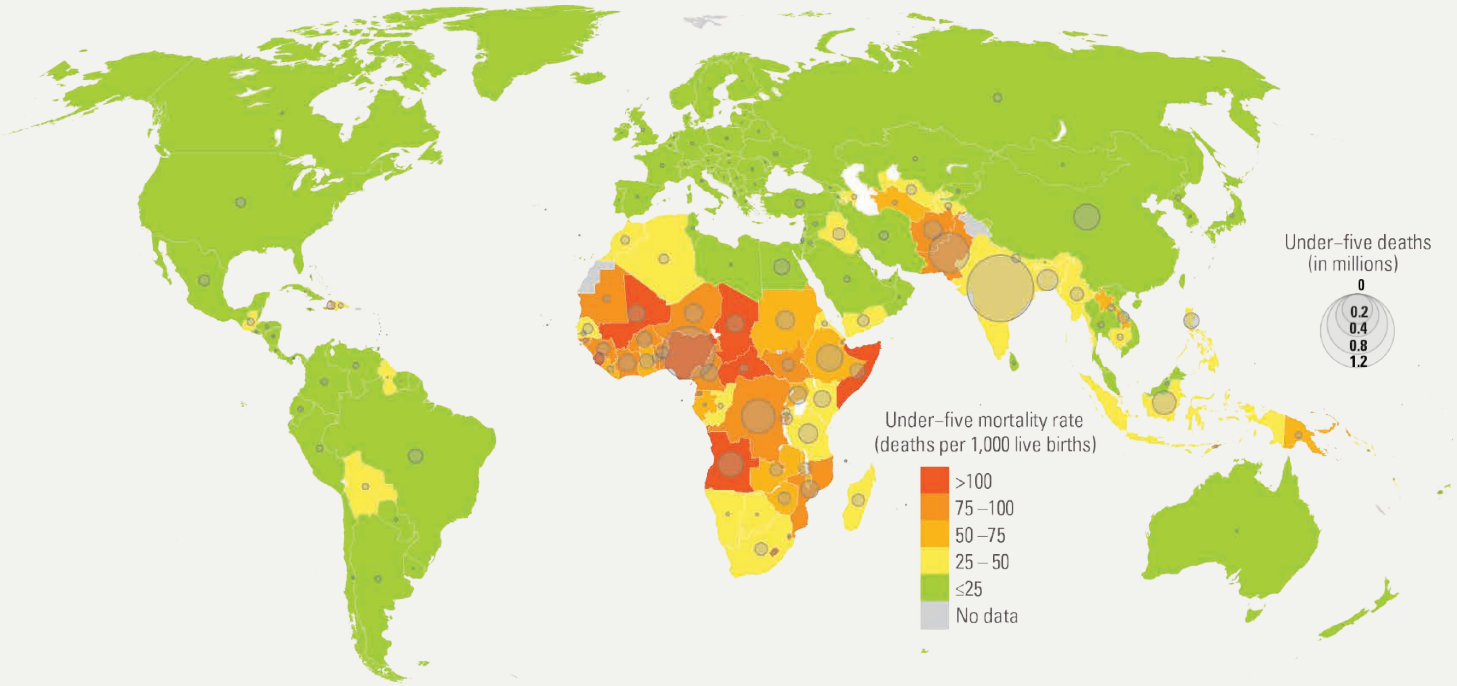
Note: Estimates are rounded and therefore may not total 100 per cent.

Source: UN IGME 2015

These two regions are also home to most of the highest-mortality countries in the world. The seven countries with an under-five mortality rate above 100 are all located in sub-Saharan Africa, heavily concentrated in West and Central Africa (Figure 10).

FIG. 10 The highest national under-five mortality rates are found in sub-Saharan Africa

Under-five mortality rate and under-five deaths by country, 2015



Ten countries with the highest under-five mortality rate in 2015

Country	Under-five mortality rate (deaths per 1,000 live births)
Angola	157
Chad	139
Somalia	137
Central African Republic	130
Sierra Leone	120
Mali	115
Nigeria	109
Benin	100
Democratic Republic of the Congo	98
Niger	96

Ten countries with the highest number of under-five deaths in 2015

Country	Under-five deaths (in thousands)	Share of global under-five deaths
India	1201	20%
Nigeria	750	13%
Pakistan	432	7%
Democratic Republic of the Congo	305	5%
Ethiopia	184	3%
China	182	3%
Angola	169	3%
Indonesia	147	2%
Bangladesh	119	2%
United Republic of Tanzania	98	2%

Note: The number of under-five deaths is affected by not only the under-five mortality rates but also the under-five population in a country.

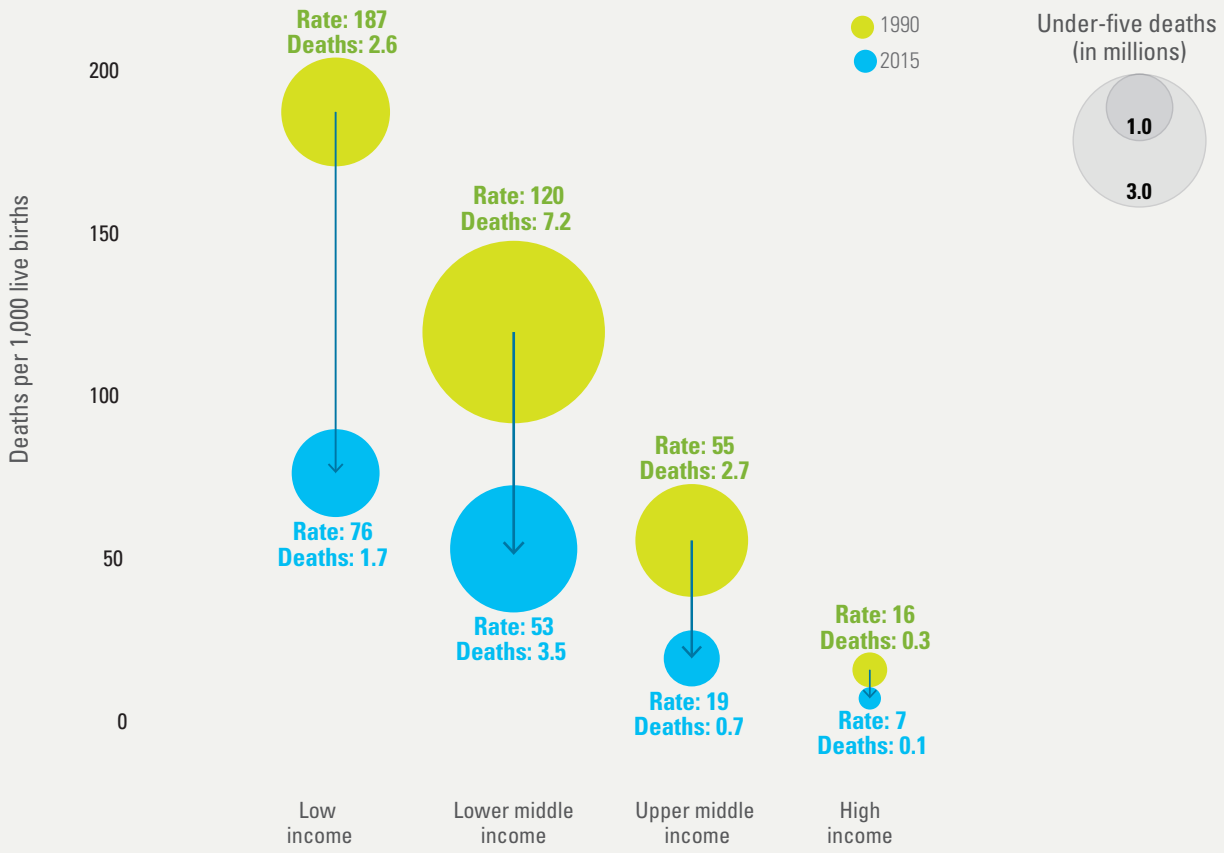
Source: UN IGME 2015

Despite progress, nearly 9 out of 10 under-five deaths still occur in low- and lower-middle-income countries

A child born in a low-income country is, on average, 11 times as likely to die before the age of 5 as a child in a high-income country (Figure 11). Although two dozen low- and lower-middle-income countries have met the MDG 4 target, as a whole, lower-income countries still have far higher under-five mortality rates than high-income countries.

FIG. 11 Despite progress, under-five mortality rates are still far higher in low-income countries than in high-income countries

Under-five mortality rates (vertical axis) and number of deaths (bubble size) by income level, 1990 and 2015



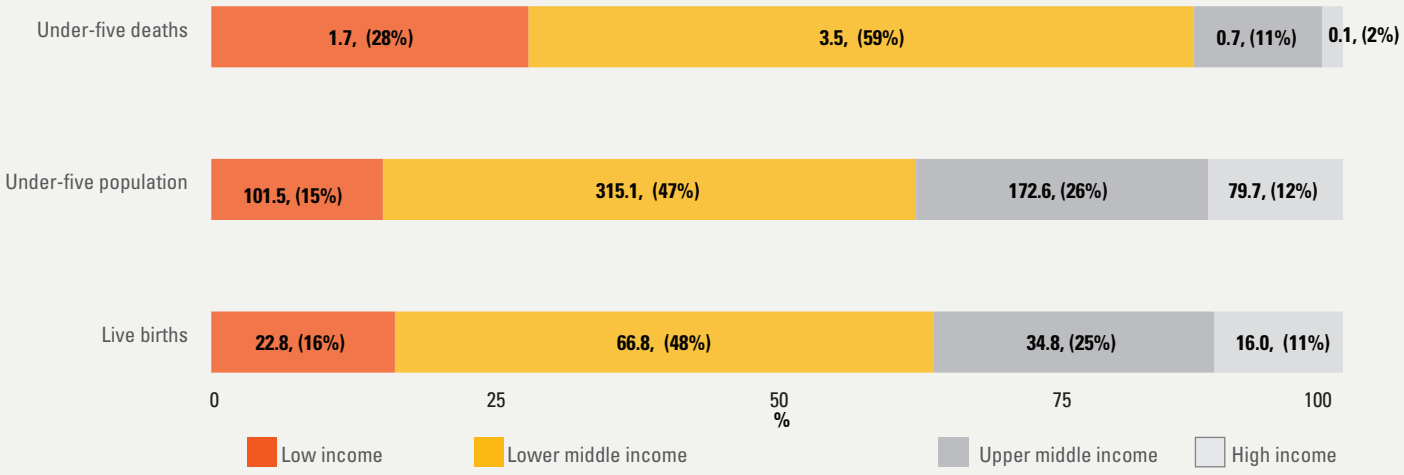
Note: The vertical axis refers to the under-five mortality rate and the size of the bubble is proportional to the number of under-five deaths.

Source: UN IGME 2015

Low- and lower-middle-income countries account for an overwhelming and disproportionate share of the world's under-five deaths — 87 per cent of the 5.9 million under-five deaths worldwide occur in these countries, yet they account for only about 60 per cent of the world's under-five population and of the world's live births (Figure 12).

FIG. 12 A disproportionate share of under-five deaths still occurs in low- and lower-middle-income countries

Number of under-five deaths, under-five population and live births by income level (percentage share of global total), 2015



Note: The first number cited for each income level refers to the number of under-five deaths in 2015 (in millions), under-five population (in millions) and live births (in millions); the second is the share by income level of under-five deaths, under-five population and live births.

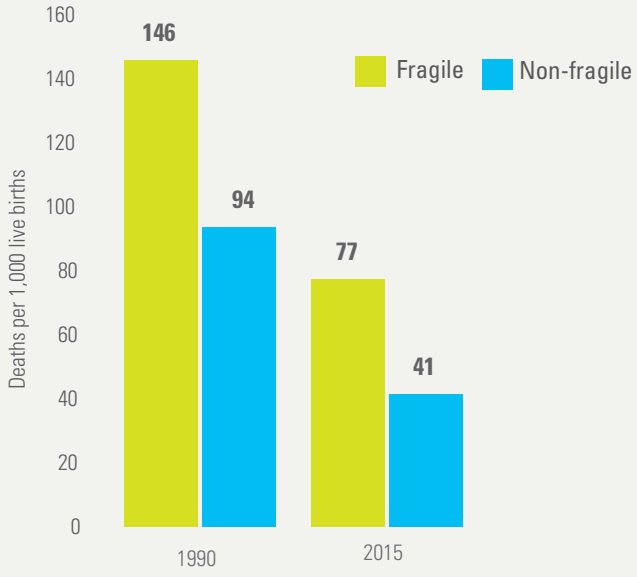
Source: UNICEF analysis based on UN IGME 2015 and United Nations, Department of Economic and Social Affairs, Population Division, World Population Prospects: The 2015 Revision, United Nations, New York, 2015

Under-five mortality in fragile contexts[2] is nearly twice as high as in the rest of the world

Reducing child mortality in fragile contexts can be especially challenging. Violence, political instability and volatile economic conditions can all undermine essential components of the health systems necessary to reduce child deaths. Despite these challenges, the group of countries that the World Bank currently considers fragile has reduced under-five mortality by 47 per cent since 1990. This lags behind the average decline of 56 per cent in non-fragile contexts, demonstrating part of the cost of fragility for children. This gap in progress has widened the disparities between children in fragile versus non-fragile contexts: Today, the risk of death for a child in a fragile context is nearly twice as high as the risk she or he would face in a non-fragile context (Figure 13). Among the 20 countries with the highest under-five mortality rates in the world, 10 appear on the World Bank's list of fragile situations.

The regions, low-income countries and fragile contexts highlighted in this section provide a clear map of the places where concentrated attention will be needed in the continuing drive to eliminate preventable child deaths. The world's recent experience in tackling the Ebola crisis has shown that many of the gains that have occurred in challenging contexts are themselves fragile. In countries where the ratio of health workers to the total population was already insufficient, the epidemic took a direct toll on health workers' lives and disrupted both community- and facility-based services. Supply chains were interrupted and disease surveillance mechanisms failed.[3] This crisis and other experiences have shown that to sustain the gains that have been made, it will be essential not only to maintain coverage of proven, high-impact interventions, but also to strengthen the health systems and workforces necessary to implement them.

FIG. 13 Children in fragile contexts face nearly twice the risk of dying before age 5 as children in non-fragile contexts
Under-five mortality rates for fragile and non-fragile countries, 1990 and 2015



Note: Countries included in this analysis are only those in the seven geographically defined UNICEF regions listed on page 87.
Source: UNICEF analysis based on UN IGME 2015 and World Bank 2015

Who is most at risk: Higher rates of under-five mortality in some groups reflect longstanding sources of disadvantage and persistent inequities

Inequalities take their toll over the course of an entire childhood, but they are manifest from the very beginning: The chance that a child will survive her first days, months and years of life is dramatically shaped by the family and situation into which she is born.

Children from the poorest households are, on average, nearly twice as likely to die before the age of 5 as children from the richest households

As in many other aspects of their lives, children in the poorest households are at a significant disadvantage when it comes to surviving their early years (Figure 14). On average, under-five mortality rates are 1.9 times as high for the poorest households as they are for the richest.[4] While the gaps between rich and poor are still unacceptably wide, the data show that in many regions, the poorest households have witnessed greater declines in under-five mortality than the richest.

Children from rural areas are 1.7 times as likely to die before the age of 5 as children from urban areas

The rural-urban divide in access to health facilities and many basic health interventions is reflected by higher under-five mortality rates in the world's rural areas. On average, rural under-five mortality rates are 1.7 times those in urban areas.[5] This gap requires ongoing policy attention. At the same time, looking only at rural and urban averages may inadvertently mask important disparities found within urban areas. The rapid rise in urbanization and, in particular, urban slums in many high-mortality countries makes it likely that there are wide but not well quantified gaps between the richest and the poorest in urban areas. Improvements in disaggregated urban data are needed to fully assess the extent of intra-urban inequities in child mortality.

Children of mothers who lack education are 2.8 times as likely to die before the age of 5 as children whose mothers have secondary or higher education

A mother's level of education has a powerful influence on her children's chances of surviving their early years.[6] Children born to mothers with no formal education are, on average, 2.8 times as likely to die before their fifth birthdays as the children of women with secondary or higher education.

FIG. 14 **Children from poor, rural or low-maternal-education households are much more likely die before their fifth birthday**

Under-five mortality rate by mother's education, wealth and residence, 2005-2010

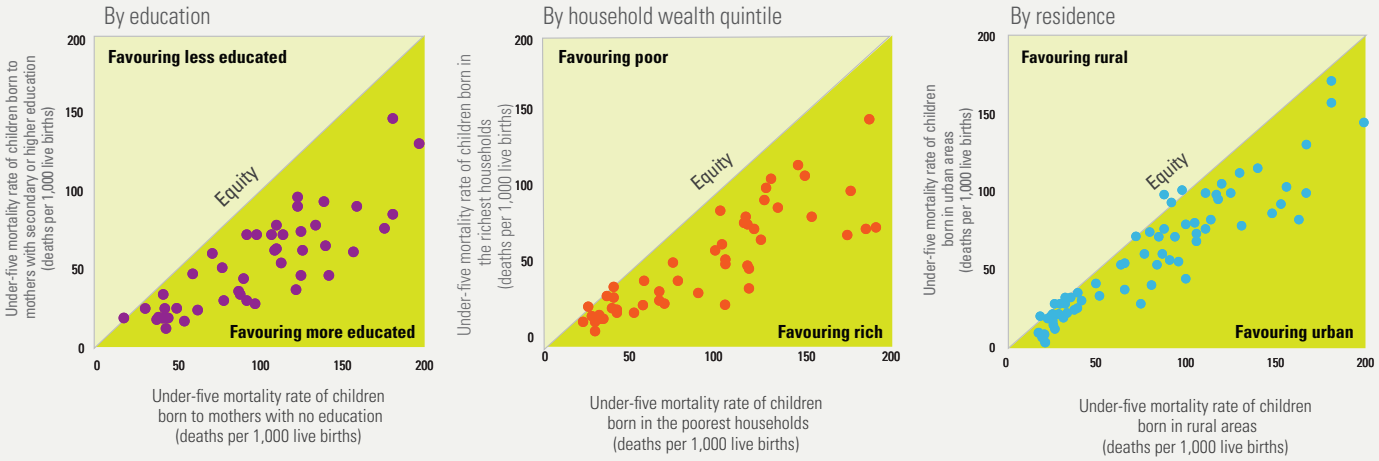


Figure 14 reflects the disadvantages faced by children from poor families, rural households or mothers without education. The line through the centre of each figure shows what an equal distribution of under-five deaths between the two groups would look like. The further a point departs from the line, the more unequal the distribution of risk between the two categories. The heavy grouping of nearly all the points below the diagonal line makes clear what the data above describe: Children from wealthier families, urban households or mothers with at least secondary education stand a far better chance of surviving their early years than children from poorer families, rural households or mothers without education.

Note: Each dot represents one country. Data from surveys with the most recent reference year since 2005 are shown for 46 countries for education, 50 for wealth and 68 countries for place of residence.

Source: UNICEF analysis based on Demographic and Health Surveys (DHS), Multiple Indicator Cluster Surveys (MICS) and other nationally representative sources

The number of countries with significant gender-based gaps in child mortality has fallen by more than half

Notable gender gaps in child mortality persist in some countries — primarily located in South Asia and the Middle East — where girls' risk of dying before age 5 is significantly higher than would be expected based on global patterns. The number of countries showing these disparities fell by more than half between 1990 and 2015, from 20 to 9. The remaining mortality gender gaps require urgent investigation to identify and address their causes.

Tackling the inequitable distribution of child mortality in the coming years will require attention to issues that go far beyond the narrow confines of technical health solutions. The post-2015 agenda includes many of the necessary components for addressing disparities and social determinants of health — emphasis on poverty reduction, sustainable urbanization and education for all — but will require sustained investments and political commitment to make lasting change. Continuing progress on reducing under-five mortality will require ever-increasing focus on the most disadvantaged children and communities — those most likely to be missed by one-size-fits-all approaches.

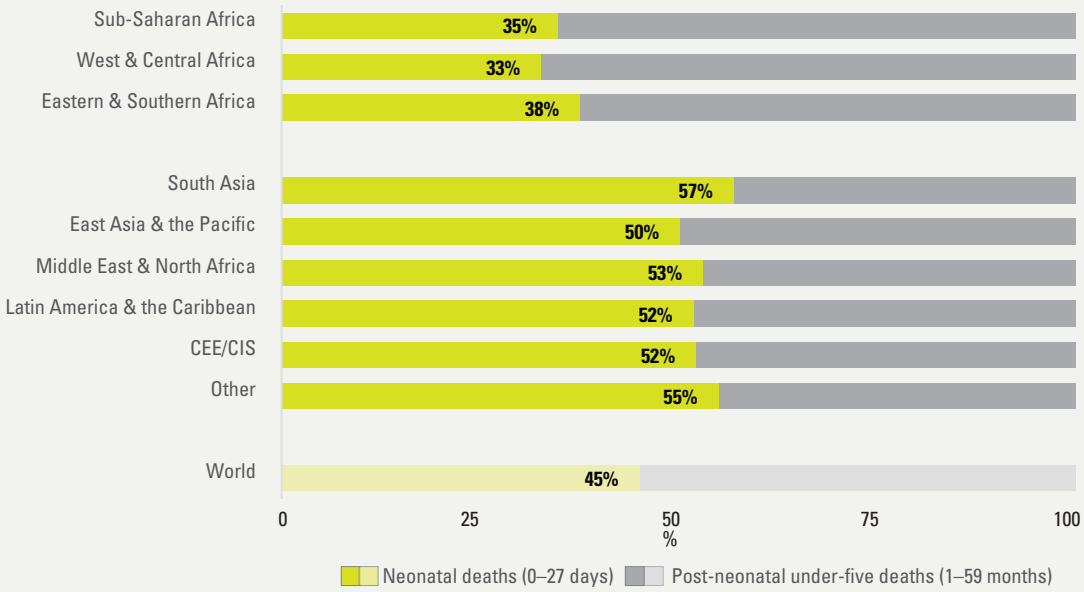
When under-five deaths are occurring: In most regions, success in tackling later childhood diseases means a larger share of under-five deaths is now in the neonatal period

As global rates of under-five mortality have fallen, neonatal deaths now account for a rising proportion of the remaining burden of under-five deaths. In 1990, neonatal deaths represented 40 per cent of global under-five deaths, compared with 45 per cent today. Of the estimated 5.9 million child deaths in 2015, almost 1 million occur in the first day of life and close to 2 million take place in the first week.

This shift in the concentration of deaths generally reflects success in tackling the infectious diseases that kill children after infancy (confirmed by the causes of mortality data outlined in the following section) and the slower decline in reducing neonatal mortality rates than mortality in children aged 1–59 months. In most regions with lower under-five mortality rates, deaths are more concentrated among newborns. In the two regions of sub-Saharan Africa that still have the world's highest under-five mortality rates, deaths in the neonatal period make up a smaller portion of total under-five deaths (Figure 15).

South Asia is a notable exception to this pattern. It has both the highest proportion of neonatal deaths and one of the highest overall under-five mortality rates. Given South Asia's under-five mortality level, neonatal mortality there is considerably higher than expected relative to the global pattern. Limited availability of high-quality data — especially around certified causes of death — makes analysis of the underlying causes of these disparate results challenging.

FIG. 15 **In most regions, lower child mortality overall comes with a higher concentration of mortality in the neonatal period**
Distribution of under-five deaths by age, 2015



Source: UN IGME 2015

Why under-five deaths are occurring: While many leading causes of under-five mortality remain the same, infectious diseases now account for a smaller overall percentage of child deaths than they did 15 years ago

Renewing the promise of survival for children relies on tracking and addressing the leading causes of death. Understanding the causes of child mortality is key to designing appropriate intervention strategies to save children's lives.

Infectious diseases and neonatal complications are responsible for the vast majority of under-five deaths around the world

Of the 5.9 million under-five deaths in 2015, almost half were caused by leading infectious diseases and conditions such as pneumonia, diarrhoea, malaria, meningitis, tetanus, measles, sepsis and AIDS.[7] Globally, the main killers of children under age 5 in 2015 were pneumonia (16 per cent), preterm birth complications (16 per cent), neonatal intrapartum-related complications (11 per cent), diarrhoea (9 per cent), neonatal sepsis (7 per cent) and malaria (5 per cent) (Figure 16).

Most deaths of children under age 5 are caused by diseases that are readily preventable or treatable with proven, cost-effective interventions. Children's lives can and must be saved through immediate action to increase effective preventive and curative interventions.

LOOKING BEYOND MEDICAL CAUSES: INEQUITY AS A FACTOR IN CHILD DEATHS

While each child's death can be attributed to a medical cause, the question of why children are dying cannot be answered through medical explanations alone.

Many factors that increase a child's risk of early death — including low maternal education, early childbearing, limited access to water, sanitation and hygiene, and undernutrition — have been discussed in previous *A Promise Renewed* reports. These and other factors play a substantial role in shaping children's chances of surviving their early days and years.

These risk factors, like child mortality itself, do not affect all children equally. Families in rural areas are less than half as likely to have piped water at home as families in urban areas. Children in conflict-affected countries are more likely to be out of school than their counterparts in countries not affected by conflict. Children from the poorest families are more than twice as likely to be stunted as children from the wealthiest.*

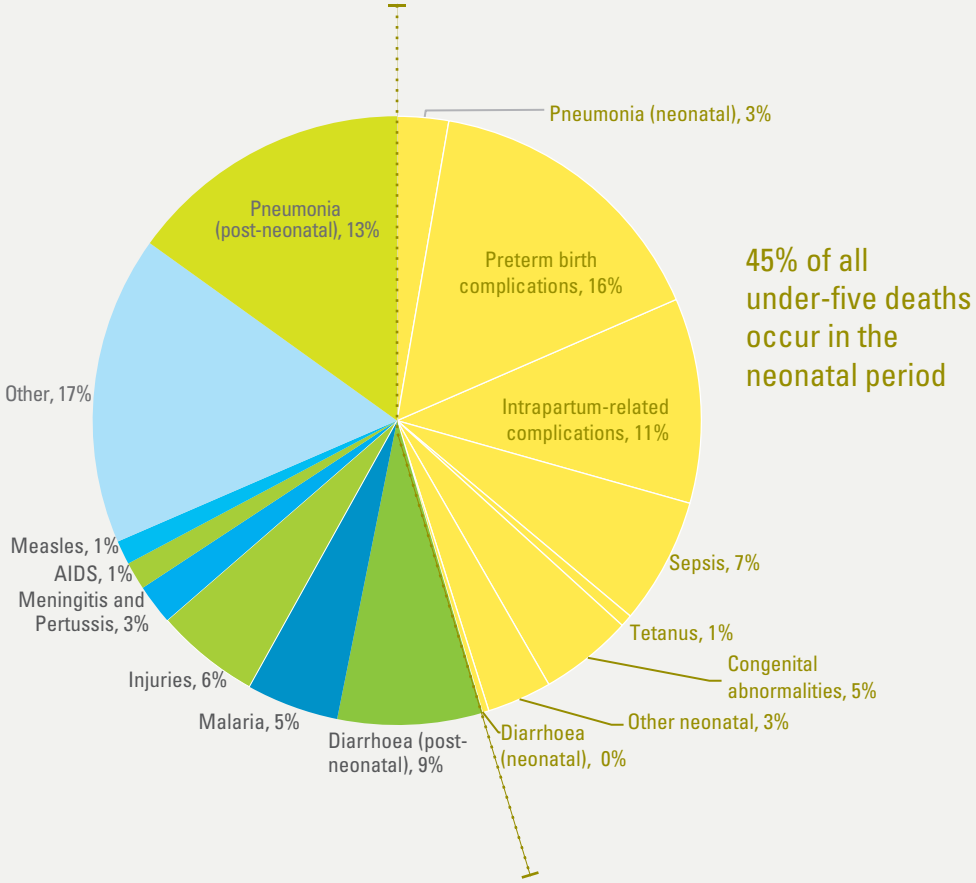
The list goes on, but the conclusion is clear: Children are dying not just because of sepsis, malaria or other official causes of death listed here. They are also dying because the families they are born into are poor, from a historically marginalized group, live in a rural area, or suffer other forms of social exclusion. Ending preventable childhood deaths will require tackling not only the official causes of death, but also the inequities that make some children more likely to fall victim to them.

*UNICEF. 2015. A Fair Chance for Every Child

FIG. 16 Pneumonia, diarrhoea and malaria are main killers of children under age 5; preterm birth and intrapartum-related complications are responsible for the majority of neonatal deaths

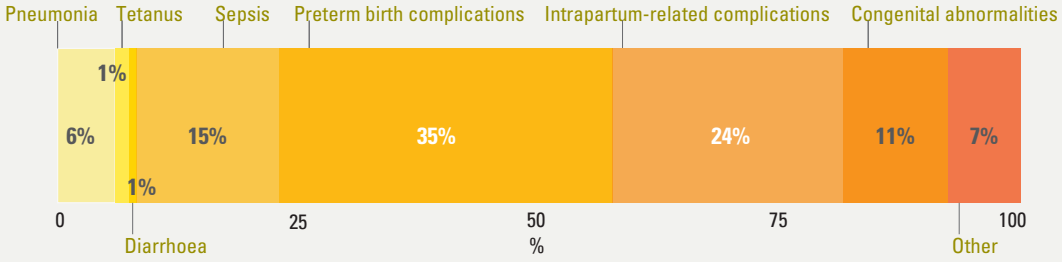
Global distribution of deaths among children under age 5 and among newborns, by cause, 2015

A. Deaths among children under age 5



Nearly half of all deaths in children under age 5 are attributable to undernutrition

B. Deaths among newborns (0-27 days)



Note: Estimates are rounded and therefore may not sum up to 100%.

Source: WHO and Maternal and Child Epidemiology Estimation Group (MCEE) provisional estimates 2015

Causes of under-five deaths vary between low- and high-mortality regions

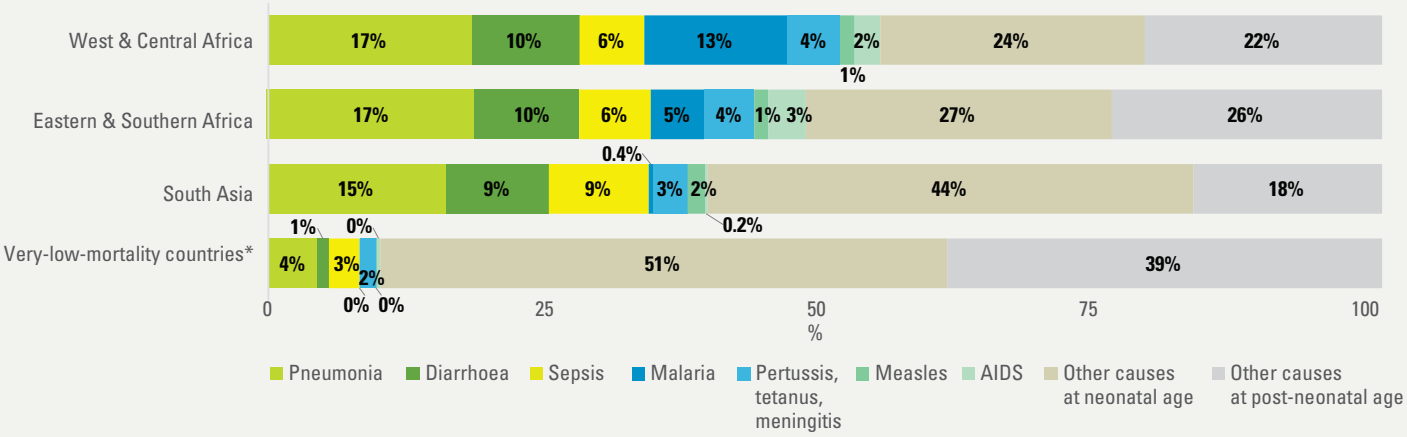
The leading causes of under-five deaths vary between high- and low-mortality groupings and among high-mortality regions. In very-low-mortality countries (with an under-five mortality less than 10 deaths per 1,000 live births in 2015), infectious diseases are not the main causes of death for children under 5. In those countries, pneumonia, diarrhoea, malaria, sepsis, pertussis, tetanus and meningitis, measles and AIDS together only account for 10 per cent of all under-five deaths (Figure 17).

In higher-mortality regions, however, these key infectious diseases still kill many children under age 5, accounting for 39 per cent, 54 per cent and 47 per cent of all under-five deaths in South Asia, West and Central Africa, and Eastern and Southern Africa, respectively. Pneumonia and diarrhoea remain leading causes of death in the three regions with the highest under-five mortality in the world — West and Central Africa (accounting for 17 per cent and 10 per cent of all under-five deaths, respectively), Eastern and Southern Africa (17 per cent and 10 per cent, respectively) and South Asia (15 per cent and 9 per cent, respectively).

Malaria remains a major killer in sub-Saharan Africa, especially in West and Central Africa, where it accounts for 13 per cent of under-five deaths; in Eastern and Southern Africa, malaria accounts for 5 per cent of under-five deaths. Malaria is also one of the most geographically concentrated causes of child mortality — 96 per cent of all malaria deaths occur in sub-Saharan Africa. The high proportion of deaths from preventable and readily curable infectious diseases suggests that there is a substantial amount of work to be done in these regions to increase coverage of proven interventions.

FIG. 17 Infectious diseases remain the main killers of children under age 5 in sub-Saharan Africa

Distribution of deaths among children under age 5 by cause, by region, 2015



*Very-low-mortality countries are those with an under-five mortality rate of less than 10 deaths per 1,000 live births in 2015.

Note: : Estimates are rounded and therefore may not sum up to 100%.

Source: WHO and MCEE provisional estimates 2015

As discussed earlier, based on global trends, South Asia's neonatal deaths account for a larger than expected share of its overall under-five deaths. The neonatal share of under-five deaths more closely resembles the proportion in very-low-mortality countries but has its origin in unusually high neonatal mortality rates. Among non-neonatal deaths, South Asia's proportion of deaths from major killers such as diarrhoea and pneumonia are similar to those in other high-mortality regions, suggesting that there, too, increased coverage of proven interventions could make a noticeable impact on under-five deaths. The potential impact of scaling up coverage of basic interventions is analysed in more detail in the equity analysis provided in Chapter 3.

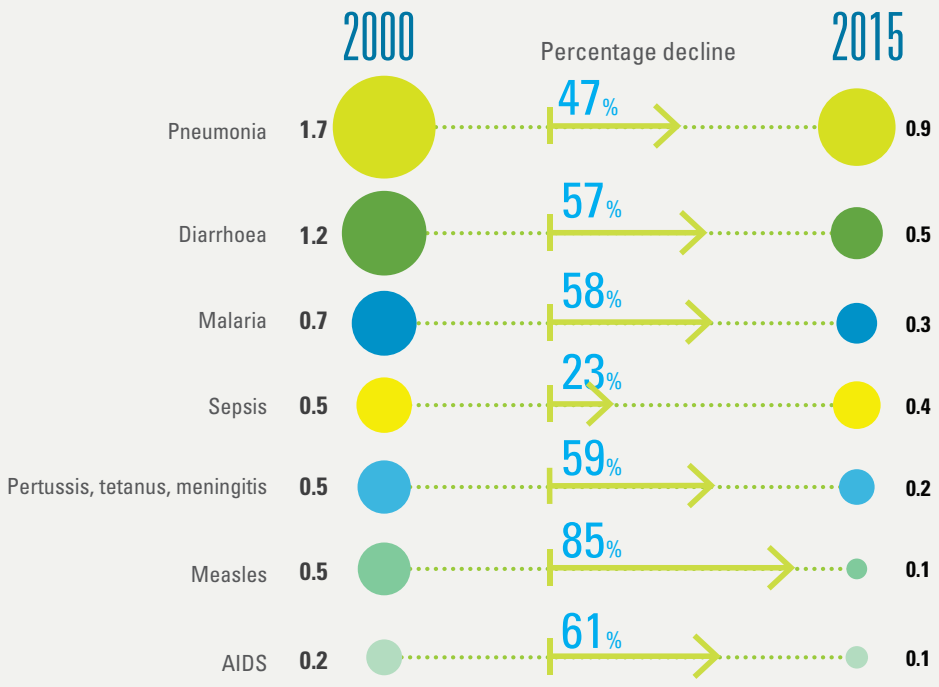
Seventy per cent of the global decline in under-five deaths since 2000 is attributable to tackling key infectious diseases

Between 2000 and 2015, the annual number of under-five deaths fell from almost 10 million to 5.9 million. This progress did not come evenly across all causes of under-five death. It was driven by steep declines in deaths from leading infectious diseases (Figure 18).

Although infectious diseases still cause a large — and largely preventable — portion of child mortality, the annual number of under-five deaths from leading infectious diseases declined from 5.4 million to 2.5 million over the last 15 years. In 2015, nearly 4 million fewer children under 5 will die from all causes than in 2000. About seventy per cent of that decline is the result of lower death tolls from pneumonia, diarrhoea, malaria, sepsis, pertussis, tetanus, meningitis, measles and AIDS.

FIG. 18 Almost 3 million fewer children under 5 died of key infectious diseases in 2015 than in 2000

Under-five deaths by leading infectious diseases, 2000 and 2015 (in millions)



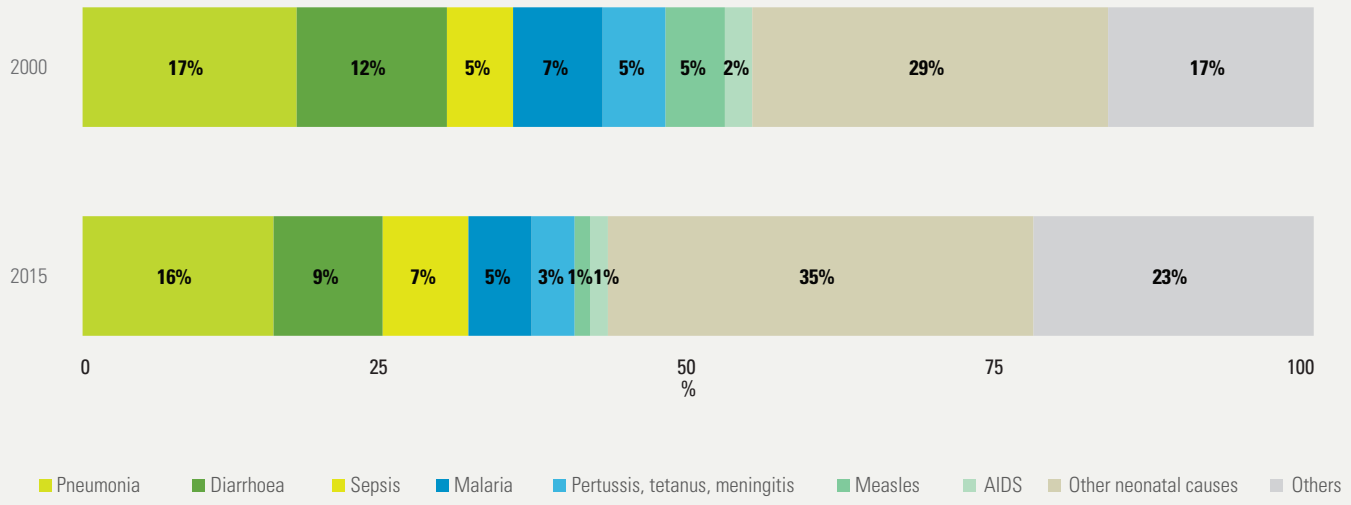
Source: WHO and MCEE provisional estimates 2015

Faster declines in under-five mortality due to leading infectious diseases versus those from other causes mean that leading infectious diseases now account for a much smaller portion of the under-five deaths that remain. In 2000, leading infectious diseases accounted for 54 per cent of global under-five deaths; those same diseases accounted for 43 per cent of under-five deaths in 2015 (Figure 19).

This progress in the fight against infectious diseases implies two important directions for future efforts to reduce under-five mortality. First, continued efforts will be necessary to sustain these gains. Second, the large declines in infectious diseases signal that continued progress in reducing under-five deaths may require greater attention to non-infectious killers, especially during the neonatal period.

FIG. 19 Leading infectious diseases now account for a smaller proportion of global under-five deaths than in 2000

Global distribution of deaths of children under age 5, by cause, 2000 and 2015



Source: WHO and MCEE provisional estimates 2015

What works to reduce under-five mortality: Strengthened health systems are delivering more, higher-quality, high-impact interventions

While global numbers tell the impressive story of recent progress in reducing child mortality, those numbers do not reveal the extraordinary efforts that have made progress possible. Since 2000, 48 million more children saw their fifth birthday because of 15 years of work in cities and in rural villages, because of commitments from governments and communities alike. Those children survived in part because of the scale-up of high-impact newborn and child survival interventions. They also survived because health systems and health professionals were better at reaching them with those interventions.

This section provides updated data on coverage of some of the most effective interventions. While progress is most often tracked at the intervention level, sustained progress requires more than isolated interventions. Interventions are part of larger systems of care — systems that require continued investment and strengthening in order to maintain and expand high-quality services to the families that need them most.

As some lower-income countries with strong health systems outperform some higher-income countries with weaker systems, there is growing recognition that strong health systems can be a more decisive factor for child mortality than national income. These system-level dimensions are not readily apparent in the data but play a vital role in ongoing efforts to help children survive and thrive.

What works to reduce under-five mortality

The first 28 Days

Proven cost-effective interventions can prevent most neonatal deaths, but too few mothers and newborns are benefitting from them

In 1990
59%
of births had a skilled attendant

In 2014
71%
of births did

In 2014
36 million
births occurred in low- and middle-income countries without a skilled attendant

Coverage of tetanus protection increased
from **73%** to **83%**
between 2000 and 2014

Early initiation of ARVs for the prevention of mother-to-child transmission of HIV reduced new HIV infections among children by nearly
60%
between 2000 and 2014

In least developed countries,

Less than **40%** of women and **1 in 4** newborns receive a health check within two days of delivery

Globally, only

2 in 5
newborns are put to the breast within an hour of birth

and

2 in 5
infants under 6 months of age are exclusively breastfed

Months 1 to 59

Increased coverage of high impact interventions and strengthened health systems are key factors in the decline in under-five mortality

Coverage of key pneumonia-related vaccines is increasing — and progress in sub-Saharan Africa is faster than the global average

Third dose of Hib vaccine

Globally
from **14%** to **56%**

2000 2014
from **3%** to **77%**
sub-Saharan Africa

Third dose of PCV vaccine

Globally
from **11%** to **31%**

2010 2014
from **4%** to **53%**
sub-Saharan Africa

Globally, just
3 in 5 children with symptoms of ARI are taken to health providers for appropriate care

Today, more than
90%
of the world's population uses improved drinking water sources and

2/3
use improved sanitation facilities

Progress has been slow in treating sick children with diarrhoea

Today, just
2 in 5 children who become ill with diarrhoea receive ORS

Between 2012 and 2015
<½
of children in sub-Saharan Africa slept under an insecticide-treated bednet

Sources: UNICEF global databases 2015, based on MICS, DHS, MIS, and other nationally representative sources. UNICEF analysis based on the United Nations Inter-agency Group for Child Mortality Estimation (UN IGME), 2015. UNICEF/WHO- Progress on sanitation and drinking water – 2015 update and MDG assessment. WHO/UNICEF estimates of national routine immunization coverage, 2014 revision (completed July 2015); WHO, Vaccine in national immunization programs, Update July 2015. UNICEF analysis of UNAIDS 2015 HIV and AIDS estimates.

THE FIRST 28 DAYS: A majority of newborn deaths could be prevented with key interventions around the time of birth and improved care for small and sick newborns

Deaths in the first 28 days of life account for an increasing share of under-five deaths, and they are declining at a slower rate than child deaths overall. Research conducted as part of the Every Newborn Action Plan and the 2014 Every Newborn Lancet series demonstrated that two key packages of interventions could prevent the majority of neonatal deaths.[8,9]

- *Care around the time of birth* could avert more than 40 per cent of neonatal deaths. Key interventions include care by a skilled birth attendant, emergency obstetric care, immediate care for every newborn baby (including breastfeeding support and clean birth practices such as cord and thermal care) and newborn resuscitation
- *Care for small and sick newborns* could avert 30 per cent of neonatal deaths. Key interventions include kangaroo mother care, prevention or management of neonatal sepsis, addressing neonatal jaundice and preventing brain damage after birth-related oxygen deprivation.

Progress on several of these interventions is described in more detail below. A wide variety of others — including many delivered through community-based mechanisms — have also contributed to global progress on newborn survival. While many aspects of care play a role in reducing neonatal mortality, only interventions for which there are high-quality, globally comparable national data are included here.

Seven in 10 births have a skilled attendant, but coverage is inequitable

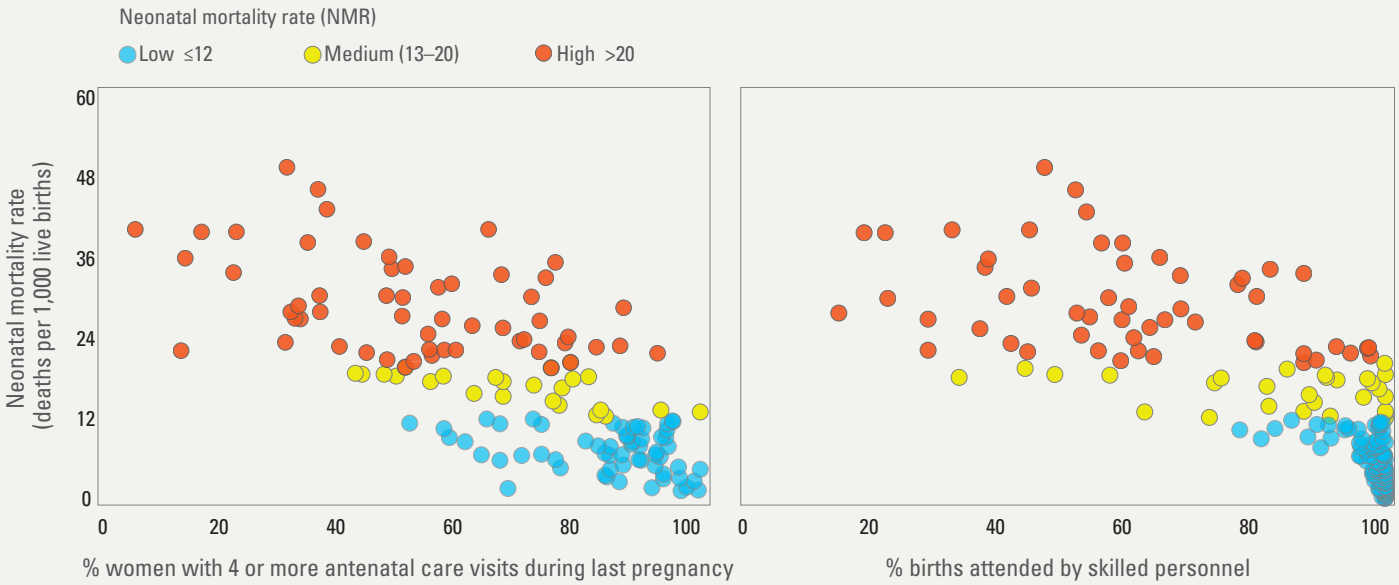
Quality, skilled professional support before, during and after delivery is essential to reducing neonatal mortality. Antenatal visits with skilled health providers (doctors, nurses or midwives) can make sure a pregnancy gets off to a good start. Skilled providers are also crucial for overseeing labour and delivery and providing life-saving care or referral in case of complications.

Globally, the majority (71 per cent) of births are delivered with the help of skilled health personnel. Despite the value of skilled birth attendants, progress in increasing their reach has been slow. Between 1990 and 2014, the proportion of births attended by skilled health personnel rose just 12 percentage points, from 59 to 71 per cent. In 2014, about 36 million births occurred in low- and middle-income countries without a skilled attendant present. That global average masks highly uneven distributions: in sub-Saharan Africa and South Asia only 50 per cent of births are attended by skilled personnel, while CEE/CIS, Latin America and the Caribbean, and East Asia and the Pacific all have rates above 90 per cent. The slow expansion of skilled birth attendance has also left the poorest women behind. Around the world, women from the top wealth quintile are nearly three times more likely to have a skilled attendant at delivery than women from the bottom quintile.

As coverage increases in the highest-mortality regions, it will be essential to increase focus on the quality of both antenatal care and skilled attendance at birth by paying attention to the content of services provided. In general, a strong association is found between higher proportions of skilled birth attendance or antenatal care visits and lower neonatal mortality rates. That association is notably weaker, however, in countries that still have relatively high rates of neonatal deaths (Figure 20). This suggests a straightforward conclusion: Merely having antenatal care visits or having a skilled health provider present during childbirth is not enough. Skilled health providers and antenatal visits must offer quality services to be effective.

FIG. 20 Higher coverage of antenatal care visits and skilled attendance at birth are associated with lower neonatal mortality, although the association is weaker in high-mortality countries

Association between antenatal care (four or more visits), skilled attendance at birth and neonatal mortality rate



Source: UNICEF analysis based on IGME 2015 estimates and UNICEF global databases 2015 based on MICS, DHS and other nationally representative sources

Vaccine protection for newborns has increased since 2000, but progress has slowed in recent years

Reducing vaccine-preventable illnesses and deaths relies on immunization programmes that reach every mother and child. Those programmes begin at — or even before — birth.

Protection from tetanus can be conferred from a properly vaccinated mother to her newborn. At birth, children can also receive some protection against polio, tuberculosis and hepatitis B through direct vaccination against those diseases.

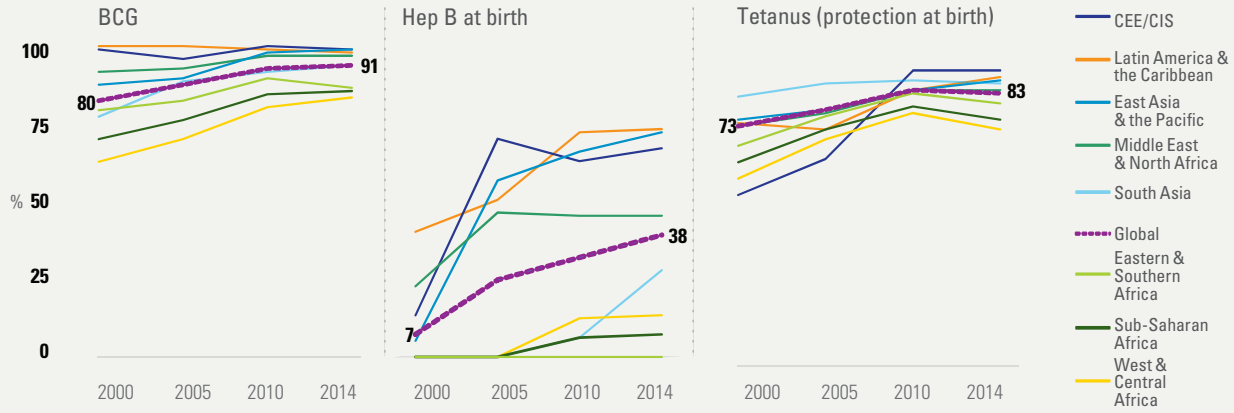
Progress in increasing coverage of vaccines for these conditions has been positive since 2000, though it has varied among regions and across types of vaccinations. Globally, 9 out of 10 newborns now receive BCG, the tuberculosis vaccine, up from 8 in 10 in 2000. Tetanus protection has seen a similar rise and a modest narrowing of the gaps among regions over the same period. However, overall protection rates are lower than for tuberculosis, and the world has yet to eliminate neonatal deaths from this entirely preventable disease. Hepatitis B vaccine at birth (Hep B-Birth) has only been recommended by the World Health Organization (WHO) since 2009, and many countries are still scaling it up.[10] Uptake of this vaccine has also seen rapid progress, though at markedly different rates among regions. Global hepatitis B vaccine coverage at birth remains well below 50 per cent.

CEE/CIS realized remarkable gains in hepatitis B at birth vaccine coverage between 2000 and 2005 and then in tetanus protection between 2005 and 2010, but progress on both vaccinations has slowed notably since then. Across BCG, Hep B-Birth and tetanus, the regions of sub-Saharan Africa have the lowest coverage rates (Figure 21).

While coverage for all three vaccines has increased since 2000, progress has slowed since 2010, a period when advances in many other child survival interventions were accelerating. This slowing suggests that the remaining gap includes those hardest to reach and signals a need to redouble efforts to fully vaccinate every child.

FIG. 21 **Remarkable progress has been made in increasing vaccine protection at birth, but it varies by type of vaccination and by region**

Percentage of live births who received BCG, hepatitis B vaccines, percentage of newborns protected at birth against tetanus, by region, 2000–2014



Source: WHO and UNICEF estimates of national immunization coverage (WUENIC), 2014 revision (completed July 2015)

Two in five babies under the age of 6 months are exclusively breastfed

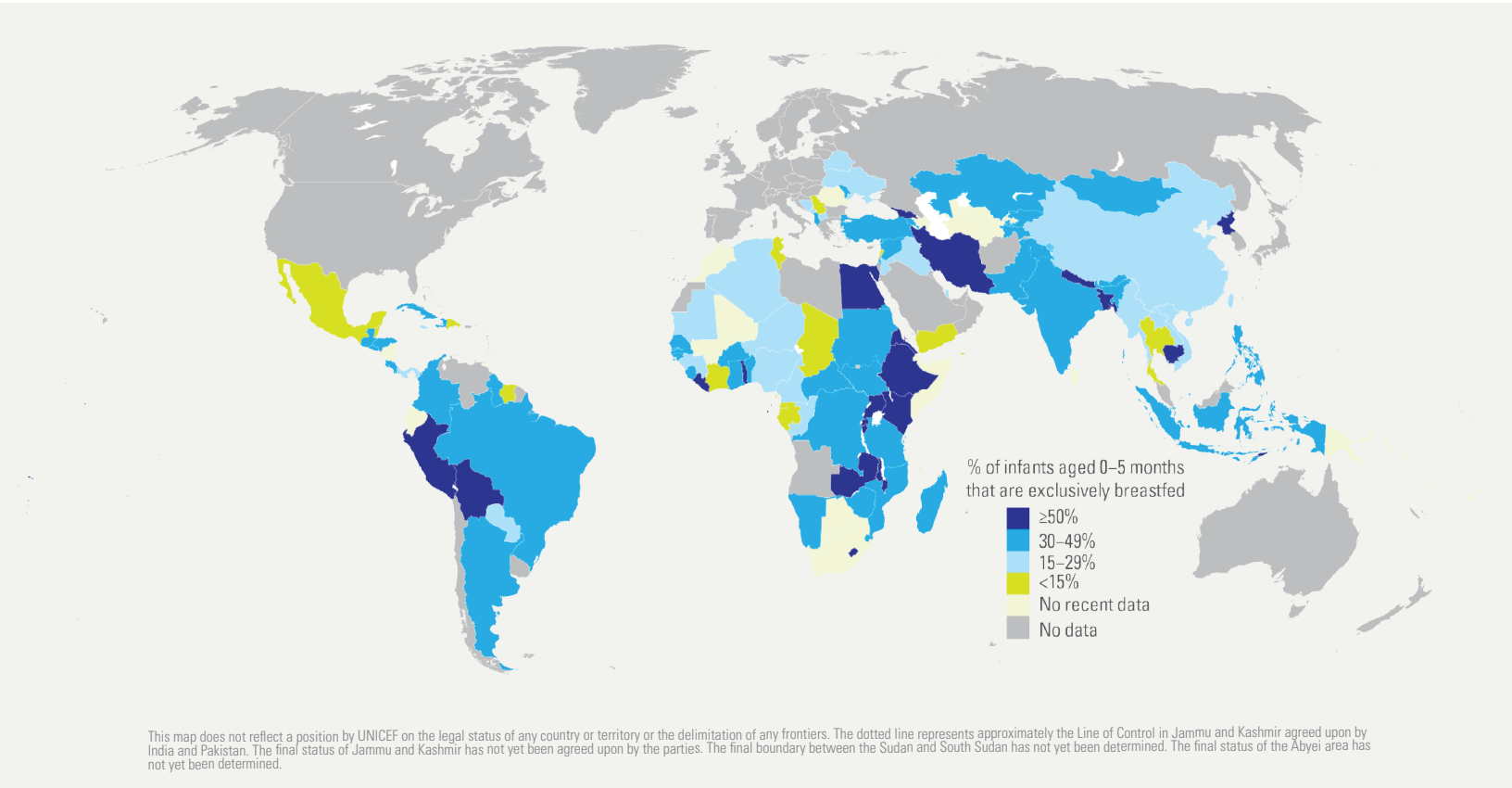
Proper nutrition is crucial both for the immediate survival of infants as well as their long-term growth and health. Ideally, infants should be breastfed within one hour of birth and exclusively for the first six months of life. Early and exclusive breastfeeding supports infants' immune systems and may protect them later in life from chronic conditions such as obesity and diabetes. Infants who are not exclusively breastfed can be at substantially higher risk of death from diarrhoea, pneumonia and other infectious diseases.

Globally, only two out of five newborns put to the breast within an hour of birth. Only CEE/CIS and Eastern and Southern Africa have an early initiation rate above 50 per cent. Worldwide, only two out of every five infants under 6 months of age are exclusively breastfed, with large disparities among regions (Figure 22). The rate in West and Central Africa is about half that of Eastern and Southern Africa.

A number of countries — including Burkina Faso, Guinea Bissau, Sierra Leone and Togo — have demonstrated that rapid gains are possible. Each made gains in excess of 20 percentage points in just five years. In contrast, a number of countries have seen large and rapid declines over the recent time period, meaning that consistent efforts are needed not only to increase, but even to maintain desired rates of this critical practice.

FIG. 22 **Too few infants benefit from exclusive breastfeeding**

*Percentage of infants aged 0–5 months that are exclusively breastfed, 2008 – 2014**



This map does not reflect a position by UNICEF on the legal status of any country or territory or the delimitation of any frontiers. The dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties. The final boundary between the Sudan and South Sudan has not yet been determined. The final status of the Abyei area has not yet been determined.

*2008–2014; except Brazil (2006) and India (2005-06).

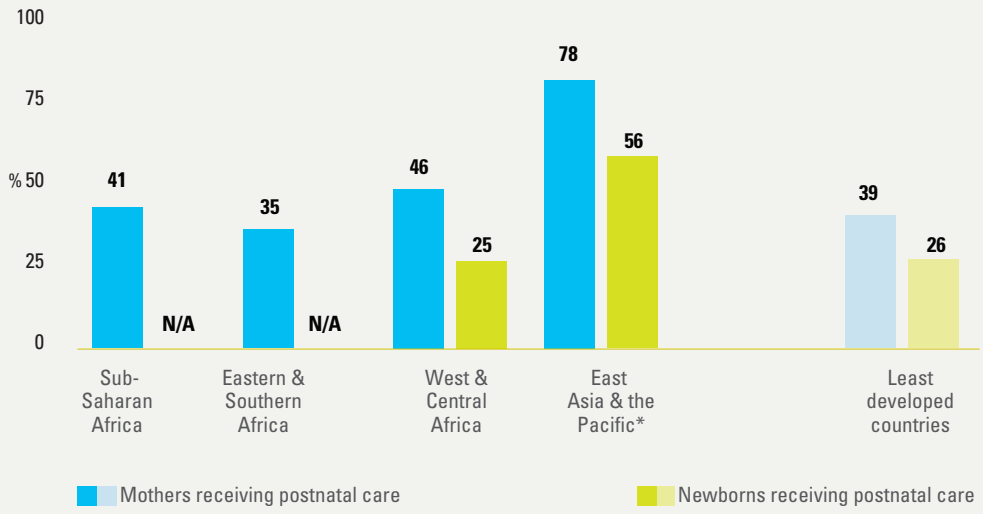
Source: UNICEF global databases 2015 based on MICS, DHS and other nationally representative sources

In least developed countries, one in four babies receives a check-up within two days of birth

Postnatal care for mothers and babies is critical to reducing neonatal deaths. The limited data that are available on postnatal check-ups indicate that far too few mothers and babies are benefitting from these essential interventions. In the least developed countries, less than 40 per cent of new mothers and only a quarter of newborns receive a health check within two days of delivery (Figure 23). The low and divergent postnatal care rates for mothers and babies suggest large missed opportunities for providing critical interventions and quality care.

FIG. 23 Only a quarter of newborns in least developed countries benefit from a postnatal health check within two days of birth

Percentage of mothers and newborns with a postnatal health check within two days of delivery, 2010-2015



* Excludes China.

Note: Data were insufficient to calculate regional averages for postnatal health checks for newborns for sub-Saharan Africa and Eastern and Southern Africa. Regional estimates represent data from countries covering at least 50 per cent of regional births.

Source: UNICEF global databases 2015, based on MICS and DHS

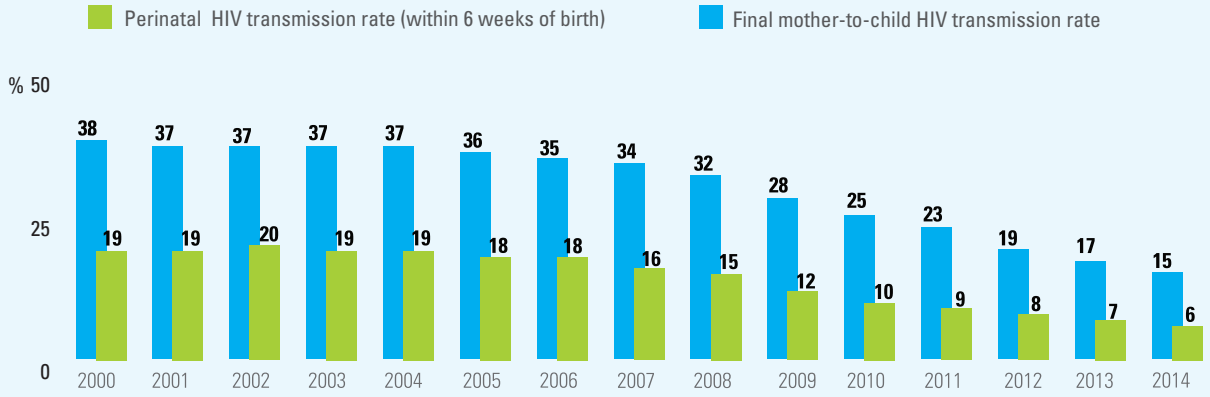
HIV and AIDS: Dramatic reductions in perinatal mother-to-child transmission of HIV create new urgency for addressing postnatal transmission

About 1.5 million girls and women were pregnant and living with HIV in 2014 — approximately 90 per cent of them in sub-Saharan Africa.[11] Without any interventions to prevent mother-to-child transmission of HIV, about half of these girls and women would pass infection on to their children during pregnancy, at the time of delivery or during breastfeeding.[12] Concerted efforts to reach and provide these mothers with most effective antiretroviral (ARV) medicines have yielded astounding results. Provision of most effective ARVs to pregnant women living with HIV in sub-Saharan Africa increased from 36 per cent in 2009 to 75 per cent in 2014.[13] These countries have subsequently seen nearly 50 per cent reductions in new HIV infections among children under the age of 15 since 2009.

Globally, nearly 60 per cent fewer children were newly infected with HIV in 2014 than in 2000. The global rate of decline in new HIV infections in this group of children has accelerated in recent years, in line with the expansion of maternal ARV coverage: between 2000 and 2009, the number of children 0-14 years old who were newly infected with HIV declined by 24 per cent, compared to 45 per cent between 2009 and 2014. Fewer HIV infections among children has also meant fewer AIDS-related child deaths. Since 2000, AIDS-related mortality among children under 5 years has fallen by approximately 60 per cent globally, driven partly by reductions of 60 per cent or more in 15 of the 21 priority countries in sub-Saharan Africa during the same period.[14, 15]

FIG. 24 Overall mother-to-child transmission of HIV has fallen by more than half in sub-Saharan Africa — from 38 per cent in 2000 to 15 per cent in 2014

Estimated percentage of infants born to pregnant women living with HIV who become vertically infected with HIV (mother-to-child transmission rate), sub-Saharan Africa, 2000–2014



Source: UNICEF analysis of UNAIDS 2015 HIV and AIDS estimates

There has been remarkable success in reducing HIV transmission during pregnancy and delivery. The mother-to-child transmission that is still occurring is largely during the postnatal risk period (Figure 25). In 2000, infections in sub-Saharan Africa occurred in the perinatal and postnatal period in about equal measure. Though there were markedly fewer infections overall in 2014, the infections that are still occurring are now more heavily concentrated in the postnatal period.

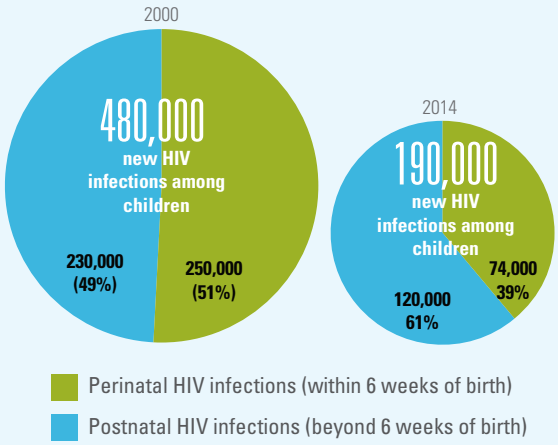
The shift in the timing of HIV transmission from mother to child has created a new urgency for focusing on adherence to medicines and retaining mothers and infants in care to the end of the breastfeeding period. A number of interventions are already working to produce better outcomes for mothers and babies both before and during the breastfeeding period. These include:

- Early initiation of ARVs in the first trimester of pregnancy and expansion of antiretroviral treatment for all pregnant women living with HIV, using a single fixed dose combination in a one-pill-once-daily formulation
- Increased HIV counselling, peer support for adherence to ARV medicines, and improved defaulter tracking systems using community actors
- Regular retesting of mothers during the pregnancy and postnatal period to identify new HIV infections
- Strengthening of community and facility linkages.

Ultimately, integrated work to help children survive and thrive will save more lives than vertical and disease-specific interventions alone. A child who survives HIV only to die of malnutrition or diarrhoea is a preventable loss and a failure of health systems. Covering the remaining miles to an AIDS-free generation will require strengthening overall health and community systems for the women and children whose lives rely on them.

FIG. 25 New HIV infections among children are increasingly concentrated in the postnatal period

Estimated new HIV infections among children (aged 0–14), sub-Saharan Africa, 2000 versus 2014



Source: UNICEF analysis of UNAIDS 2015 HIV and AIDS estimates

MONTHS 1 TO 59: Increased coverage of high-impact interventions and strengthened health systems are key factors in the decline in child mortality

The world's success in reducing under-five mortality is both about increasing the coverage of high-impact interventions and about the ways those interventions are delivered. Fewer children are dying every year because more of them are being reached with life-saving interventions. More children are being reached because the systems for delivering that care are being strengthened.

This section outlines the available data for coverage of key child survival interventions related to three leading childhood killers — pneumonia, diarrhoea and malaria — as well as undernutrition, which plays a role in nearly half of all under-five deaths. The data provide an indication of the progress that has been made in increasing coverage, but cannot fully capture other vital elements — such as rapid expansion of community-based delivery channels or improved supply chain management — that have made the increases possible. These and other enabling factors such as poverty reduction and increased community engagement will remain crucial components to tackling the under-five deaths that remain.

Substantial progress has been made in introducing and increasing coverage of two key pneumonia-related vaccines; progress in care-seeking for symptoms of pneumonia has been slower

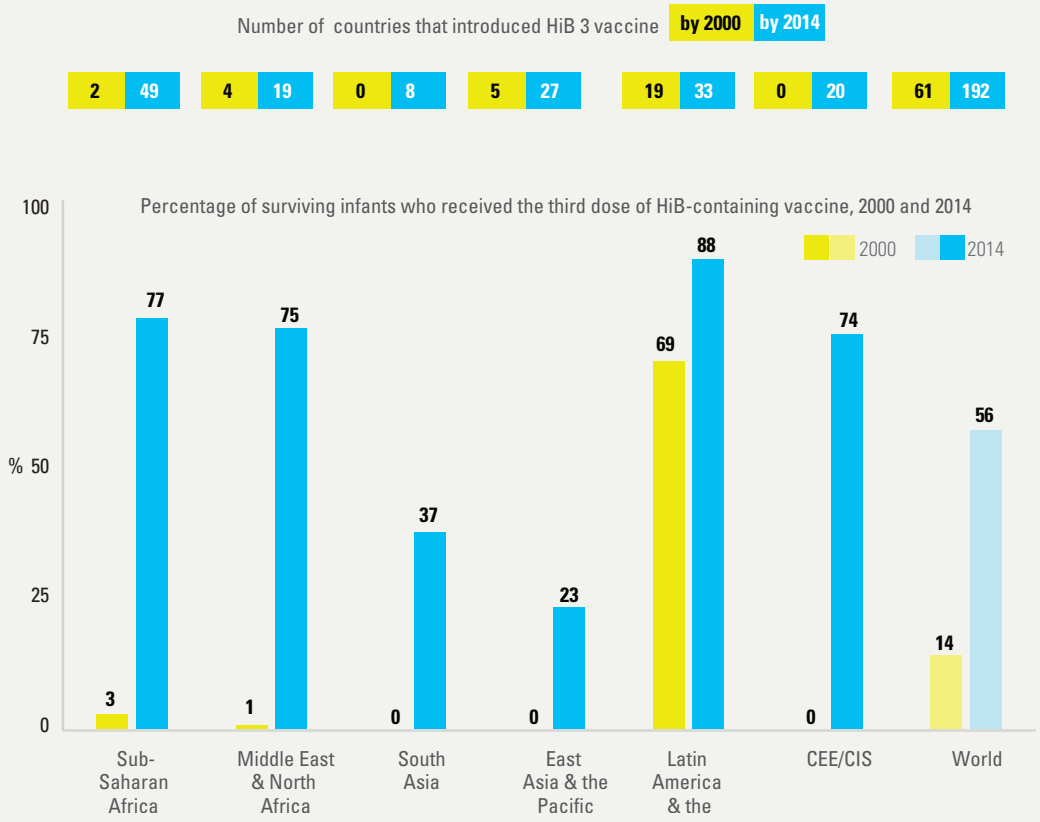
The fight against pneumonia-related deaths in children is being waged both preventively and through better treatment once infections do occur. The most effective preventive measures have included the roll-out of two recent vaccines — the Haemophilus influenzae type B (Hib) vaccine and the pneumococcal conjugate vaccine (PCV) — as part of a wider package of immunization services.

Since 2000, the number of countries that have introduced the Hib vaccine has tripled, reaching 192 by the end of 2014. While the third dose of Hib vaccine coverage is increasing and reached 56 per cent in 2014, there is wide regional variation in uptake. Third-dose Hib vaccination rates in Latin America and the Caribbean reached 88 per cent; in East Asia and the Pacific, coverage is just 23 per cent.

The roll-out of PCV has been extremely rapid. Since its introduction to low- and middle-income countries in 2008, it reached 31 per cent global coverage in 2014 and 124 countries now administer it. As with the Hib vaccine, pneumococcal vaccine rates vary widely by region and show similar disparities between the same high- and low-coverage regions (Figure 27).

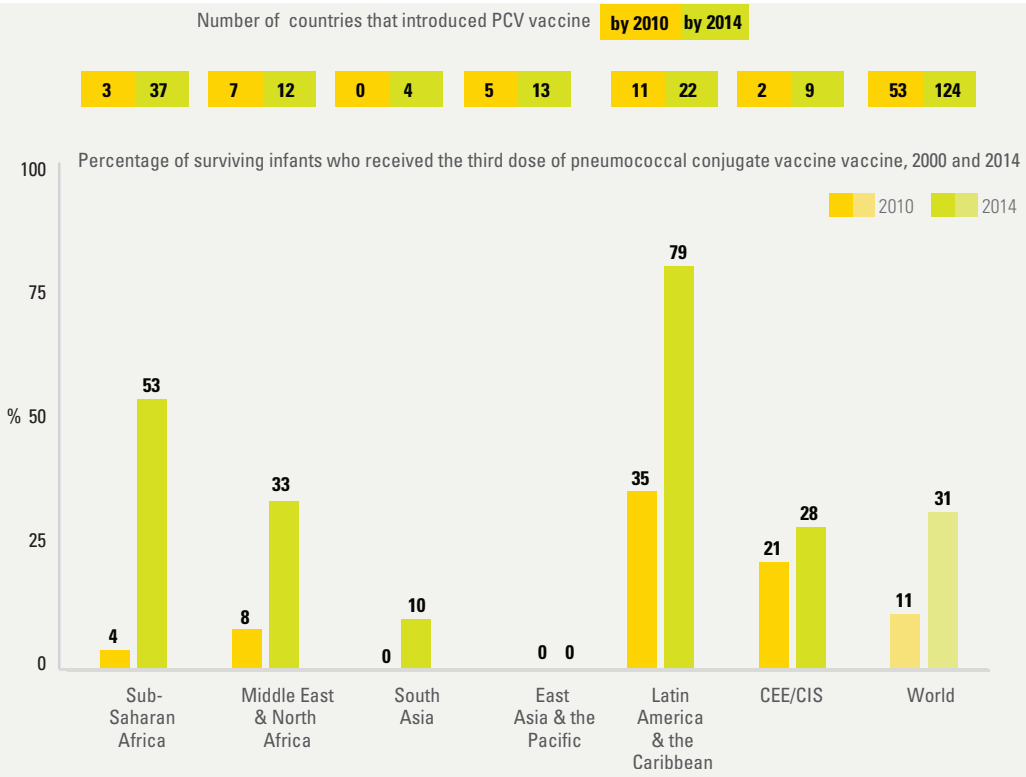
FIG. 26 **Dramatic progress has been made in the introduction and coverage of key pneumonia-related vaccines**

Number of countries that introduced the Hib-containing vaccine), and percentage of surviving infants who received the third dose, 2010 and 2014



Source: WHO and UNICEF estimates of national routine immunization coverage, 2014 revision (completed July 2015); WHO, Vaccine in national immunization programs, Update July 2015

FIG. 27 *Number of countries that introduced the pneumococcal conjugate vaccine (PCV), and percentage of surviving infants who received the third dose, 2010 and 2014*



Source: WHO and UNICEF estimates of national routine immunization coverage, 2014 revision (completed July 2015); WHO, Vaccine in national immunization programs, Update July 2015

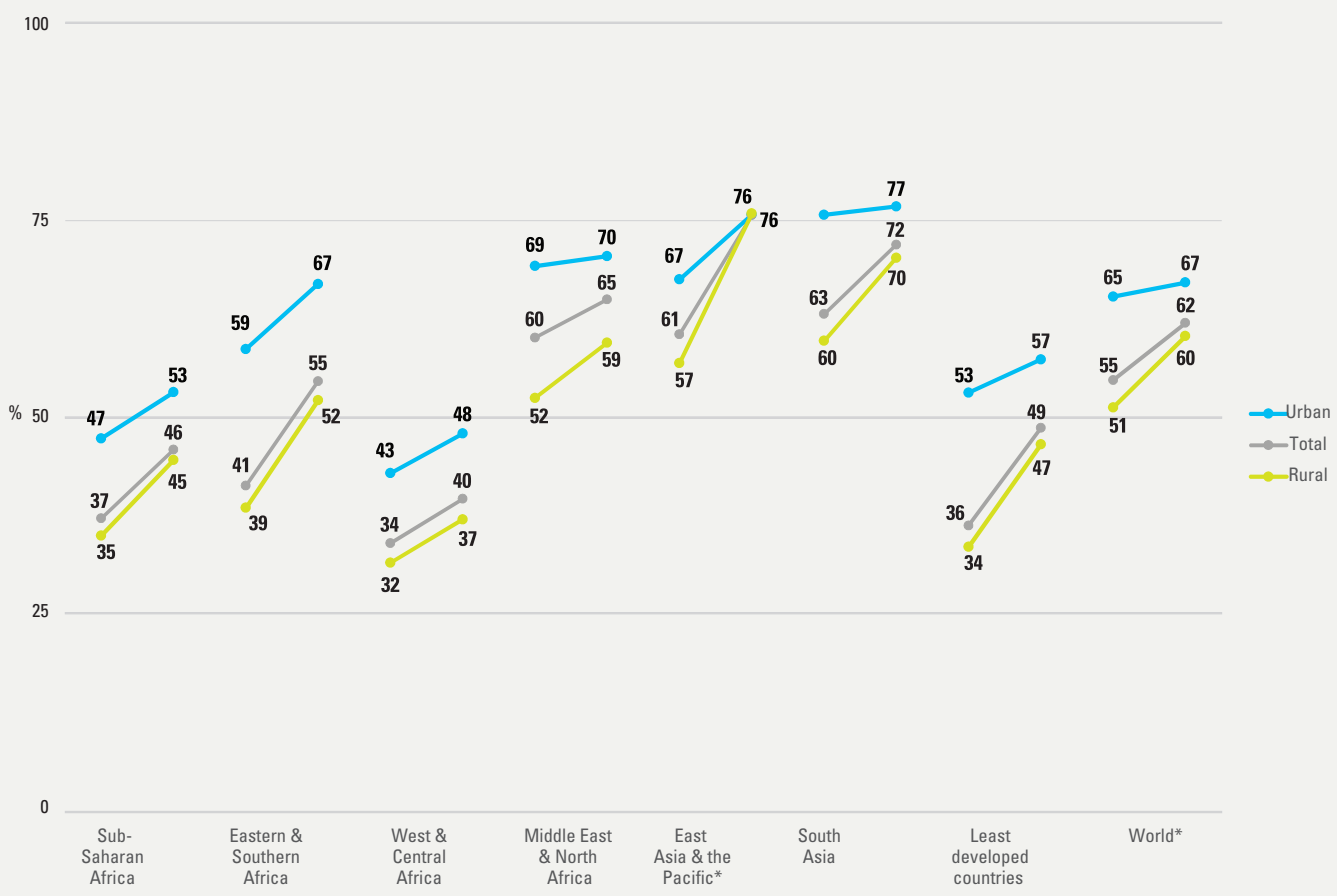
When children become ill and show signs of pneumonia, they need to receive a prompt diagnosis and treatment from a facility-based health provider or a qualified community health worker. Progress in reducing pneumonia-related deaths requires quickly seeking care from a health care provider once children develop symptoms of pneumonia, followed by appropriate treatment with antibiotics for bacterial pneumonia.

Symptoms of acute respiratory infection (ARI), such as cough and fast or difficult breathing, are used in household surveys as a proxy for symptoms of pneumonia. These surveys show that care-seeking for ARI symptoms has increased slowly over the past 15 years. Globally, just three in five children with symptoms of ARI are taken to health providers for appropriate care. Between 2000 and 2014, this rate improved by only 7 percentage points, rising from 55 to 62 per cent.

Large regional variations are found in care-seeking behaviour along with large and persistent gaps between children living in rural and urban areas. Except in East Asia and the Pacific, where gaps have recently closed, children in rural areas are significantly less likely to be taken for care when they experience ARI symptoms (Figure 28).

FIG. 28 Three in five children with symptoms of acute respiratory infection are taken for care, but progress has been slow

Percentage of children under five with symptoms of acute respiratory infection (ARI) taken for care, around 2000 and around 2014, by region and for urban and rural areas.



*Excludes China.

Note: Estimates are based on a subset of 58 countries with available data by residence for the periods 1999-2007 and 2010-2015 covering over 50 per cent of the global population under age 5.

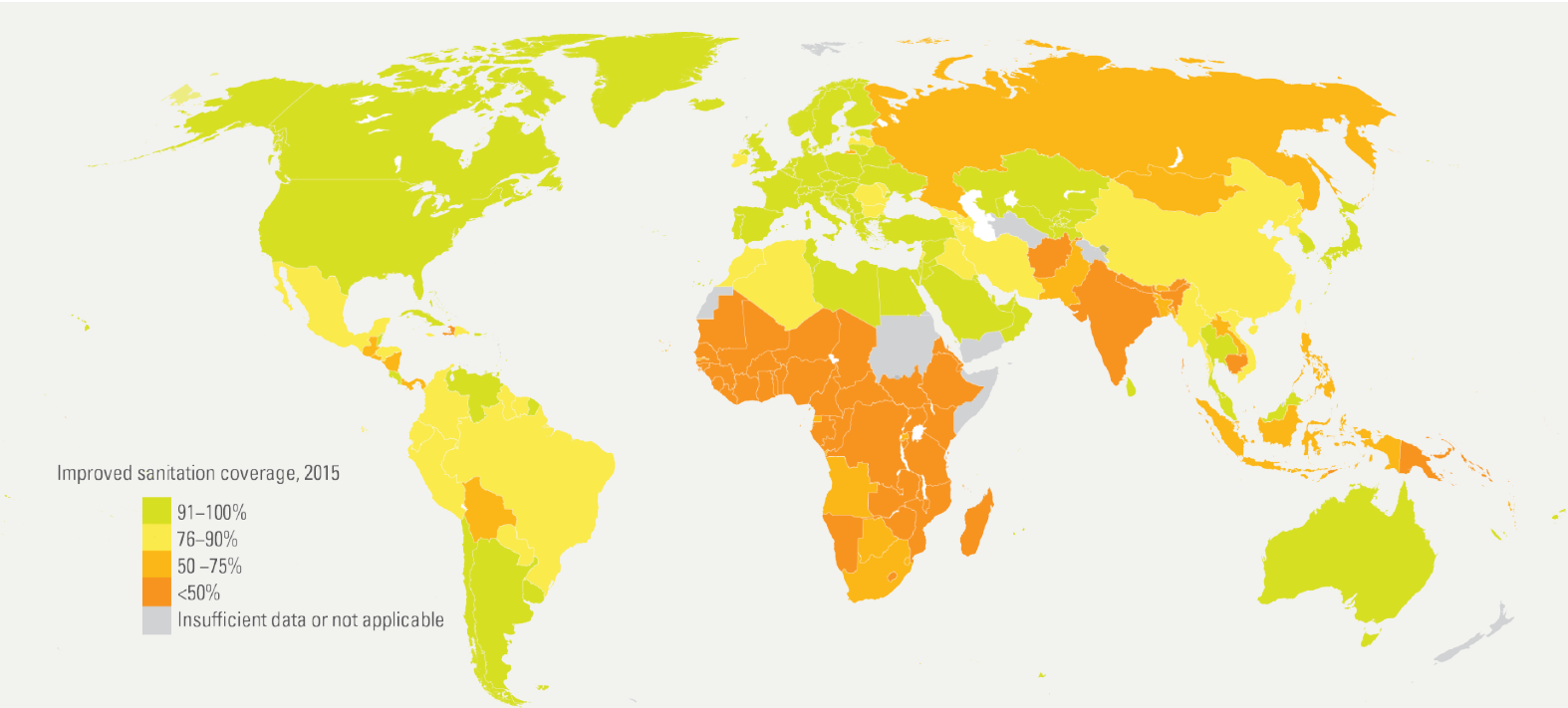
Source: UNICEF global databases 2015 based on MICS, DHS and other nationally representative sources

Improvements in drinking water, sanitation and hygiene are reducing diarrhoeal infections, but only two in five children receive appropriate treatment when they fall ill

As with pneumonia, decreasing deaths in children from diarrhoea requires both prevention and appropriate treatment. Improvements in drinking water, sanitation and hygiene (WASH) are essential for preventing diarrhoeal infections and other diseases. Today, more than 90 per cent of the world's population use improved drinking water sources and two thirds use improved sanitation facilities (up from 76 per cent and 54 per cent, respectively, in 1990) (Figure 29). These advances have contributed to the substantial reduction in diarrhoeal deaths among children under age 5 since 2000. Despite this progress, 663 million people still lack improved drinking water sources, 2.4 billion lack improved sanitation and nearly 1 billion still practise open defecation. In 2012, 58 per cent of diarrhoea deaths in children under 5 were attributed to inadequate water and sanitation.[16]

FIG. 29 The regions with the lowest coverage of improved sanitation are also those with the highest burden of under-five deaths from diarrhoea

Percentage of the population using improved sanitation in 2015



This map does not reflect a position by UNICEF on the legal status of any country or territory or the delimitation of any frontiers. The dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties. The final boundary between the Sudan and South Sudan has not yet been determined. The final status of the Abyei area has not yet been determined.

Source: UNICEF and WHO, Progress on Sanitation and Drinking Water – 2015 update and MDG assessment, New York, 2015

When children do become ill with diarrhoea, one of the most effective treatments is both inexpensive and easy to administer — oral rehydration salts (ORS). Evidence indicates that ORS treatment could prevent upwards of 90 per cent of diarrhoeal deaths.[17] The WHO-UNICEF recommended combination of ORS and zinc supplementation can reduce the severity of diarrhoea while preventing relapse and dehydration.[18] Today, just two in five children who become ill with diarrhoea receive ORS. Coverage of zinc supplementation for diarrhoea treatment is particularly low because introduction and scale-up in most low- and middle-income countries has only occurred recently. The median coverage is only 1 per cent in 49 countries with available data in 2010-2014. Only two countries — Malawi and Zimbabwe — have reached coverage above 20 per cent in this period.

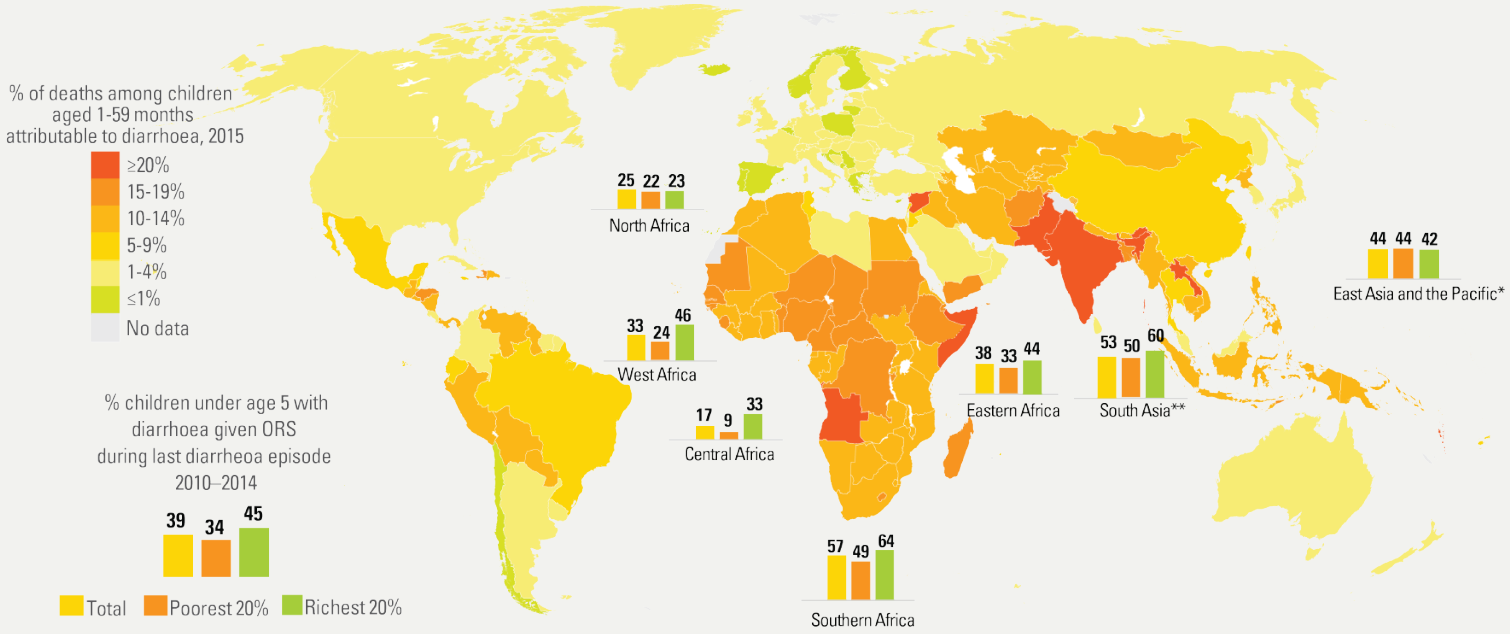
The inequities of diarrhoea prevention and treatment are striking. Eight out of 10 people who still lack improved drinking water sources live in rural areas; 7 out of 10 people without improved sanitation facilities live in rural areas.

Across most regions, children from households in the lowest wealth quintile are significantly less likely to receive ORS treatment when they become ill (Figure 30). In West Africa, the richest children are about twice as likely to receive treatment as the poorest; in Central Africa, they are three times more likely. Further reducing diarrhoeal deaths will require a stronger focus on increasing coverage of prevention and treatment interventions and narrowing the equity gaps in that coverage.

In addition to increasing WASH and ORS coverage, the recent introduction of a vaccine for rotavirus — a virus that can cause severe diarrhoea — offers new hope for continued progress in reducing diarrhoeal deaths. Though only recently recommended by the WHO for global use, 79 countries have now added the vaccine to their immunization schedules, with four more planning to introduce it soon.

FIG. 30 **Too few children receive appropriate diarrhoea treatment and poorer children are least likely to receive treatment**

Percentage of deaths among children aged 1-59 months attributable to diarrhoea in 2015 and percentage of children under 5 with diarrhoea given ORS, 2010-2014, by region and household wealth quintiles.



This map does not reflect a position by UNICEF on the legal status of any country or territory or the delimitation of any frontiers. The dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties. The final boundary between the Sudan and South Sudan has not yet been determined. The final status of the Abyei area has not yet been determined.

* Excludes China.

** Excludes India.

Note: Estimates of ORS coverage are based on a subset of 64 countries with available data by household wealth quintiles for the period 2010-2015 covering over 50 per cent of the global population under 5.

Source: UNICEF analysis based on cause of deaths WHO-MCEE (provisional estimates) and UNICEF global databases 2015 based on MICS, DHS and other nationally representative sources

Malaria control efforts have prevented more than 6 million child deaths since 2000

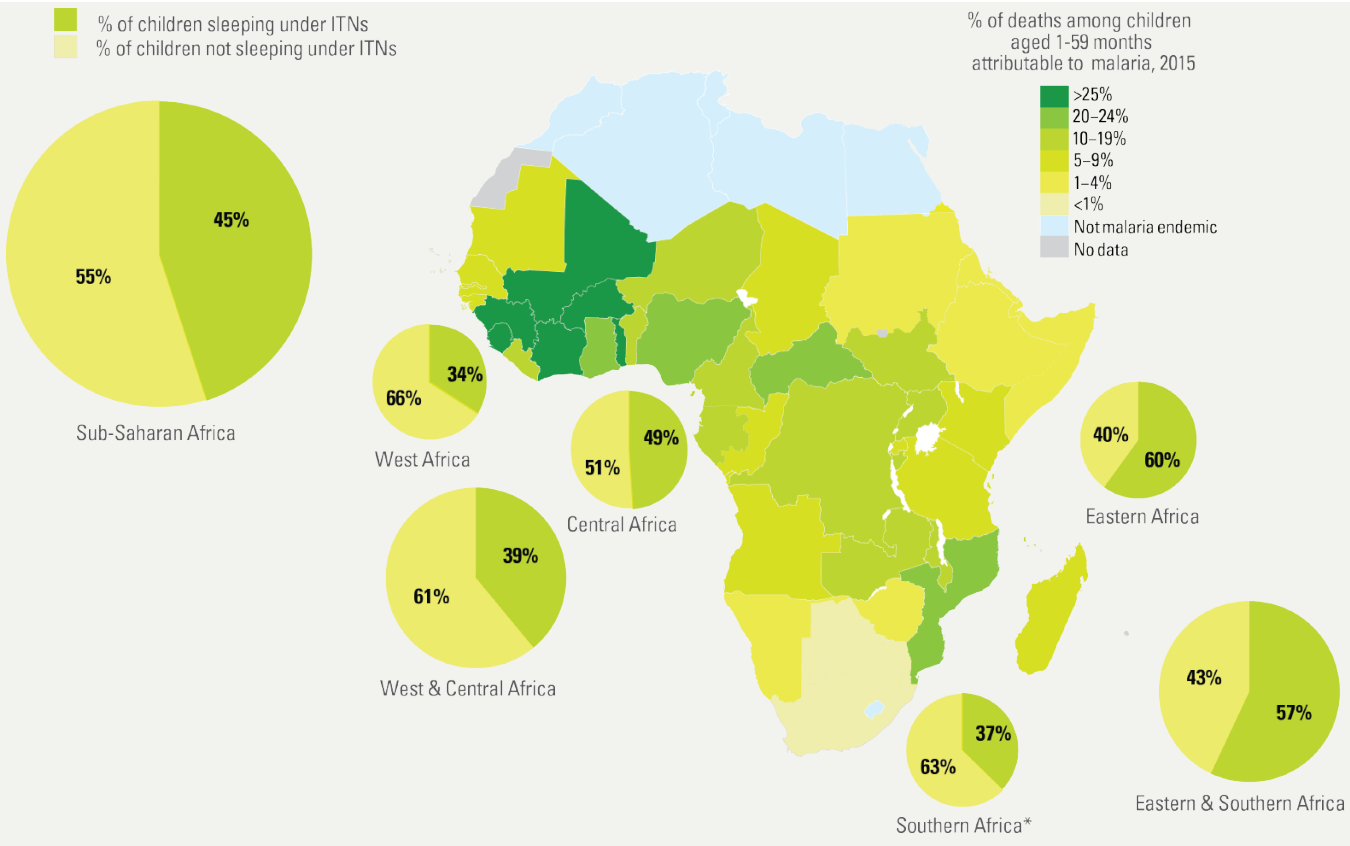
In malaria endemic regions, vector control is one of the most effective interventios for prevention. To this end, malaria prevention efforts have focused heavily on increasing the use of insecticide-treated bednets (ITNs) to prevent transmission – especially in sub-Saharan Africa.

Since 2004, more than 1.1 billion ITNs have been distributed around the world; nearly 1 billion of those were in sub-Saharan Africa (19). Between 2001 and 2015, malaria control efforts have averted an estimated 6.1 million under-five deaths from malaria. In that time, malaria-related death rate among children under 5 fell by more than two thirds.

Even 1 billion insecticide-treated bednets distributed to sub-Saharan Africa since 2004, however, have not proven sufficient to protect the children most at risk. In addition, with a lifespan of less than three years, not all these bednets would have remained effective or been available by 2015. In the period between 2012 and 2015, only 45 per cent of children in sub-Saharan Africa slept under an insecticide-treated bednet. In West and Central Africa — the region with the highest burden of malaria deaths — just one third to one half of young children are protected by ITNs (Figure 31).

FIG. 31 The regions in sub-Saharan Africa with the highest burden of under-five deaths from malaria also have the lowest rates of insecticide-treated bednet use

Percentage of post–neonatal (1-59 months) deaths attributable to malaria in 2015 and percentage of children under 5 sleeping under ITNs, 2012-2015



This map does not reflect a position by UNICEF on the legal status of any country or territory or the delimitation of any frontiers. The final boundary between the Sudan and South Sudan has not yet been determined. The final status of the Abyei area has not yet been determined.

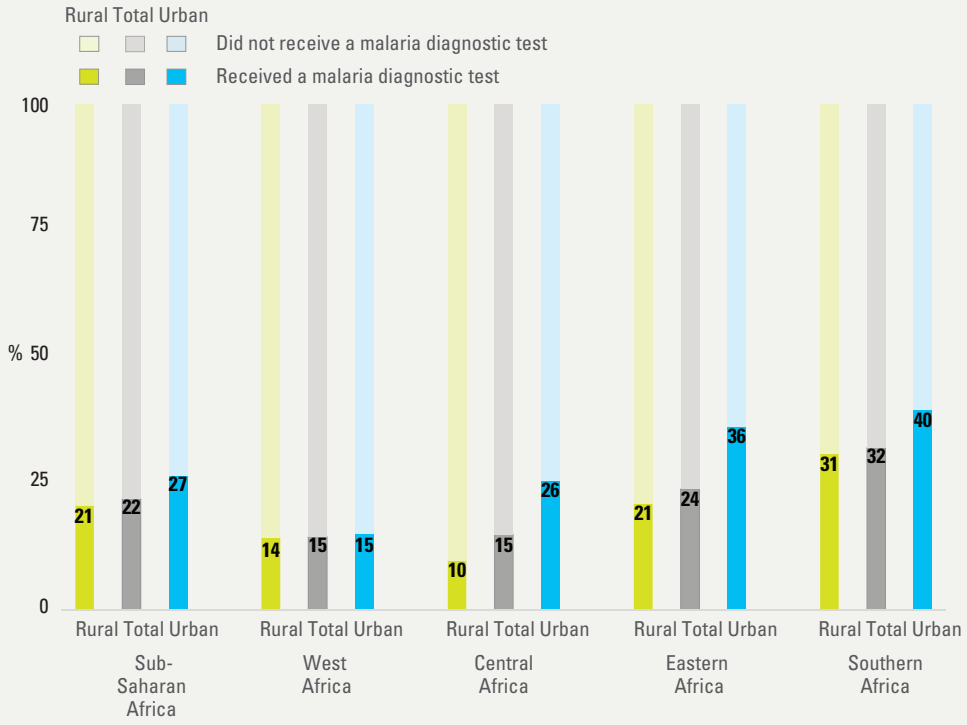
Note: Regional estimates on ITN use by children are based on a subset of 30 countries in sub-Saharan Africa with available data for the period 2012-2015 covering over 67 per cent of the population under 5 in the region and at least 50 per cent of the population under 5 in each sub-region. Regions presented in the chart refer to UNICEF regions and Economic Commission for Africa regions.

Source: UNICEF analysis based on cause of deaths WHO-MCEE (provisional estimates) and UNICEF global databases 2015 based on MICS, DHS and other nationally representative sources

When children show signs of malaria, appropriate diagnosis is necessary before administering treatment. Until recently, many children in malaria endemic countries who showed signs of fever were systematically treated with an antimalarial. To prevent the development of parasite resistance and based on evidence that an increasing number of cases of fever were not caused by malaria, the WHO updated its treatment recommendations in 2010 to recommend a confirmatory diagnostic test for young children with fevers in malaria-endemic areas.20, 21 Uptake of the diagnostic tests has been slow, with just one in five children with fever being tested for malaria before receiving treatment in 2010-2014 (Figure 32). As with ITNs, the weakest areas of coverage are the regions with the highest burden of childhood malaria deaths.

FIG. 32 **One in five children with fever are tested for malaria before they receive treatment**

Percentage of children under 5 with fever in sub-Saharan Africa who received a diagnostic test for malaria, 2010–2014



Note: Regional estimates are based on a subset of 32 countries, covering 82% of population under five in sub Saharan Africa in 2015. Sub-regional estimates represent data from countries covering at least 50% of regional population under five.

Source: UNICEF global databases 2015 based on MICS, DHS and other nationally representative sources

Undernutrition remains a factor in nearly half of all under-five deaths

Addressing proper nutrition early on can bring a host of benefits for children, including improved overall health, cognitive capacity and school performance. Missing the crucial window of opportunity for proper nutrition in the first 1,000 days of life can have lifelong repercussions, making early action essential.

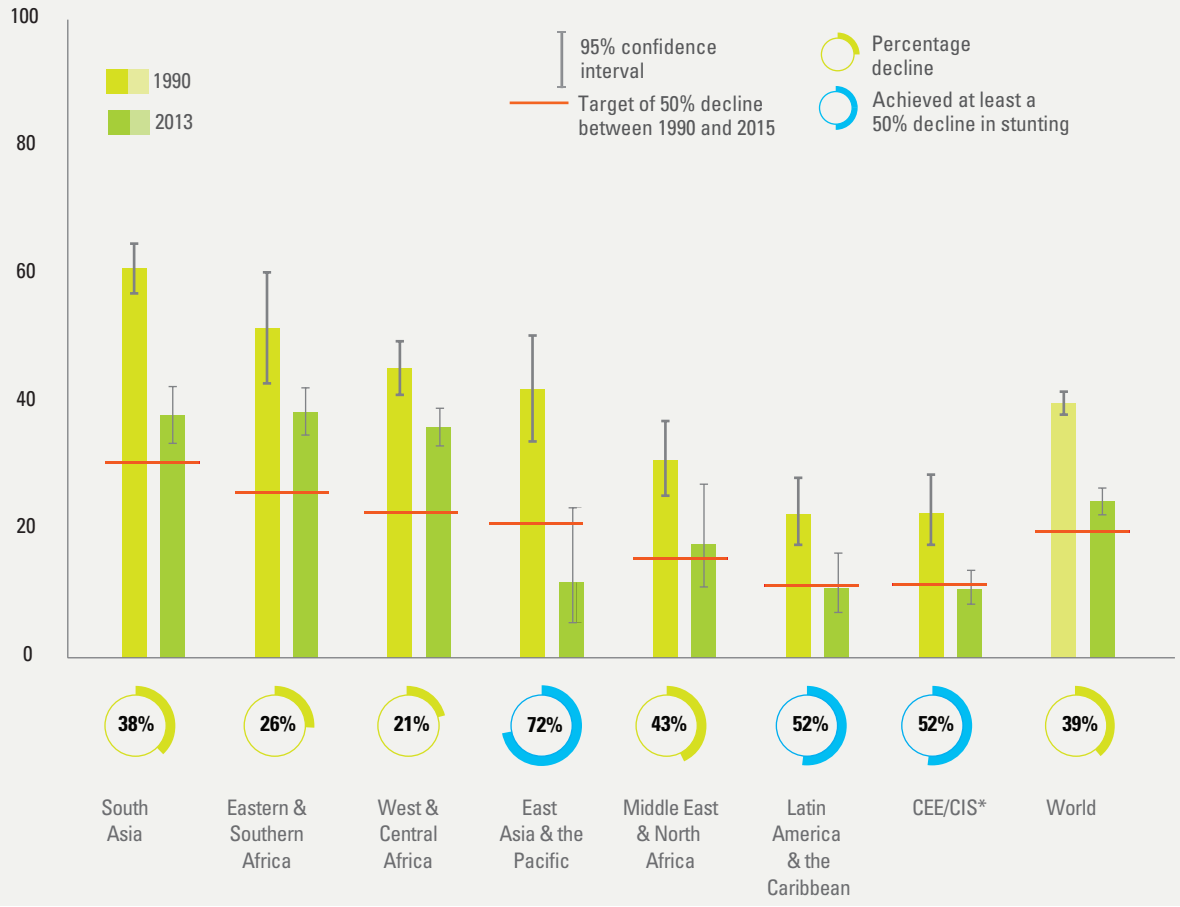
While not listed among the leading childhood killers, nearly half of all under-five deaths are attributable to undernutrition. Undernourishment increases the frequency and severity of common infections, contributes to delayed recovery and puts children at greater risk of dying from those infections.

Nutrition interventions that can help prevent stunting and/or reduce child mortality include the management of acute malnutrition; protection, promotion and support of optimal breastfeeding and complementary feeding practices; and provision of appropriate micronutrient interventions for mothers and children. Although coverage and quality have improved over the years, in 2013, fewer than one in six children needing treatment for severe acute malnutrition were reached. As outlined earlier, too few children are benefitting from early initiation of breastfeeding and from exclusive breastfeeding. Data from a limited set of available nationally representative surveys show that very few children aged 6–23 months receive a minimum acceptable diet in regard to food quality and frequency of feeding.

Declines in undernutrition, as measured through rates of stunting, have occurred more slowly than declines in overall child mortality, most notably in sub-Saharan Africa (Figure 33). Between 1990 and 2013, progress in reducing stunting was weakest in West and Central Africa, where, due to slow declines and a growing population, the number of children affected by stunting has risen by 5 million since 1990. Because of the role that undernutrition can play in child deaths from all causes, effective strategies for tackling it will be essential to making continued progress on overall child mortality.

FIG. 33 Declines in stunting have been slowest in West and Central Africa

Percentage of children under age 5 moderately or severely stunted and percentage decline, by region, 1990 to 2013



*The baseline for CEE/CIS is 1995 and not 1990 because of a lack of any data prior to 1995. This region also excludes the Russian Federation, for which data are not available.

Source: UNICEF, WHO, World Bank Joint Malnutrition Estimates, September 2014 update. Note new stunting figures through to 2014 will be released in September 2015.

VITAMIN A SUPPLEMENTATION CAN REDUCE ALL-CAUSE CHILD MORTALITY BY NEARLY A QUARTER

Around the world, vitamin A deficiency affects nearly one third of preschool-aged children. The deficiency is the leading cause of preventable childhood blindness and increases the risk of childhood death from illnesses such as diarrhoea. Fortunately, it is easily addressed. Periodic high-dose vitamin A supplementation is a proven, low-cost intervention that can reduce all-cause child mortality by 24 per cent.

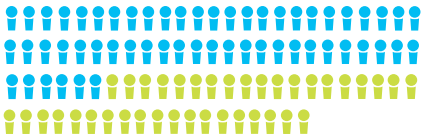
Integrated child health events are helping to expand the reach of vitamin A supplementation efforts. In 2013, roughly two thirds of targeted children were reached with two doses of the supplement. This represents a marked improvement throughout the MDG period — the number of priority countries that have reached effective coverage rates has tripled and the number of low-coverage priority countries has declined by nearly three quarters since 2000.

In high-mortality countries, investments in vitamin A supplementation hold great promise for preventing young child deaths from a variety of causes.

The work that remains to eliminate preventable child deaths is substantial, but it can be accomplished. It will require focused attention on the places and populations that still shoulder large burdens. It will require sustained commitment not just to health interventions — but also to the work of other sectors and to the systems necessary to deliver them. It will require deciding on — and committing to — the future we want for the world's children.

3| The future we want

3 | The future we want



94 million

children under five will die over the next fifteen years if child mortality rates remain at 2015 levels

38 million

of those children could be saved by meeting the SDG target on time

The dramatic global progress in reducing child mortality over the past 25 years provides a clear message for the next 15: With the right commitment, bold, ambitious goals are within reach. Despite limited resources, two dozen low- and lower-middle-income countries from every region of the world have met the MDG target for reducing the under-five mortality rate by two thirds. Nearly 70 per cent of all countries have at least halved their rates of under-five mortality. The 48 million children whose lives have been saved since 2000 are evidence of the power of global commitments.

In 2015, the world begins working towards a new global development agenda, seeking to achieve, by 2030, new targets set out in the Sustainable Development Goals. The SDG target for child mortality represents a renewed promise to the world's children:

> *By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-five mortality to at least as low as 25 per 1,000 live births.*[22]

This chapter demonstrates that meeting the SDG target will require sustained efforts and strong commitment. This chapter also makes it clear that meeting — or failing to meet — the goal will make the difference between life and death for millions of children. With stakes this high, the world must live up to its promises.

Scenarios for child mortality from 2016 to 2030: Choices made today can produce dramatically different results for children in the years to come

To demonstrate the potential outcomes of different rates of progress on child mortality, this chapter focuses on three potential scenarios for the next 15 years:

- The first scenario — labelled **losing momentum**[23] — is one in which countries fail to capitalize on the momentum of the MDGs, and levels of under-five mortality remain at 2015 levels over the next 15 years
- The second scenario — labelled **maintaining current trends**[24] — is one in which all countries sustain rates of reduction of under-five mortality achieved during the period 2000–2015, but fail to accelerate progress further
- The third scenario — labelled **meeting the SDG target**[25] — is one in which the world accelerates progress in order to reach the SDG target of each country reducing its under-five mortality rate to 25 or fewer deaths per 1,000 live births and its neonatal mortality rate to 12 or fewer by 2030.

These three scenarios offer vastly different glimpses into the unwritten future of child mortality. The final results of the SDG agenda will not be tallied for another 15 years, but the decisions that are made now — as the world commits to the new goals — will determine, in large part, whether the goals will be reached. There is ample evidence that the SDG target is attainable; the challenge that remains is mustering the necessary resolve and political will to achieve the world we want for the world's children.

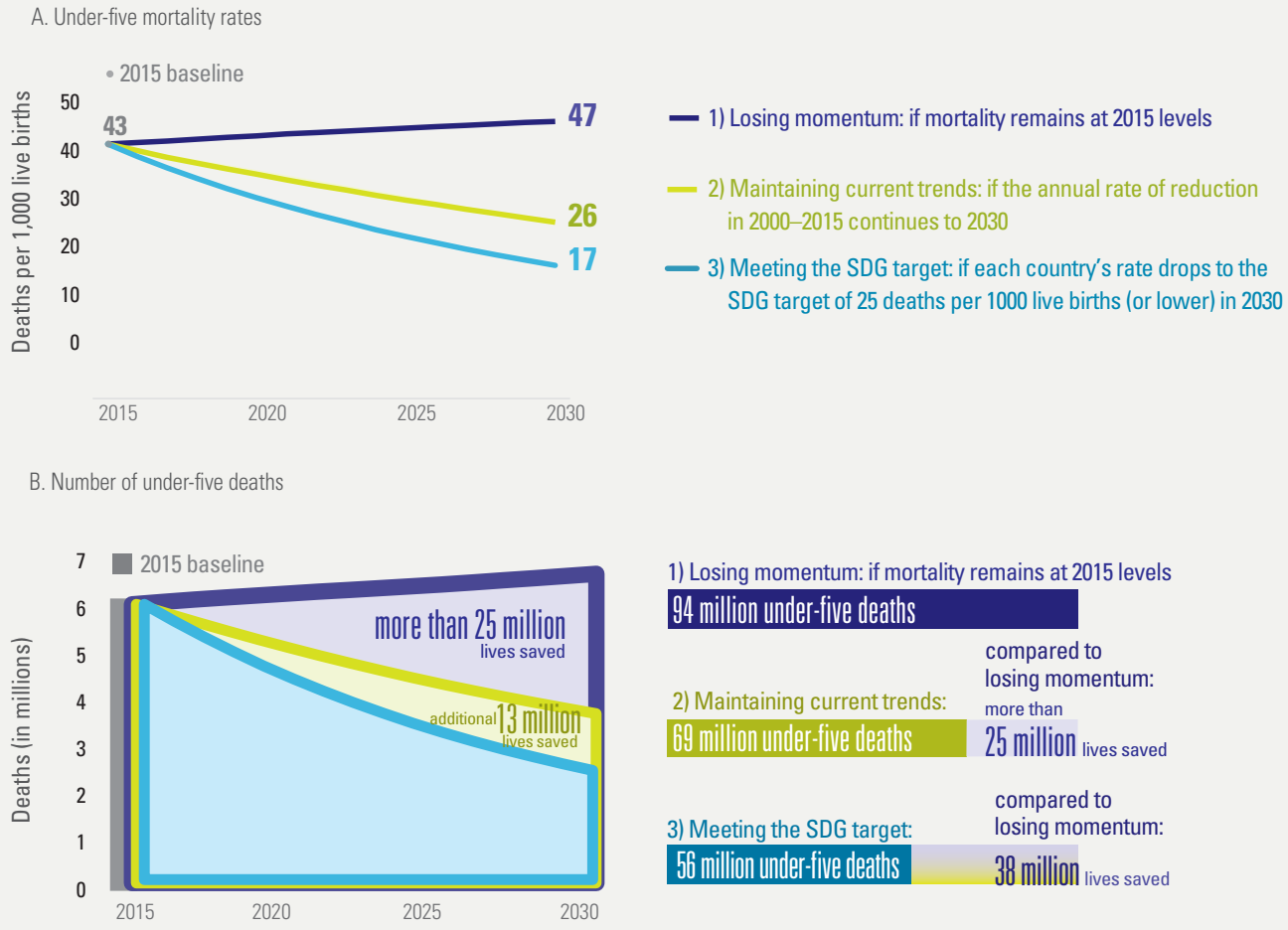
Losing momentum scenario: 94 million children under the age of 5 will die between 2016 and 2030 if under-five mortality rates remain at today's levels

Progress in reducing child mortality has not come easily and, without continued investment, the momentum gained over the past 15 years will be lost. If the world loses momentum, there will be real and irreparable repercussions for children. If mortality rates stay at 2015 levels, 94 million children under the age of 5 will die over the next 15 years (Figure 34).

In the coming years, the only expected under-five population growth in the world will occur in the regions with the highest remaining levels of child mortality — Eastern and Southern Africa and, particularly, West and Central Africa. That means that, even if current under-five mortality rates remain constant in these regions, the absolute number of child deaths will rise in sub-Saharan Africa. In 2015, 5.9 million children will die before the age of 5 globally; based on current population projections, 6.6 million children will die worldwide in 2030 if rates remain at 2015 levels. Those deaths are not inevitable. The vast majority can be averted if the world maintains — or accelerates — progress against 2015 mortality rates.

FIG. 34 **If child mortality remains at today's levels, 94 million children under the age of 5 will die between 2016 and 2030**

Projected global under-five mortality rate (deaths per 1,000 live births) and the number of under-five deaths under various scenarios, 2015–2030



Note: Calculations are based on unrounded numbers and displayed rounded numbers therefore may not sum up. The rising rate and increasing number of under-five deaths in *1) Losing momentum* are the result of the growing size of the under-five population and the shift of the population share towards high-mortality regions over the next 15 years.

Source: UNICEF analysis based on IGME 2015

THE WORLD IN 2030: POPULATION GROWTH IN SUB-SAHARAN AFRICA MAKES ACCELERATED PROGRESS INCREASINGLY URGENT

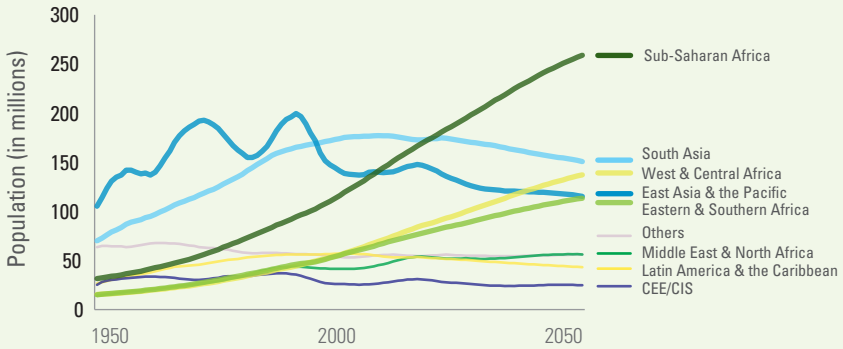
The world's population reached 7.3 billion in 2015, nearly triple its size in 1950. Current projections estimate a global population of 8.5 billion by 2030 and 9.7 billion by 2050.

Between 2016 and 2030, 2.1 billion children will be born around the world – and these births will increasingly take place in sub-Saharan Africa, which will see 620 million births over that period. Even as fertility rates slow down, the increasing number of reproductive-age women in sub-Saharan Africa will contribute to the rising population.

The two sub-regions of sub-Saharan Africa – Eastern and Southern Africa and West and Central Africa – are the only regions in the world expected to see growth in their child populations (Figure 35). The under-five population there is expected to rise from 163 million in 2015 to 207 million by 2030. By 2050, sub-Saharan Africa will be home to 259 million children under the age of 5.

FIG. 35 Sub-Saharan Africa is the only part of the world expected to see a rising child population

Population of children under age 5 by region, 1950-2050



Source: UNICEF analysis based on the United Nations, Department of Economic and Social Affairs, Population Division, World Population Prospects: The 2015 Revision, United Nations, New York, 2015

Keeping up with population growth will require more resources and faster progress

A growing child population can present great opportunities for the future of these regions, but it will also require even more investments in the interventions, providers and systems that help children survive and thrive. Consider just a few examples:

- Population growth means that, in the years to come, substantially more work will be required just to maintain current – often inadequate – rates of coverage for key interventions. In the case of skilled birth attendance, an additional 34 million births will have to be attended in sub-Saharan Africa over the next 15 years just to maintain the 2014 skilled attendance coverage level of 52 per cent. Reaching a higher coverage rate will require even more intense efforts.
- Stunting rates have been falling slowly in West and Central Africa – from 41 per cent in 2000 to 35 per cent in 2015 – resulting in 29 million stunted children today. If this trend continues, around 30 per cent of children under age 5 in this region will be stunted in 2030. Despite this decrease in the rate of stunting, 3 million more children will be stunted in 2030 in West and Central Africa than there are today because progress in reducing stunting is not fast enough to compensate for continuing population growth.
- In Eastern and Southern Africa, the proportion of the population lacking access to improved drinking water sources has decreased from 47 per cent in 2000 to 34 per cent in 2015. If this trend continues, the proportion will reach 24 per cent in 2030. While a smaller proportion of the population will lack access to improved water in 2030, population growth in this region is expected to outpace the provision of services. As a result, the total number of people lacking access to improved water sources will increase by almost 4 million – reaching 170 million. On the positive side, an additional 200 million people will have gained access to improved water sources in 2030 compared to 2015 (520 million in total).
- Across sub-Saharan Africa, access to improved sanitation has increased only slightly over the last 15 years and remained at 30 per cent in 2015. If this trend continues, coverage will reach 34 per cent in 2030. During that same period, the population of sub-Saharan Africa will grow by 450 million, meaning that in 2030 almost 1 billion people in that region will still lack access to improved sanitation – 260 million more than in 2015.

Keeping pace with a growing population makes accelerated progress on child survival essential. Pushing further ahead to reach the 2030 goals will require even more concerted efforts in the places with increasing numbers of children.

Maintaining current trends scenario: If today's rates of decline in child mortality are maintained, more than 25 million more children will survive between 2016 and 2030

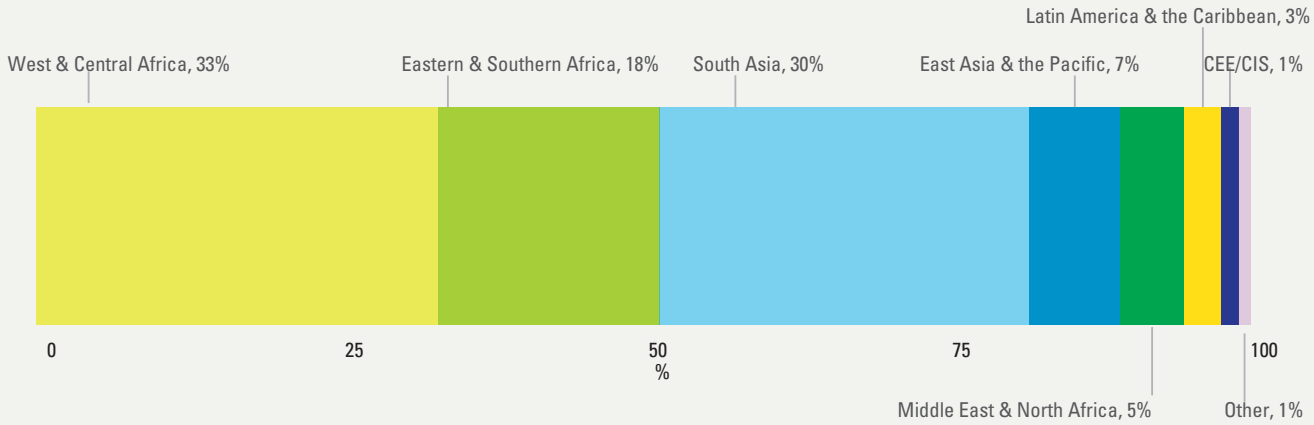
The differences between slowing, maintaining or accelerating momentum on child mortality are stark. If the world sustains the progress made during the MDGs over the course of the next 15 years, more than 25 million more children will live to see their fifth birthdays than would survive under the losing momentum scenario. The maintaining current trends scenario represents a better world for children, but one that still falls short of the SDG target (see Figure 34). Even if current rates of decline are sustained, 69 million children will die before the age of 5 during the next 15 years; about half of those children will die within their first month of life.

The current rate of progress simply is not fast enough. Based on current trends, one quarter of countries are off-track for meeting the SDG target. Current trends also mean that the burden of child deaths will be distributed very unequally. Of the 69 million under-five deaths that will take place if current trends continue, more than half with be in sub-Saharan Africa and nearly a third will be in South Asia (Figure 36).

However, even those regional groupings mask the true concentration of the projected deaths in the coming years. If current trends continue, by 2030 just five countries will account for more than half of all under-five deaths — India (17 per cent), Nigeria (15 per cent), Pakistan (8 per cent), Democratic Republic of the Congo (7 per cent) and Angola (5 per cent).

FIG. 36 **If current trends continue, four out of five child deaths between 2016 and 2030 will be in sub-Saharan Africa and South Asia**

Percentage distribution of projected under-five deaths in 2016–2030 by region if current trends continue in all countries



Source: UNICEF analysis based on IGME 2015

Meeting the SDG target scenario: If progress is accelerated to meet the SDG target, the lives of 38 million children under the age of 5 could be saved

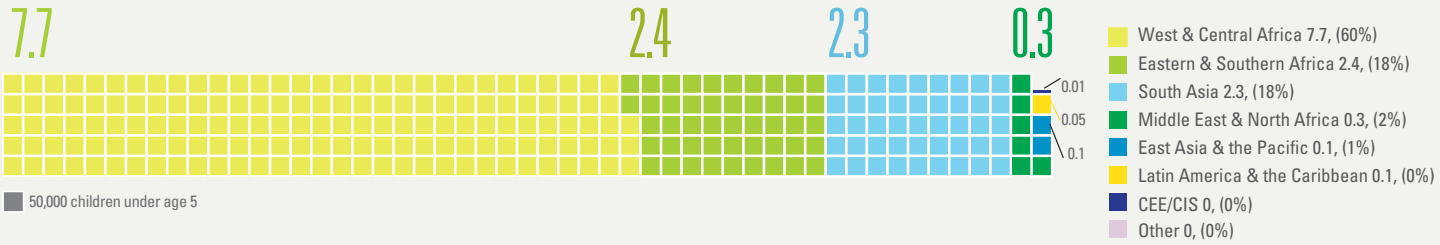
The world can do better for children. If progress is accelerated from 2015 levels to meet the SDG target, the lives of 38 million children could be saved compared to the first scenario (losing momentum). Those 38 million lives include 13 million more children under the age of 5 than would be saved if current trends continue in each country (Figure 34).

The 13 million girls and boys whose lives depend on accelerated progress come from the 47 countries that will need to accelerate progress in order to reach the SDG target. Eight in 10 of the children whose lives would be saved come from sub-Saharan Africa (Figure 37).

It is important to remember that even more children can be saved if countries meet the SDG target earlier, which is possible in some countries.

FIG. 37 **Sub-Saharan Africa is home to 81 per cent of the 13 million children under age 5 whose lives could be saved with accelerated progress on child mortality**

Number of lives saved among children under age 5 if the SDG target is achieved compared to the continuation of current trends, by region, 2016–2030



Source: UNICEF analysis based on IGME 2015

Reaching the 2030 goal will not be easy...

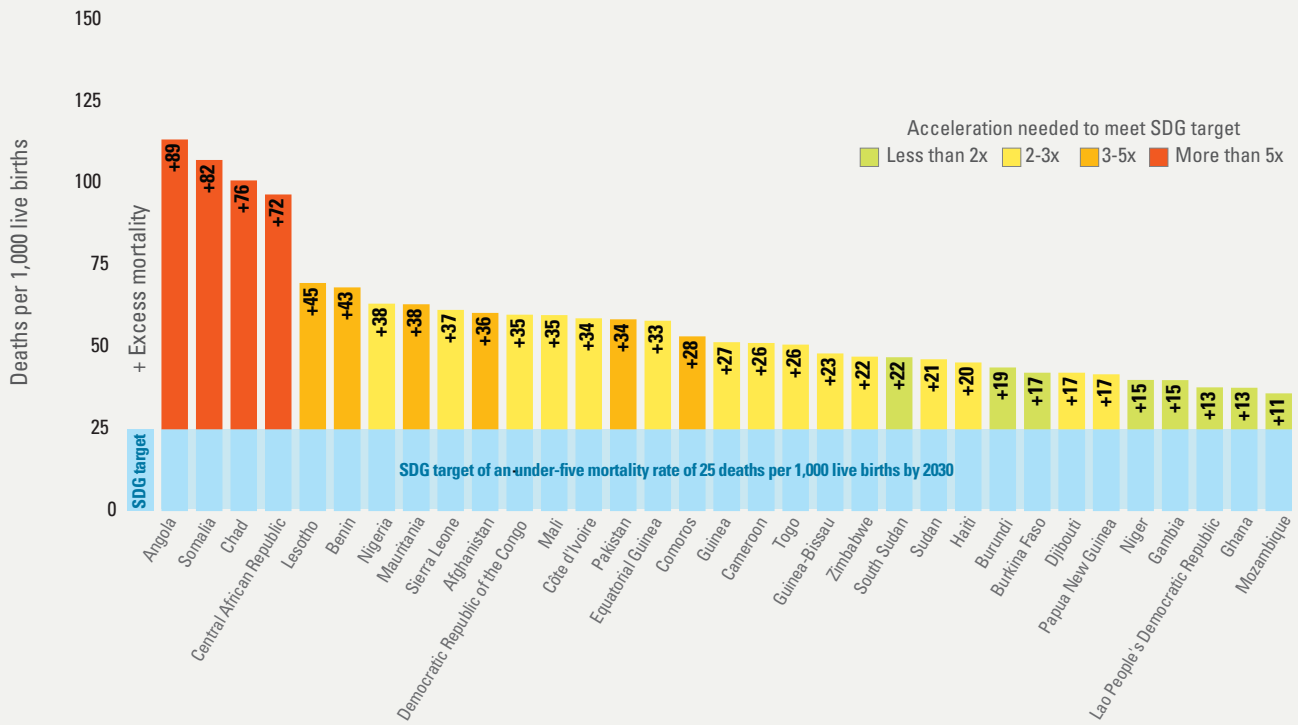
Simply maintaining the levels of progress achieved during the MDG period — let alone accelerating to reach the post-2015 goals — will require sustained and substantial efforts and high-level political commitment. Today, 79 countries have an under-five mortality rate that exceeds the 25 per 1,000 target set for 2030. Thirty-two of these 79 countries will reach that target if they can sustain their current rates of progress.

The remaining 47 countries will need to accelerate progress in order to reach the target. The acceleration needed to reach the goals in those countries is substantial (Figure 38) — 30 countries must at least double their current rate of reduction. Eleven of those 30 must at least triple their current rate of reduction. If current trends continue, 21 countries would achieve the target between 2031 and 2050 and another 26 would achieve the target sometime after 2050 (Figure 39).

The countries that need to accelerate progress can be found in most regions of the world, though West and Central Africa has the highest proportion of countries requiring faster progress.

FIG. 38 **If current trends continue, dozens of countries will miss the SDG target by a wide margin**

*Projected under-five mortality rate in 2030 in countries that are expected to miss the SDG target of 25 deaths per 1,000 live births by more than 10 deaths per 1,000 live births, if current trends continue**

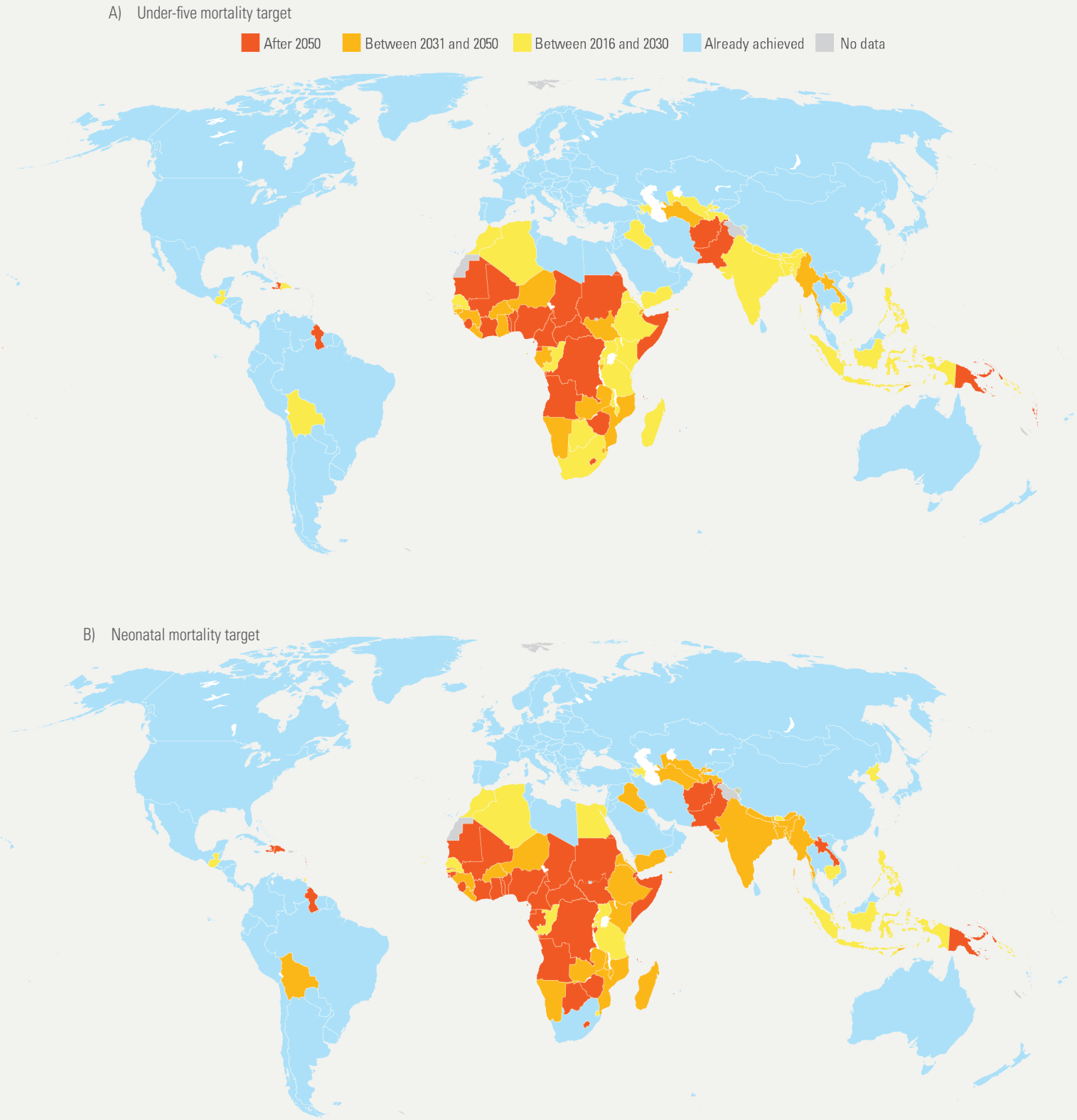


* In countries with 10,000 or more live births in 2015.

Source: UNICEF analysis based on IGME 2015

FIG. 39 **Current progress must be accelerated to reach the SDG target, particularly in sub-Saharan Africa**

Achievement of the SDG target on child mortality by year, by country, if current trends continue in all countries



This map does not reflect a position by UNICEF on the legal status of any country or territory or the delimitation of any frontiers. The dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties. The final boundary between the Sudan and South Sudan has not yet been determined. The final status of the Abyei area has not yet been determined.

Source: UNICEF analysis based on IGME 2015.

As a group, low- and lower-middle-income countries have the furthest to go to meet the SDG target. Over two thirds of low-income countries (21 of 31) and more than a third of lower-middle-income (19 of 50) countries must accelerate progress if they are to meet the SDG under-five mortality target (Figure 40).

FIG. 40 **More than two thirds of low-income countries must accelerate progress to reach the SDG target**

Required annual rate of reduction in 2015–2030 versus the historical annual rate of reduction in the under-five mortality rate achieved during 2000–2015

Source: UNICEF analysis based on IGME 2015

About these charts: Figures 40 and 41 illustrate the mortality rate reductions needed by individual countries to achieve specific targets by 2030

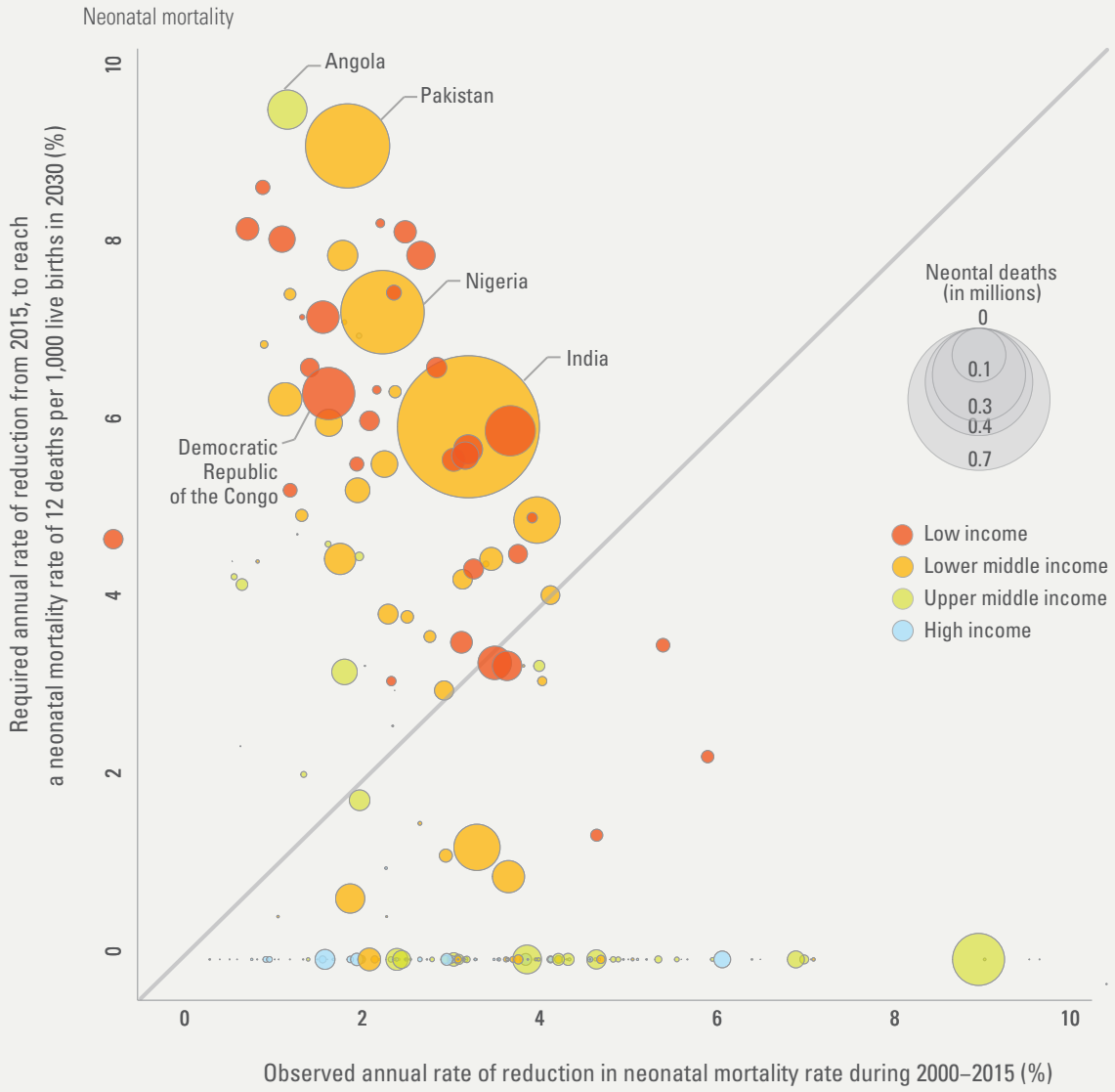
- Each bubble represents a country. The size of the bubble represents the number of deaths in 2015.
- The colour of the bubble represents national income level.
- The horizontal axis shows the observed rate of reduction in the mortality rate per year over 2000–2015.
- The vertical axis shows the required rate of reduction per year from 2015 to 2030 to meet the SDG target.
- Countries above the diagonal line need faster rates of reduction (i.e., accelerated progress) to achieve the target.
- Countries below the diagonal line will be able to achieve the target at their current rates of reduction.
- Countries on the horizontal axis have already reached the target, as of 2015.

The challenge of meeting the neonatal target are is more substantial. Sixty-three countries — including 26 low-income countries — will need to accelerate their current rates of reduction in order to reach that target.

No low-income country has achieved the neonatal mortality target yet and, given current trends, only 5 low income countries are set to achieve it by 2030.

FIG. 41 More than two thirds of low-income countries must accelerate progress to reach the SDG target

Required annual rate of reduction in 2015–2030 versus the historical annual rate of reduction in the neonatal mortality rate achieved during 2000–2015



Source: UNICEF analysis based on IGME 2015

… but it is achievable

The challenges that lie ahead should not be underestimated, but they are surmountable. The accelerated progress achieved during the past 15 years has demonstrated the gains that can be achieved and shown the huge potential of simple, inexpensive, evidence-based interventions to save lives. The fact that two dozen low- and lower-middle-income countries achieved the child mortality MDG target demonstrates definitively that income need not be a barrier to accomplishment. The 21 sub-Saharan African countries that reversed an increasing under-five mortality trend or at least tripled their progress in 2000–2015 also demonstrate that rapid acceleration is possible.

If the SDG target is met, the lives of 38 million children can be saved by 2030. It is within our power to make good on that promise.

Looking beyond the numerical SDG target, the top performing countries in each region and around the world provide concrete evidence of even more ambitious child mortality rates that can be — and have been — achieved. The projections below provide a glimpse into the potential gains in child mortality that lie ahead:

Matching the top regional performers: If each country followed the trend of the best performer within its own region, an additional 7 million lives could be saved beyond those saved under the SDG target scenario.

Matching the high income country average: If each country's under-five mortality rate reached or fell below the current average rate in high-income countries (6.8 deaths per 1,000 live births) by 2030, an additional 21 million lives could be saved beyond those saved under the SDG target scenario.

An analysis of 75 high-burden countries provides a different perspective on the gains that are possible with accelerated progress. Today, just eight of these countries are expected to reach the SDG target on time. If each country scaled up intervention coverage as fast as the best performer in each intervention grouping, that number would rise to 33 by 2030.[26] Under-five deaths in those countries would fall by nearly two thirds over 15 years — from 5.5 million in 2015 to 2.0 million in 2030.

These analyses and projections — based on rates and trends that have already been seen in some contexts — offer hope for future progress in eliminating preventable child deaths.

Realizing equity for child survival: Both high- and low-mortality countries must tackle equity gaps in child mortality

Every child deserves a fair chance in life, beginning with a fair chance to survive his or her first days and years of life. The preceding chapters have provided some evidence that, from birth, certain children are at a survival disadvantage because of their place of birth, family's wealth or mother's education. This section looks in more detail at the progress that is possible with greater equity in child health.

The gaps between the richest and poorest households are closing in some regions but not in all

Preliminary analysis indicates that, in most regions, child mortality rates have declined substantially faster for the poorest than for the richest households since 2000. However, South Asia and sub-Saharan Africa — the regions with the highest under-five mortality — have not followed this pattern.

These relative rates of decline shape the different equity trajectories of each region. While both the richest and the poorest households in most regions will see progress over the next 15 years, no region is on track to close its child mortality equity gaps by 2030. Based on current trends, most regions are not likely to achieve equity in under-five mortality rates between the poorest and the richest households even by mid-century.

The gaps between the richest and poorest within each region and among the world's regions become clear when estimating how long it will take each population group to reach the SDG child mortality target based on current trends. In four regions, the wealthiest quintile has already reached that benchmark; the poorest quintile has achieved the target only in CEE/CIS. In another four regions, current progress means that the poorest households will reach the SDG target by 2030, but in sub-Saharan Africa and South Asia the poorest will not reach this target until years after the deadline.

TRACKING PROGRESS AND REALIZING RIGHTS: CIVIL REGISTRATION AND VITAL STATISTICS SYSTEMS

Around the world, the births of nearly 230 million children under the age of 5 have never been registered, and less than 3 per cent of deaths are medically certified.* Even in low-mortality countries, serious weaknesses are evident in systems for registering births and deaths. Just 60 countries have fully functioning vital registration systems, while the remainder rely heavily on periodic household surveys to estimate levels and trends in child mortality.** Surveys provide important information in the absence of fully functioning civil registration and vital statistics systems, but they cannot replace them. To accurately track child births and deaths, deeper investments are needed in such systems around the world.

Registration is key not only for understanding data and trends, but also as a first step in securing children's legal rights to access services such as health care and education later in life. Birth registration is every child's right and the world's responsibility to safeguard.

* Liu, L., et al., 'Global, Regional, and National Causes of Child Mortality in 2000–13, with Projections to Inform Post-2015 Priorities: An updated systematic analysis', The Lancet, vol. 2385, 2015, pp. 430–40, doi:10.1016/S0140-6736(14)61698-6.

**UNICEF. *Committing to Child Survival: A Promise Renewed* Progress Report, 2013. UNICEF, New York, NY 2013.

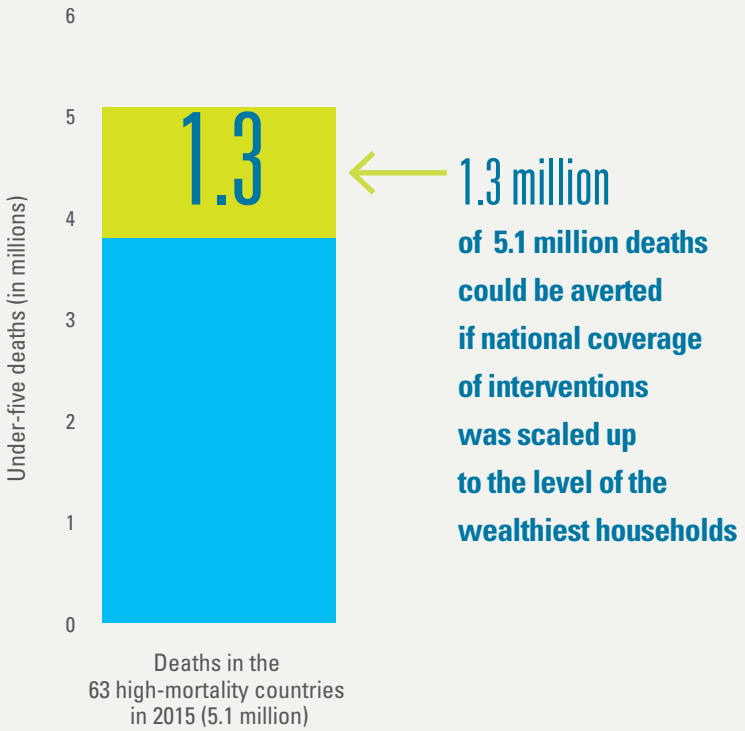
In 63 high-mortality countries, one quarter of under-five deaths could be averted by scaling up national intervention coverage rates to the level of the wealthiest households

A key factor that influences the difference in mortality rates between the richest and poorest households is the extent to which each group benefits from essential health interventions. In most high-mortality countries, coverage of health interventions is notably higher among the wealthiest families than among the poorest. This puts less privileged children at an immediate survival disadvantage.

An analysis of 63 of the highest-mortality countries (representing almost 90 per cent of global under-five deaths) indicates that one in four under-five deaths in those countries could be averted with a greater emphasis on equity in intervention coverage. If each of the 63 countries brought its national coverage rates for essential health interventions up to the coverage rates found in the highest wealth quintile, 1.3 million of the group's 5.1 million under-five deaths could be averted (Figure 42).[27]

FIG. 42 One in four under-five deaths could be averted in 63 high-mortality countries by scaling up national intervention coverage rates to the level of the wealthiest households

Number of deaths in a set of 63 countries with high under-five mortality in 2015 and the number of under-five deaths that could be averted if national coverage of interventions was scaled up to the level of the wealthiest households

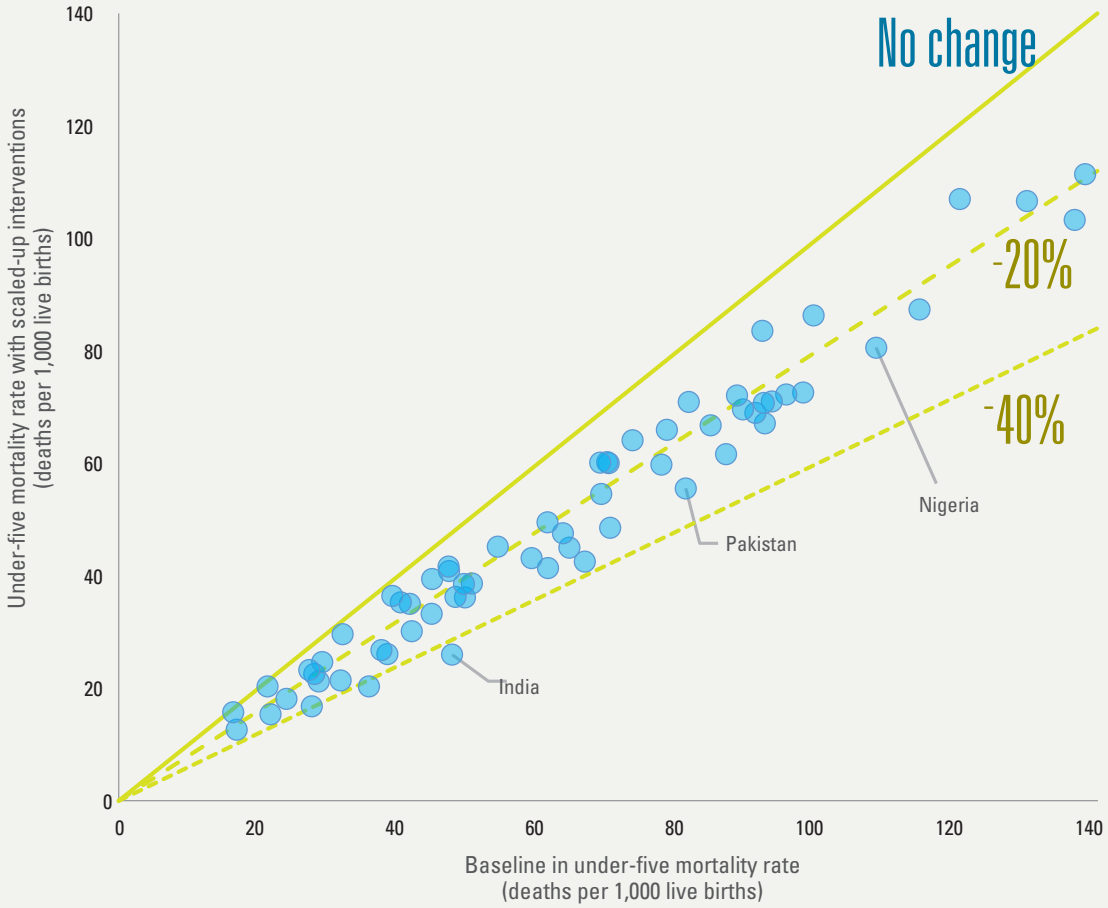


Source: Lives Saved Tool (LiST) analysis by Johns Hopkins University, 2015

Increasing national coverage rates could decrease average under-five mortality rates in these countries by almost 30 per cent. The potential benefits vary across countries — with some showing mortality gains below 10 per cent and others with the potential to cut rates by upwards of 40 per cent (Figure 43). Three quarters of countries included in the analysis could potentially see declines in child mortality of between 10 per cent and 30 per cent by scaling up intervention coverage. The degree to which a country would benefit from tackling inequities in coverage is strongly connected with the country's current disease burden and the extent to which current coverage rates are uneven across wealth quintiles.

FIG. 43 **All 63 high-mortality countries would benefit from reducing inequities in health interventions**

Impact on the under-five mortality rate of increasing national coverage to the level of the top wealth quintile



Source: Lives Saved Tool (LiST) analysis by Johns Hopkins University, 2015

Even in low-mortality countries, much work remains to give every child a fair chance of survival

By 2015, 116 countries worldwide have already met the SDG target of an under-five mortality rate of 25 or fewer deaths per 1,000 live births; only 67 countries had reached that benchmark in 1990. This group of countries, generally considered to be 'low-mortality' countries, nevertheless reflects considerable variation in levels of child mortality. With rates ranging from 2 to 25 deaths per 1,000 live births, if current trends continue, 6 million children under 5 will die in these countries over the next 15 years.

As in high-mortality countries, the 6 million children who will die in low-mortality countries will disproportionately come from disadvantaged backgrounds and communities. Tracking and, more importantly, closing these equity gaps requires strong civil registration systems that can produce timely, accurate and disaggregated data.

Disaggregated data from Brazil provide a striking example of the importance of moving beyond national averages in order to address inequities. Brazil successfully met the MDG target of a two-thirds reduction in under-five mortality. It also has already met the SDG target for child mortality and now has an under-five mortality rate of 16 per 1,000 live births.

This low national rate reflects progress over the 1990 to 2015 period. During that time, some equity gaps narrowed between the northeast and the south of the country.

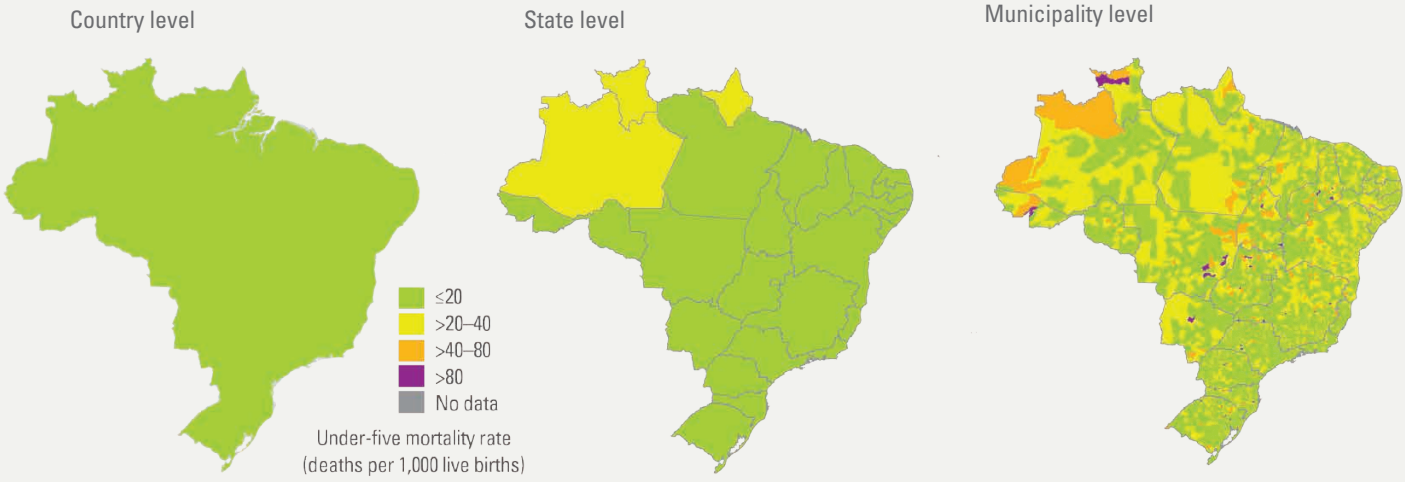
An analysis of mortality at the state level in Brazil, however, reveals that notable differences in mortality persist. Breaking the averages down further to the municipal level reveals even greater disparities (Figure 44).

More than 1,000 of the country's roughly 5,500 municipalities have successfully lowered their under-five mortality to just five deaths per 1,000 live births — among the best rates in the world. In 32 municipalities, however, the under-five mortality rate is a staggering 16 times higher, at 80 deaths or more per 1,000 births. If those municipalities were treated as a country, they would rank in the bottom 30 globally for under-five mortality.

Strong political will and the continued production of high-quality disaggregated data have allowed the government to effectively target and narrow equity gaps in Brazil. Similar disparities are found on geographic, ethnic, income and other lines in low-mortality countries across the world.

Eliminating those disparities will require deeper levels of political commitment and sustained investments in reliable, timely and disaggregated data.

FIG. 44 High-quality disaggregated data in Brazil enable more effective programming to tackle inequities
Under-five mortality rates in Brazil, 2015



This map does not reflect a position by UNICEF on the legal status of any country or territory or the delimitation of any frontiers.

Source: Ministry of Health — Department of Informatics — DATASUS

The work required to close equity gaps and reach the SDG target is substantial. The progress of the past 25 years, however, offers promise for the SDG agenda. It also offers evidence that, with accelerated progress and concerted effort, the future we want for the world's children is within reach.

4| A promise renewed

4 | A promise renewed

178

national governments have pledged to take concerted action to prevent maternal and child deaths

Since its launch in 2012, *A Promise Renewed* has brought new energy and focus to global efforts to eliminate preventable maternal and child mortality. One hundred and seventy-eight countries have signed a pledge committing to take action to address maternal and child mortality. Over 30 countries have taken their commitment a step further, carrying out *A Promise Renewed* country launches, which frequently include announcements of new commitments and sharpened strategies for addressing maternal and child mortality.

This chapter includes examples of the ways in which a few countries are taking action in line with the three core principles of *A Promise Renewed*: fostering political commitment, strengthening public accountability and promoting social mobilization for child survival.

Political commitment is producing meaningful action to reduce maternal and child mortality

Political will and national commitment are important elements for accelerating country progress on maternal and child survival.[28] As part of their commitment to *A Promise Renewed*, governments have taken ownership, made public commitments and followed through by implementing evidence-based, well-resourced, targeted programmes. Three examples offer more detail about the ways in which political commitments have yielded concrete results.

REACHING THE UNIMMUNIZED AND TRANSFORMING DELIVERY ROOMS IN INDIA

As one of the co-convenors of the 2012 Call to Action Summit in Washington, D.C., **India** has played a key role in *A Promise Renewed* and, in recent years, has achieved substantial reductions in child mortality. After taking action to strengthen relevant policies and increasing budgetary allocations, India is now focusing on concrete actions to improve maternal and child survival.

Aware that almost 8.9 million Indian children do not benefit from all seven vaccines available in their Expanded Programme on Immunization, the government launched Mission *Indradhanush* (Mission Rainbow) at the end of 2014 with the aim of fully immunizing 90 per cent of children by 2020.

In phase 1, Mission *Indradhanush* is targeting the 201 districts that account for around 50 per cent of all unimmunized children in the country. Its goal is both to strengthen the immunization systems in these districts and to ensure that unvaccinated children are covered by special vaccination drives. In just four rounds of such drives between April and July 2015, 2 million additional children were vaccinated, representing 22 per cent of partially immunized or unvaccinated children.

In the province of West Bengal, meanwhile, the government launched a pilot programme to improve the quality of care in maternity labour rooms handling large numbers of deliveries in remote areas. The programme provides hands-on training and support, while seeking to make labour rooms more patient- and staff-friendly by improving their privacy and cleanliness.

Under the pilot programme, each facility carries out an intensive three-day exercise for its entire team to build skills and to identify ways to improve the organization and environment of the labour room and maternity ward. Follow-up visits are conducted, led by members of the Society of Midwives of India.

The early results of this initiative are encouraging. In the participating facilities, privacy measures and care practices have improved. Care improvements include using autoclaves to sterilize equipment, handwashing practices, refrigerated storage of oxytocin, active management of the third stage of labour, birth doses of vaccines and using partographs to record key data. This initiative will now be scaled up and expanded to other districts.

SCALING UP INTEGRATED LIFESAVING INTERVENTIONS IN ETHIOPIA

Ethiopia, another co-convenor of the 2012 Child Survival Call to Action Summit, also achieved impressive progress on child survival during the MDG era. It cut under-five mortality by 71 per cent between 1990 and 2015 and met the MDG 4 target three years ahead of schedule. Its success was underwritten by its Health Extension Programme, a force of more than 38,000 rural and urban health extension workers and an even greater number of community health volunteers. These cadres offer high-impact interventions — such as integrated maternal, newborn and child health care, community case management of newborn sepsis, malaria, pneumonia, diarrhoea, and severe acute malnutrition — in 95 per cent of the countries 16,000 health posts. Efforts to strengthen the continuum of care have also focused on improving access to, and the quality and implementation of, basic emergency obstetric and newborn care practices.[29]

In its newly developed National Health Service Transformation Plan and Newborn and Child Survival Strategy for 2015-2020, Ethiopia has prioritized interventions that focus on newborn care and improving routine immunization. The success of this plan will also rely on Ethiopia's Health Extension Programme.

OFFERING HEALTH INSURANCE TO THE POOR IN THE PHILIPPINES

Despite the fact that the **Philippines** reduced under-five mortality from 40 per 1,000 live births to just 28 between 2000 and 2015, progress has slowed in recent years, largely due to persistently high numbers of neonatal deaths. Responding to this challenge, the Philippines Government launched "*A Promise Renewed* for Universal Health Care" in April 2014, seeking to expand access to health and nutrition services for mothers and children. In addition, the Government has significantly increased the health sector budget, primarily directed towards universal health care, including provision of health insurance for low-income families.

With the support of partners, PhilHealth — the government's national health insurance agency — has recently developed two important evidence-based and equity-focused healthcare benefit packages. The first, launched in February 2015, is, a Primary Health Care Package, which is now providing coverage to 34 million beneficiaries, including 11 million children and adolescents. The second is a Benefit Package for Premature Newborns, which covers interventions from the early stages of pregnancy right through to postnatal care.

PhilHealth is now working to add additional coverage in order to scale up evidence-based, equity-focused interventions for mothers and children. This includes reviewing and revising the existing PhilHealth MDG programmes, including a Maternity Package and a Benefit Package for TB, Malaria and HIV/AIDS as well as design and implementation of a health-insurance package for children with disabilities.

New tools for accountability are being adopted across the world

In line with the core principles of *A Promise Renewed*, many countries have put in place mechanisms to strengthen accountability by monitoring progress against national commitments. One of the most effective approaches has been the use of scorecards — colour-coded snapshot summaries of progress against key commitments, tracking progress at local and national levels. The examples that follow provide a small sampling of the ways in which a number of countries are improving accountability through this simple and effective tool.

SPURRING COMMITMENT AND ACCOUNTABILITY WITH CHILD HEALTH SCORECARDS

Child health scorecards display progress against a number of indicators from across the reproductive, maternal, newborn and child health (RMNCH) spectrum, using colour-coding (red, yellow and green) to indicate levels of progress.

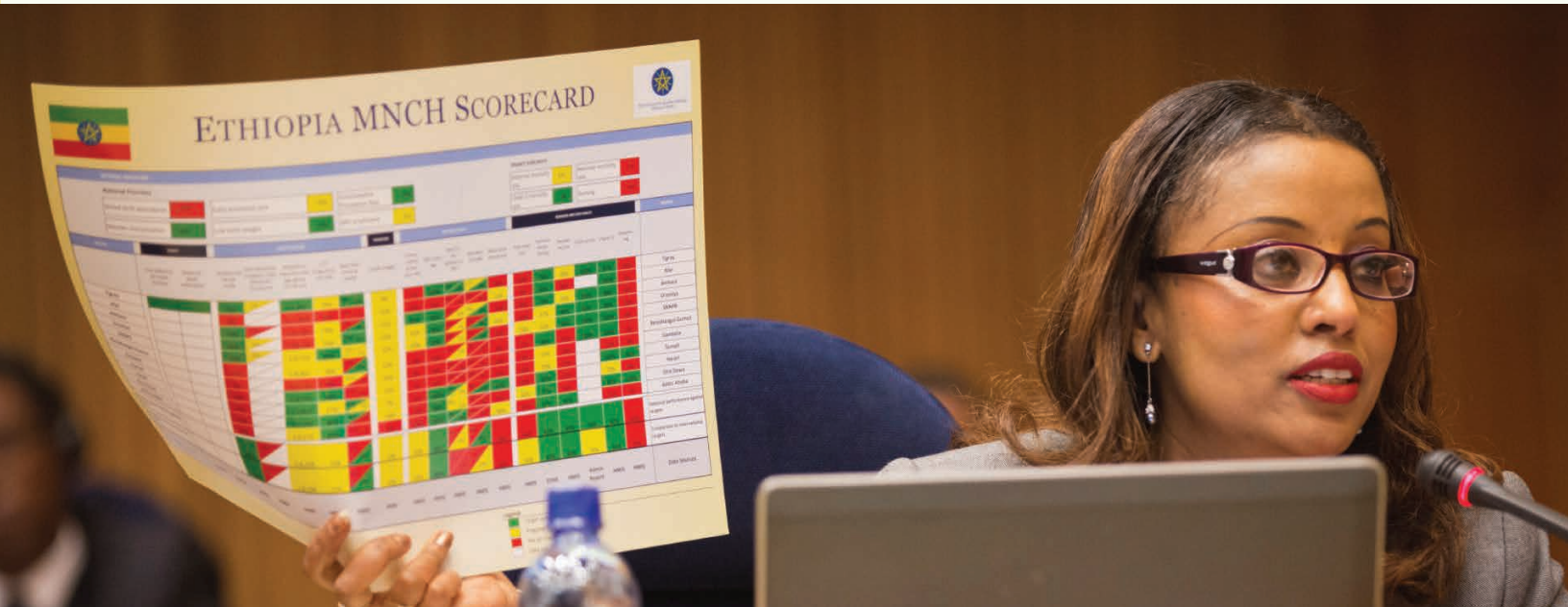
RMNCH scorecards generally utilize readily available data, presented in a clear, accessible way. This makes them powerful tools for advocacy and accountability and can foster healthy competition for improvements at all levels of government.

Afghanistan carried out a country launch of *A Promise Renewed* in May 2015, issuing the Kabul Declaration for Maternal and Child Health and introducing a national RMNCH scorecard. Afghanistan's scorecard contains 16 provincial indicators and showcases progress in each of the country's 34 provinces. Provincial scorecards have also been produced and now monitor progress down to the district level. The scores are updated every quarter, giving provincial managers benchmarks against which to measure progress.

In **Ghana**, an RMNCH scorecard was introduced across the country's 10 regions in November 2014. Following the launch of the scorecard, health officials at all levels have been asked to commit to specific, time-bound targets against one or more indicators. During the last quarter of 2014 and first quarter of 2015, 95 action commitments were made by governments at various levels. These include commitments around actions such as distributing vitamin A supplies, providing training to vaccination personnel, and carrying out orientations for regional and district scorecard staff, among others. As of mid-2015, 85 of the 95 commitments had been achieved and new commitments are now being created. Recognizing the success of the scorecard approach, Ghana's Ministry of Health is planning a high-level launch of the scorecard in late 2015 to raise awareness and build public accountability.

Malawi's RMNCH scorecard was first developed in 2013, but regular updates did not begin until mid-2014. Since then, each of the country's 26 districts conducted orientation sessions to provide guidance on using and updating the scorecard. Civil society, faith-based organizations and community representatives participate in district-level meetings where scorecard results are discussed and challenges are identified. In a number of districts, this approach has been key to building ownership and accountability around local and national targets.

In the **United Republic of Tanzania**, the scorecard has been personally endorsed by the country's president, who emphasized at a meeting of regional commissioners in the spring of 2015 that it would be used to track their progress each quarter. This high-level political support has prompted regional health officials to monitor progress closely and to take action to address any bottlenecks.



Innovative approaches to social mobilization are changing attitudes and behaviours

Achieving progress on maternal and child survival benefits from action and ownership by all parts of society, including the public and private sectors, civil society, communities, families and children. Increased awareness about maternal and child health should drive both demand for services as well as demands for accountability. Social mobilization efforts have taken many forms, including embedding important messages in mass media productions.

USING SOAP OPERAS TO SHIFT ATTITUDES AND BEHAVIOURS ON KEY HEALTH ISSUES

The power of TV drama to explore social issues and influence behaviour — an approach sometimes referred to as 'edutainment' — has already been demonstrated in many countries, including Brazil, India, Mexico and the Philippines, and is now playing an important role across sub-Saharan Africa.

A new soap opera, edited and produced in **Senegal**, is promoting debate and raising awareness on issues relating to maternal and child health across francophone Africa. *That's Life* is the first TV drama intentionally designed to explore issues related to child and maternal health in sub-Saharan Africa.

The first 26-episode season began in June 2015 and is available to 3 million cable subscribers in Senegal and across francophone Africa. In September 2015, *That's Life* will be expanded to cover 48 countries and, from January 2016, will be available on 60 national TV channels, reaching an estimated 150 million viewers.

The soap opera is set in an urban health centre and its dramatic intrigues and comic moments are drawn from the challenges faced by health professionals and patients — with a particular focus on women and children. The main characters are midwives and the women with whom they work. The plots developed in the series aim not just to provide information but also to alter attitudes and behaviours related to maternal and neonatal health, sexual and reproductive health and gender-based violence.

That's Life is the result of a three-year collaboration between a number of UN agencies, partner non-governmental organizations and the French Government's Muskoka Fund. The soap opera is the central element in a broader cross-media campaign that is promoting debate on issues related to reproductive, maternal, newborn and child health.

Turning ***A Promise Renewed*** into a promise fulfilled

2015 is an important inflection point for work to end preventable maternal and child deaths. It is a year to tally and celebrate accomplishments; it is a year to take stock of lessons learned; it is a year to set out a clear and bold vision for taking on the challenges that remain.

As we move forward to a focus on the Sustainable Development Goals and implement the UN Secretary-General's updated Global Strategy for Women's, Children's, and Adolescents' Health, the core principles of *A Promise Renewed* remain central to achieving progress towards the common goal of ending preventable maternal and child deaths.

At this inflection point, children's chances of surviving and thriving still vary dramatically both among and within countries. The past 15 years of progress provide clear evidence about what is needed to narrow those equity gaps in order to give every child a fair chance. Efforts can and must be intensified to reach the countries, communities and children still waiting for the world's promises to become reality.

The world we want is achievable. The next 15 years will be the time to turn from renewing our promises to fulfilling them.

References

All reasonable efforts have been made to verify the information contained in this publication. For any data updates subsequent to publication, please visit <data.unicef.org>. Unless otherwise noted, data cited in this paper are drawn from internal analysis based on UNICEF global databases and on the United Nations Inter-agency Group for Child Mortality Estimation (UN IGME), 2015.

CHAPTER 1

1 United Nations Inter-agency Group for Child Mortality Estimation, *Levels and Trends in Child Mortality: Report 2015*, UNICEF, New York, 2015 (hereafter referred to as 'UN IGME 2015').

CHAPTER 2

2 There is considerable debate about what characterizes a fragile country or context. However, for ease of comparison, this report uses the definition and list of countries compiled by the World Bank in its FY2016 Harmonized List of Fragile Situations. According to the World Bank's definition, "Fragile Situations" have either (a) a harmonized average CPIA (country policy and institutional assessment) country rating of 3.2 or less, or (b) the presence of a United Nations and/or regional peacekeeping or peacebuilding mission during the past three years. More details on the classification standards are available at <http://pubdocs.worldbank.org/pubdocs/publicdoc/2015/7/700521437416355449/FCSlist-FY16-Final-712015.pdf>, accessed on 5 August 2015.

3 Dahn, Bernice, and Judith Rodin, 'Ebola-Free but Not Resilient', The New York Times, 10 May 2015.

4 United Nations Children's Fund, *Progress for Children Beyond Averages: Learning from the MDGs*, UNICEF, New York, 2015.

5 Ibid.

6 Ibid.

7 These are 2015 provisional estimates from WHO and the Child Health Epidemiology Reference Group (hereafter referred to as 'WHO and CHERG provisional estimates 2015').

8 United Nations Children's Fund, World Health Organization, *Every Newborn: An action plan to end preventable newborn deaths*, 2013. www.everynewborn.org, <www.everynewborn.org>, accessed 26 August 2015.

9 Bhutta, Z.A., et al., for *The Lancet* Newborn Interventions Review Group and The Lancet Every Newborn Study Group, 'Can Available Interventions End Preventable Deaths in Mothers, Newborn Babies, and Stillbirths, and at What Cost?', The Lancet, published online 20 May 2014, <http://dx.doi.org/10.1016/S0140-6736(14)60792-3>, accessed 26 August 2015.

10 World Health Organization, 'Weekly Epidemiological Record — Hepatitis B Vaccine', 2 October 2009, WHO, Geneva.

11 UNICEF analysis based on 2014 HIV and AIDS estimates from the United Nations Joint Programme on HIV/ AIDS (UNAIDS).

12 De Cock, K.M., et al. 'Prevention of Mother-to-Child HIV Transmission in Resource-poor Countries: Translating research into policy and practice', *JAMA*, vol. 283, no. 9, 1 March 2001, pp. 1175-1182.

13 Joint United Nations Programme on *HIV/AIDS, How AIDS Changed Everything — MDG 6: 15 years, 15 lessons of hope from the AIDS response*, UNAIDS, Geneva, 2015.

14 Joint United Nations Programme on HIV/AIDS, *Countdown to Zero: Global plan towards the elimination of new HIV infections among children by 2015 and keeping their mothers alive*, UNAIDS, Geneva, 2011.

15 Joint United Nations Programme on HIV/AIDS, World Health Organization, United Nations Children's Fund, *2014 Progress Report on the Global Plan Towards the Elimination of New HIV Infections among Children by 2015 and Keeping their Mothers Alive*, UNAIDS, Geneva, 2015.

16 World Health Organization, *Preventing Diarrhoea through Better Water, Sanitation and Hygiene: Exposures and impacts in low- and middle-income countries*, WHO, Geneva, 2014.

17 Munos, M.K, C.L. Fischer Walker and R.E. Black, 'The Effect of Oral Rehydration Solution and Recommended Home Fluids on Diarrhea Mortality', *International Journal of Epidemiology*, vol. 39, pp. i75–87, 2010, doi: 10.1093/ije/dyq025.

18 World Health Organization and United Nations Children's Fund, 'Joint Statement: Clinical management of acute diarrhoea', WHO, Geneva, 2004.

19 Milliner, John. AMP The Alliance for Malaria Prevention. The AMP Net Mapping Project, 2nd quarter 2015. http://allianceformalariaprevention.com/working-groups-view.php?id=19, 2015.

20 D'Acremont, V., C. Lengeler and B. Genton, 'Reduction in the Proportion of Fevers Associated with Plasmodium Falciparum Parasitaemia in Africa: A systematic review', *Malaria Journal,* vol. 9, p. 240, 2010.

21 World Health Organization. *Guidelines for the Treatment of Malaria, Second Edition*, WHO, Geneva, 2010, p. 194.

Chapter 3

22 <https://sustainabledevelopment.un.org/content/documents/7891Transforming%20Our%20World.pdf>, p. 14, accessed 18 August 2015.

23 Under this scenario, mortality estimates are based on each country maintaining its 2015 under-five mortality rate throughout the 2016-2030 period (taking into account projected population growth over that period).

24 Under this scenario, mortality estimates are based on each country maintaining its average annual rate of reduction from 2000-2015 throughout the 2016-2030 period (taking into account projected population growth over that period).

25 Under this scenario, a country's average annual rate of reduction between 2016 and 2030 is set so that it achieves 25 under-five deaths per 1,000 live births in 2030 (taking into account projected population growth over that period). If a country will achieve the target before 2030 based on its current trend, the analysis uses that country's current trend and allows the rate to drop below 25, but not below the minimum rate observed in the world today.

26 The analysis considered changes to child mortality if each high-burden country scaled up coverage of a variety of child survival interventions at the fastest scale-up rate that had previously been achieved within groups of interventions with similar historic rates of coverage change. For further details on the methodology, see: Walker, N., et al., 'Patterns in Coverage of Maternal, Newborn, and Child Health Interventions: Projections of neonatal and under-5 mortality to 2035', The Lancet, vol. 382, no. 9897, 2013, pp. 1029-1038. The analyses were carried out using the Lives Saved Tool by Adrienne Clermont and Yvonne Tam with support from Neff Walker at the Institute for International Programs, Johns Hopkins Bloomberg School of Public Health.

27 Health services in the scale-up model included interventions such as skilled birth attendance, vitamin A supplementation and vaccinations. The 63 countries represent 88 per cent of global under-five deaths. The analyses were carried out using the Lives Saved Tool by Adrienne Clermont and Yvonne Tam with support from Neff Walker at the Institute for International Programs, Johns Hopkins Bloomberg School of Public Health.

Chapter 4

28 United Nations Children's Fund and World Health Organization, *Countdown to 2015 — Maternal, Newborn and Child Survival. Fulfilling the health agenda for women and children — the 2014 report*, WHO, Geneva, 2014.

29 Ethiopia Ministry of Health, Ethiopian Public Health Institute, United Nations Children's Fund, Countdown to 2015: *Ethiopia's progress towards reduction in under-five mortality*. UNICEF Ethiopia, Addis Ababa, 2014.

Tables

Tables

Country and regional estimates of child mortality and causes of under-five deaths

DEFINITIONS OF INDICATORS

Under-five mortality rate (U5MR) — Probability of dying between birth and exactly 5 years of age, expressed per 1,000 live births.
Infant mortality rate (IMR) — Probability of dying between birth and exactly 1 year of age, expressed per 1,000 live births.
Neonatal mortality rate (NMR) — Probability of dying in the first month of life, expressed per 1,000 live births

MAIN DATA SOURCES

Mortality rates and number of deaths — UN IGME 2015.

Cause of death — WHO and Maternal and Child Epidemiology Estimation Group (MCEE) provisional estimates 2015

EXPLANATION OF SYMBOLS

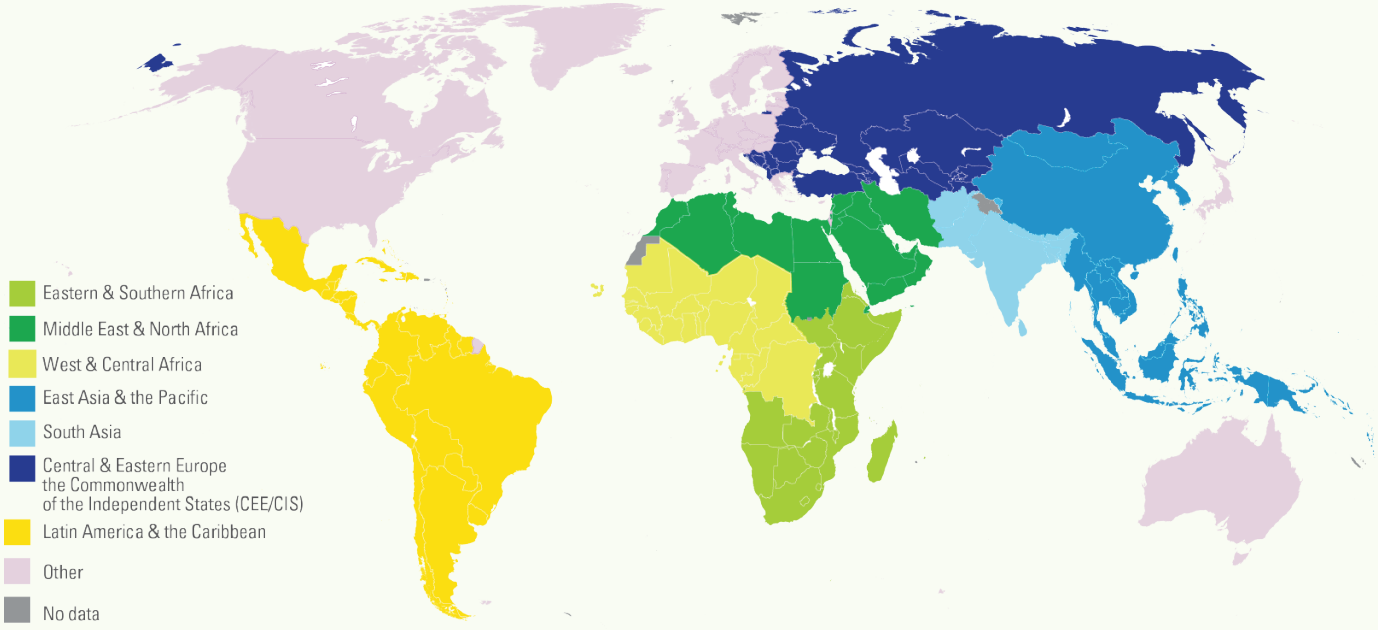
– Data not available.

REGIONAL CLASSIFICATION

Sub-Saharan Africa
Eastern and Southern Africa; West and Central Africa; Djibouti; Sudan
Eastern and Southern Africa
Angola; Botswana; Burundi; Comoros; Eritrea; Ethiopia; Kenya; Lesotho; Madagascar; Malawi; Mauritius; Mozambique; Namibia; Rwanda; Seychelles; Somalia; South Africa; South Sudan; Swaziland; Uganda; United Republic of Tanzania; Zambia; Zimbabwe
West and Central Africa
Benin; Burkina Faso; Cabo Verde; Cameroon; Central African Republic; Chad; Congo; Côte d'Ivoire; Democratic Republic of the Congo; Equatorial Guinea; Gabon; Gambia; Ghana; Guinea; Guinea-Bissau; Liberia; Mali; Mauritania; Niger; Nigeria; Sao Tome and Principe; Senegal; Sierra Leone; Togo
Middle East and North Africa
Algeria; Bahrain; Djibouti; Egypt; Iran (Islamic Republic of); Iraq; Jordan; Kuwait; Lebanon; Libya; Morocco; Oman; Qatar; Saudi Arabia; State of Palestine; Sudan; Syrian Arab Republic; Tunisia; United Arab Emirates; Yemen
South Asia
Afghanistan; Bangladesh; Bhutan; India; Maldives; Nepal; Pakistan; Sri Lanka
East Asia and the Pacific
Brunei Darussalam; Cambodia; China; Cook Islands; Democratic People's Republic of Korea; Fiji; Indonesia; Kiribati; Lao People's Democratic Republic; Malaysia; Marshall Islands; Micronesia (Federated States of); Mongolia; Myanmar; Nauru; Niue; Palau; Papua New Guinea; Philippines; Republic of Korea; Samoa; Singapore; Solomon Islands; Thailand; Timor-Leste; Tonga; Tuvalu; Vanuatu; Viet Nam

Latin America and the Caribbean
Antigua and Barbuda; Argentina; Bahamas; Barbados; Belize; Bolivia (Plurinational State of); Brazil; Chile; Colombia; Costa Rica; Cuba; Dominica; Dominican Republic; Ecuador; El Salvador; Grenada; Guatemala; Guyana; Haiti; Honduras; Jamaica; Mexico; Nicaragua; Panama; Paraguay; Peru; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; Suriname; Trinidad and Tobago; Uruguay; Venezuela (Bolivarian Republic of)
Central and Eastern Europe and the Commonwealth of Independent States (CEE/CIS)
Albania; Armenia; Azerbaijan; Belarus; Bosnia and Herzegovina; Bulgaria; Croatia; Georgia; Kazakhstan; Kyrgyzstan; Montenegro; Republic of Moldova; Romania; Russian Federation; Serbia; Tajikistan; the former Yugoslav Republic of Macedonia; Turkey; Turkmenistan; Ukraine; Uzbekistan
Least developed countries/areas
(Classified as such by the United Nations High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States [UN-OHRLLS]). Afghanistan; Angola; Bangladesh; Benin; Bhutan; Burkina Faso; Burundi; Cambodia; Central African Republic; Chad; Comoros; Democratic Republic of the Congo; Djibouti; Equatorial Guinea; Eritrea; Ethiopia; Gambia; Guinea; Guinea-Bissau; Haiti; Kiribati; Lao People's Democratic Republic; Lesotho; Liberia; Madagascar; Malawi; Mali; Mauritania; Mozambique; Myanmar; Nepal; Niger; Rwanda; Sao Tome and Principe; Senegal; Sierra Leone; Solomon Islands; Somalia; South Sudan; Sudan; Timor-Leste; Togo; Tuvalu; Uganda; United Republic of Tanzania; Vanuatu; Yemen; Zambia

For details on the classification of countries by income group as defined by the World Bank, please see: <http://data.worldbank.org/about/country-andlending-groups>.



This map does not reflect a position by UNICEF on the legal status of any country or territory or the delimitation of any frontiers. The dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties. The final boundary between the Sudan and South Sudan has not yet been determined. The final status of the Abyei area has not yet been determined.

For more information about country level source information, disaggregated data and trends on the indicators presented in this report, as well as on additional indicators, please check UNICEF global databases available at data.unicef.org

Country estimates of child mortality and causes of under-five deaths

Countries and areas	Under-five mortality rank	Under-five mortality rate (deaths per 1,000 live births)					Number of under-five deaths (thousands)		Infant mortality rate (deaths per 1,000 live births)		Number of infant deaths (thousands)		Neonatal mortality rate (deaths per 1,000 live births)		Number of neonatal deaths (thousands)	
	2015	1990	2000	2015	Decline (%) 1990–2015	Annual rate of reduction (%) 1990–2015	1990	2015	1990	2015	1990	2015	1990	2015	1990	2015
Afghanistan	**16**	181	137	91	50	2.7	100	94	123	66	69	67	53	36	30	36
Albania	**112**	41	26	14	66	4.3	3	1	35	13	3	1	13	6	1	0
Algeria	**79**	47	40	26	46	2.4	39	24	40	22	33	21	22	16	18	15
Andorra	**182**	9	5	3	67	4.4	0	0	8	2	0	0	4	1	0	0
Angola	**1**	226	217	157	31	1.5	122	169	134	96	74	104	59	49	33	53
Antigua and Barbuda	**142**	26	16	8	68	4.6	0	0	24	6	0	0	15	5	0	0
Argentina	**120**	28	20	13	55	3.2	20	10	24	11	18	8	15	6	11	5
Armenia	**112**	50	30	14	72	5.0	4	1	43	13	3	1	23	7	2	0
Australia	**166**	9	6	4	59	3.5	2	1	8	3	2	1	5	2	1	1
Austria	**166**	10	6	4	63	4.0	1	0	8	3	1	0	5	2	0	0
Azerbaijan	**68**	95	74	32	67	4.4	20	7	76	28	16	7	36	18	7	4
Bahamas	**125**	24	16	12	49	2.7	0	0	20	10	0	0	14	7	0	0
Bahrain	**153**	23	13	6	73	5.2	0	0	20	5	0	0	15	1	0	0
Bangladesh	**61**	144	88	38	74	5.4	528	119	100	31	363	97	63	23	234	74
Barbados	**120**	18	16	13	27	1.3	0	0	16	12	0	0	12	8	0	0
Belarus	**159**	17	14	5	72	5.1	2	1	14	3	2	0	9	2	1	0
Belgium	**166**	10	6	4	59	3.6	1	1	8	3	1	0	5	2	1	0
Belize	**99**	40	25	17	58	3.5	0	0	32	14	0	0	19	8	0	0
Benin	**8**	180	145	100	45	2.4	39	37	108	64	24	24	46	32	10	12
Bhutan	**67**	134	80	33	75	5.6	3	0	93	27	2	0	44	18	1	0
Bolivia (Plurinational State of)	**61**	124	80	38	69	4.7	29	9	86	31	20	8	42	20	10	5
Bosnia and Herzegovina	**159**	18	9	5	70	4.9	1	0	16	5	1	0	11	4	1	0
Botswana	**55**	54	83	44	20	0.9	2	2	42	35	2	2	26	22	1	1
Brazil	**104**	61	32	16	73	5.2	219	52	51	15	181	47	24	9	86	29
Brunei Darussalam	**133**	12	9	10	16	0.7	0	0	9	9	0	0	6	4	0	0
Bulgaria	**133**	22	21	10	53	3.0	3	1	18	9	2	1	12	6	1	0
Burkina Faso	**18**	202	186	89	56	3.3	79	60	103	61	40	42	46	27	18	18
Burundi	**21**	172	152	82	52	3.0	46	37	104	54	28	25	42	29	11	13
Cabo Verde	**80**	63	36	25	61	3.8	1	0	48	21	1	0	22	12	0	0
Cambodia	**71**	117	108	29	76	5.6	41	10	85	25	29	9	41	15	14	5
Cameroon	**19**	138	150	88	36	1.8	71	71	86	57	44	47	41	26	21	21
Canada	**159**	8	6	5	41	2.1	3	2	7	4	3	2	4	3	2	1
Central African Republic	**4**	177	175	130	26	1.2	21	21	115	92	14	15	51	43	6	7
Chad	**2**	215	190	139	35	1.7	61	83	116	85	33	51	54	39	16	24
Chile	**142**	19	11	8	58	3.4	6	2	16	7	5	2	9	5	3	1
China	**130**	54	37	11	80	6.5	1634	182	42	9	1319	156	30	6	928	93
Colombia	**104**	35	25	16	55	3.2	31	12	29	14	26	10	18	9	16	6
Comoros	**25**	125	101	74	41	2.1	2	2	88	55	2	1	50	34	1	1
Congo	**52**	94	122	45	52	2.9	8	7	61	33	5	5	29	18	3	3
Cook Islands	**142**	24	17	8	67	4.4	0	0	21	7	0	0	13	4	0	0
Costa Rica	**133**	17	13	10	43	2.2	1	1	14	9	1	1	9	6	1	0
Côte d'Ivoire	**13**	153	146	93	39	2.0	76	75	105	67	53	55	51	38	26	31
Croatia	**166**	13	8	4	67	4.4	1	0	11	4	1	0	8	3	0	0
Cuba	**153**	13	8	6	59	3.5	2	1	11	4	2	0	7	2	1	0
Cyprus	**182**	11	7	3	76	5.7	0	0	10	3	0	0	6	2	0	0
Czech Republic	**182**	15	7	3	77	5.8	2	0	13	3	2	0	10	2	2	0
Democratic People's Republic of Korea	**80**	43	60	25	43	2.2	16	9	33	20	12	7	22	14	8	5

Numbers and percentages are rounded and therefore may not sum to totals. All calculations are based on unrounded numbers.

Country estimates of child mortality and causes of under-five deaths

Share of neonatal deaths in under-five deaths(%)		Deaths among children under 5 years of age due to: (%) 2013																	
		Neonatal period (0–27 days)								Post-neonatal period (1–59 months)									
1990	2015	Pneumonia	Preterm	Intrapartum	Sepsis	Tetanus	Congenital	Diarrhoea	Other	Pneumonia	Diarrhoea	Malaria	AIDS	Measles	Injuries	Meningitis	Other	Total	Countries and areas
30	38	2	12	10	7	1	2	0	3	17	12	0	0	1	7	3	22	100	Afghanistan
33	45	3	19	6	3	0	12	0	3	9	1	0	0	0	8	2	34	100	Albania
48	61	3	19	13	9	0	11	0	4	10	5	0	0	0	5	1	18	100	Algeria
50	50	0	18	6	3	0	17	0	6	2	0	0	0	0	6	1	41	100	Andorra
27	31	2	10	9	5	1	2	0	2	15	14	6	1	0	5	1	25	100	Angola
55	58	0	27	14	0	0	13	0	4	3	0	0	3	0	4	0	32	100	Antigua and Barbuda
56	50	1	23	4	5	0	14	0	4	7	1	0	0	0	7	1	33	100	Argentina
46	52	3	21	6	4	0	14	0	4	8	1	0	0	0	8	2	29	100	Armenia
50	57	0	17	10	1	0	17	0	12	3	0	0	0	0	8	1	31	100	Australia
48	60	0	20	6	2	0	21	0	11	1	0	0	0	0	4	2	32	100	Austria
38	59	3	22	12	7	0	10	0	4	9	6	0	0	0	6	1	19	100	Azerbaijan
58	57	4	28	7	4	0	10	0	4	9	1	0	1	0	9	1	22	100	Bahamas
67	18	0	7	0	1	0	8	0	2	2	0	0	0	0	6	1	72	100	Bahrain
44	62	4	19	14	13	0	8	0	4	11	6	0	0	2	5	2	12	100	Bangladesh
64	61	0	16	8	13	0	15	0	9	3	0	0	0	0	5	0	31	100	Barbados
55	42	1	16	5	2	0	14	0	4	5	1	0	0	0	8	1	43	100	Belarus
46	53	0	14	9	2	0	18	0	11	1	0	0	0	0	10	2	34	100	Belgium
48	51	2	17	8	8	0	11	0	6	7	3	0	1	0	6	1	31	100	Belize
26	32	2	11	8	7	0	2	0	2	13	11	12	1	1	5	2	22	100	Benin
33	55	3	20	11	9	0	8	0	3	12	6	0	2	0	6	1	18	100	Bhutan
34	51	3	17	13	7	0	8	0	4	11	6	0	0	0	7	1	24	100	Bolivia (Plurinational State of)
61	73	3	29	9	5	0	23	0	5	2	0	0	0	1	2	0	20	100	Bosnia and Herzegovina
48	51	3	19	11	7	0	7	0	3	9	6	0	5	1	6	1	21	100	Botswana
39	55	1	17	8	8	0	11	0	10	8	3	0	0	0	6	1	28	100	Brazil
53	43	1	18	6	2	0	12	0	5	5	1	0	0	0	13	2	37	100	Brunei Darussalam
53	53	3	22	9	2	0	13	0	3	14	1	0	0	0	5	2	25	100	Bulgaria
23	30	2	9	8	7	0	2	0	2	11	8	21	1	2	5	2	19	100	Burkina Faso
25	36	2	11	11	6	0	3	0	2	14	10	6	1	0	7	2	24	100	Burundi
35	50	3	19	8	4	0	10	0	5	11	5	0	1	1	4	1	26	100	Cabo Verde
33	51	3	15	12	9	0	8	0	4	14	6	0	1	1	7	2	18	100	Cambodia
30	30	2	8	9	5	0	2	0	2	13	11	10	4	0	7	2	23	100	Cameroon
53	65	0	25	8	3	0	21	0	7	2	0	0	0	0	6	1	26	100	Canada
29	33	2	10	11	5	1	2	0	2	14	10	15	3	1	4	3	16	100	Central African Republic
26	29	2	8	9	4	1	2	0	2	21	13	6	2	0	5	5	18	100	Chad
45	60	1	24	4	3	0	24	0	5	3	0	0	0	0	6	1	30	100	Chile
57	51	4	17	14	1	0	9	0	5	8	3	0	0	0	14	1	21	100	China
51	53	2	18	5	7	0	15	0	6	8	2	0	0	0	6	1	29	100	Colombia
41	47	3	18	11	7	1	4	0	3	13	7	8	1	0	5	2	17	100	Comoros
32	41	2	14	10	6	0	6	0	2	11	7	6	6	1	6	1	22	100	Congo
54	67	1	25	9	4	0	19	0	8	4	1	0	0	0	5	1	23	100	Cook Islands
53	63	2	25	7	1	0	25	0	2	3	1	0	0	0	4	1	28	100	Costa Rica
34	42	3	13	11	9	1	3	0	2	12	7	17	2	0	4	2	14	100	Côte d'Ivoire
62	59	1	14	5	3	0	15	0	21	1	0	0	0	0	4	2	33	100	Croatia
51	42	3	13	6	5	0	9	0	5	8	1	0	0	0	8	3	38	100	Cuba
50	54	1	20	6	3	0	18	0	6	2	0	0	0	0	5	1	38	100	Cyprus
72	51	1	19	9	5	0	13	0	5	5	1	0	0	0	8	1	33	100	Czech Republic
48	55	3	19	12	7	0	10	0	4	12	6	0	0	0	7	2	18	100	Democratic People's Republic of Korea

Numbers and percentages are rounded and therefore may not sum to totals. All calculations are based on unrounded numbers.

Country estimates of child mortality and causes of under-five deaths

Countries and areas	Under-five mortality rank	Under-five mortality rate (deaths per 1,000 live births)					Number of under-five deaths (thousands)		Infant mortality rate (deaths per 1,000 live births)		Number of infant deaths (thousands)		Neonatal mortality rate (deaths per 1,000 live births)		Number of neonatal deaths (thousands)	
	2015	1990	2000	2015	Decline (%) 1990–2015	Annual rate of reduction (%) 1990–2015	1990	2015	1990	2015	1990	2015	1990	2015	1990	2015
Democratic Republic of the Congo	**9**	187	161	98	47	2.6	294	305	120	75	192	233	42	30	66	94
Denmark	**166**	9	6	4	61	3.7	1	0	7	3	0	0	4	3	0	0
Djibouti	**32**	119	101	65	45	2.4	3	1	93	54	3	1	50	33	1	1
Dominica	**89**	17	15	21	-24	-0.9	0	0	14	20	0	0	11	16	0	0
Dominican Republic	**70**	60	41	31	49	2.7	13	7	47	26	10	6	25	22	5	5
Ecuador	**84**	57	34	22	62	3.9	17	7	44	18	14	6	24	11	7	4
Egypt	**82**	86	47	24	72	5.1	167	66	63	20	123	57	33	13	65	36
El Salvador	**99**	59	32	17	72	5.1	9	2	46	14	7	2	23	8	4	1
Equatorial Guinea	**11**	190	152	94	50	2.8	3	3	128	68	2	2	51	33	1	1
Eritrea	**49**	151	89	47	69	4.7	20	8	93	34	12	6	34	18	4	3
Estonia	**182**	20	11	3	86	7.8	0	0	17	2	0	0	14	2	0	0
Ethiopia	**37**	205	145	59	71	5.0	446	184	122	41	268	130	61	28	135	87
Fiji	**84**	30	25	22	25	1.1	1	0	25	19	1	0	17	10	0	0
Finland	**193**	7	4	2	66	4.3	0	0	6	2	0	0	4	1	0	0
France	**166**	9	5	4	52	3.0	7	3	7	4	5	3	4	2	3	2
Gabon	**42**	93	85	51	45	2.4	3	3	61	36	2	2	32	23	1	1
Gambia	**29**	170	119	69	60	3.6	7	6	80	48	3	4	51	30	2	2
Georgia	**125**	48	36	12	75	5.6	4	1	41	11	4	1	25	7	2	0
Germany	**166**	9	5	4	56	3.3	7	3	7	3	6	2	3	2	3	1
Ghana	**35**	127	101	62	52	2.9	70	54	80	43	44	38	42	28	24	25
Greece	**159**	13	8	5	63	4.0	1	0	11	4	1	0	10	3	1	0
Grenada	**125**	23	16	12	49	2.7	0	0	18	11	0	0	13	6	0	0
Guatemala	**71**	81	51	29	64	4.1	27	13	60	24	20	11	29	13	10	6
Guinea	**11**	238	170	94	61	3.7	63	42	141	61	37	28	63	31	17	14
Guinea-Bissau	**13**	229	178	93	60	3.6	10	6	136	60	6	4	65	40	3	3
Guyana	**59**	60	47	39	35	1.7	1	1	47	32	1	1	30	23	1	0
Haiti	**29**	146	105	69	53	3.0	37	18	101	52	25	13	39	25	10	7
Holy See	**-**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Honduras	**94**	58	37	20	65	4.2	11	3	45	17	8	3	22	11	4	2
Hungary	**153**	19	11	6	69	4.7	3	1	17	5	3	0	14	4	2	0
Iceland	**193**	6	4	2	69	4.7	0	0	5	2	0	0	4	1	0	0
India	**48**	126	91	48	62	3.9	3357	1201	88	38	2338	946	57	28	1537	696
Indonesia	**77**	85	52	27	68	4.5	395	147	62	23	286	125	30	14	138	74
Iran (Islamic Republic of)	**104**	58	35	16	73	5.2	110	21	45	13	84	18	27	10	50	13
Iraq	**68**	54	45	32	41	2.1	35	39	42	27	28	32	27	18	18	22
Ireland	**166**	9	7	4	61	3.8	0	0	8	3	0	0	5	2	0	0
Israel	**166**	12	7	4	66	4.3	1	1	10	3	1	1	6	2	1	0
Italy	**166**	10	6	4	64	4.1	6	2	8	3	5	1	6	2	4	1
Jamaica	**104**	31	22	16	49	2.7	2	1	25	14	1	1	21	12	1	0
Japan	**182**	6	5	3	57	3.4	8	3	5	2	5	2	3	1	3	1
Jordan	**96**	37	28	18	51	2.9	4	4	30	15	3	3	20	11	2	2
Kazakhstan	**112**	53	44	14	73	5.3	21	6	45	13	18	5	22	7	9	3
Kenya	**46**	102	108	49	52	2.9	100	74	66	36	65	54	27	22	27	34
Kiribati	**39**	96	71	56	42	2.2	0	0	69	44	0	0	36	24	0	0
Kuwait	**139**	18	13	9	52	2.9	1	1	15	7	1	1	10	3	0	0
Kyrgyzstan	**89**	65	49	21	67	4.5	9	4	54	19	7	3	25	12	3	2
Lao People's Democratic Republic	**31**	162	118	67	59	3.6	29	12	111	51	20	9	55	30	10	5
Latvia	**142**	20	17	8	61	3.8	1	0	17	7	1	0	12	5	1	0
Lebanon	**142**	33	20	8	74	5.5	2	1	27	7	2	1	21	5	1	0
Lesotho	**17**	88	117	90	-2	-0.1	5	6	71	69	4	4	40	33	2	2

Numbers and percentages are rounded and therefore may not sum to totals. All calculations are based on unrounded numbers.

Country estimates of child mortality and causes of under-five deaths

Share of neonatal deaths in under-five deaths(%)		Deaths among children under 5 years of age due to: (%) 2015																	Countries and areas
		Neonatal period (0–27 days)								Post-neonatal period (1–59 months)									
1990	2015	Pneumonia	Preterm	Intrapartum	Sepsis	Tetanus	Congenital	Diarrhoea	Other	Pneumonia	Diarrhoea	Malaria	AIDS	Measles	Injuries	Meningitis	Other	Total	
23	31	2	11	9	5	0	2	0	2	13	10	12	1	3	5	3	21	100	Democratic Republic of the Congo
51	69	0	35	8	1	0	14	0	10	1	1	0	0	0	3	1	25	100	Denmark
44	52	3	18	13	7	1	5	0	4	10	8	0	3	4	5	1	18	100	Djibouti
58	74	1	14	17	19	0	16	0	7	3	1	0	0	0	6	0	16	100	Dominica
41	70	4	25	15	9	0	12	0	5	7	3	0	1	0	4	1	15	100	Dominican Republic
43	50	3	20	7	5	1	11	0	3	10	4	0	0	0	7	2	27	100	Ecuador
39	54	3	21	10	3	1	12	0	6	10	5	0	0	0	5	1	25	100	Egypt
38	49	2	18	7	4	1	12	0	5	10	5	0	1	0	6	1	27	100	El Salvador
27	36	2	12	10	4	1	3	0	3	13	7	9	4	9	4	1	17	100	Equatorial Guinea
22	39	3	9	11	8	0	5	0	3	17	9	1	1	2	8	3	20	100	Eritrea
68	49	1	9	12	8	0	14	0	4	5	1	0	0	0	15	2	29	100	Estonia
30	47	4	11	14	8	1	5	0	2	13	8	1	1	4	7	3	16	100	Ethiopia
57	42	2	16	6	4	0	9	0	4	10	4	0	0	0	12	2	29	100	Fiji
58	56	0	17	8	3	0	21	0	7	2	0	0	0	0	7	1	34	100	Finland
39	51	0	14	9	3	0	14	0	11	2	1	0	0	0	7	2	37	100	France
35	46	3	16	12	7	0	6	0	3	11	6	6	5	3	5	1	17	100	Gabon
31	45	3	13	13	9	0	4	0	3	11	9	4	2	0	7	2	21	100	Gambia
51	61	3	25	7	5	0	16	0	4	5	1	0	0	0	6	1	25	100	Georgia
40	57	0	24	6	2	0	17	0	8	2	0	0	0	0	5	1	36	100	Germany
34	47	3	14	13	9	0	5	0	3	9	7	11	1	0	5	1	18	100	Ghana
75	63	0	34	5	0	0	21	0	2	3	0	0	0	0	4	0	30	100	Greece
57	50	3	20	11	3	0	5	0	7	3	2	0	0	0	8	0	36	100	Grenada
35	46	3	12	12	8	0	8	0	4	14	7	0	1	0	8	1	22	100	Guatemala
27	34	2	9	10	7	0	2	0	2	14	8	20	1	0	4	3	15	100	Guinea
28	44	3	11	13	9	1	3	0	3	14	9	4	4	1	5	3	17	100	Guinea-Bissau
52	61	2	20	13	9	0	8	0	9	5	5	6	1	0	6	1	14	100	Guyana
26	37	2	12	9	7	0	3	0	3	20	10	0	1	0	7	4	22	100	Haiti
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Holy See
37	54	2	18	7	8	1	10	0	8	9	8	0	2	0	3	1	23	100	Honduras
73	59	1	33	6	2	0	14	0	3	4	1	0	0	0	4	1	32	100	Hungary
54	44	0	24	5	7	0	4	0	5	0	0	0	0	0	2	0	53	100	Iceland
46	58	3	25	11	8	0	6	0	3	12	9	1	0	2	3	2	13	100	India
35	50	3	18	11	7	0	8	0	3	14	6	1	1	3	6	2	16	100	Indonesia
45	61	3	20	12	9	0	13	0	4	12	4	0	0	0	5	1	16	100	Iran (Islamic Republic of)
51	58	3	20	13	7	0	10	0	4	12	5	0	0	0	6	1	18	100	Iraq
49	63	1	22	6	2	0	29	0	4	1	0	0	0	0	4	2	30	100	Ireland
55	53	0	19	4	3	0	19	0	9	2	1	0	0	0	6	1	37	100	Israel
66	59	0	23	6	3	0	14	0	12	1	0	0	0	0	3	1	36	100	Italy
67	74	3	28	9	7	0	17	0	9	4	2	0	3	0	4	1	13	100	Jamaica
39	33	1	7	4	2	0	15	0	5	6	2	0	0	0	11	0	47	100	Japan
55	60	2	24	7	5	0	14	0	6	7	3	0	0	0	8	1	23	100	Jordan
43	50	2	15	11	6	0	12	0	3	11	6	0	0	0	8	1	25	100	Kazakhstan
27	45	3	12	14	7	0	6	0	3	11	7	5	6	0	6	2	17	100	Kenya
38	41	2	13	11	6	0	5	0	4	14	9	0	0	0	7	2	26	100	Kiribati
56	37	0	17	1	0	0	16	0	1	9	0	0	0	0	6	1	46	100	Kuwait
39	54	3	16	12	7	0	12	0	4	11	5	0	1	0	6	1	21	100	Kyrgyzstan
34	45	3	12	13	8	1	4	0	4	14	11	0	0	0	7	1	20	100	Lao People's Democratic Republic
59	64	2	13	27	7	0	14	0	1	2	0	0	0	0	7	1	27	100	Latvia
64	59	1	22	8	4	0	16	0	8	4	2	0	0	1	5	0	28	100	Lebanon
46	37	2	13	11	5	0	3	0	2	15	9	0	10	0	5	2	21	100	Lesotho

Numbers and percentages are rounded and therefore may not sum to totals. All calculations are based on unrounded numbers.

Country estimates of child mortality and causes of under-five deaths

Countries and areas	Under-five mortality rank	Under-five mortality rate (deaths per 1,000 live births)					Number of under-five deaths (thousands)		Infant mortality rate (deaths per 1,000 live births)		Number of infant deaths (thousands)		Neonatal mortality rate (deaths per 1,000 live births)		Number of neonatal deaths (thousands)	
	2015	1990	2000	2015	Decline (%) 1990–2015	Annual rate of reduction (%) 1990–2015	1990	2015	1990	2015	1990	2015	1990	2015	1990	2015
Liberia	**27**	255	182	70	73	5.2	23	11	170	53	15	8	57	24	5	4
Libya	**120**	42	28	13	68	4.5	6	2	36	11	5	1	21	7	3	1
Liechtenstein	**-**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lithuania	**159**	17	12	5	68	4.6	1	0	13	3	1	0	10	3	1	0
Luxembourg	**193**	9	5	2	78	6.1	0	0	7	2	0	0	4	1	0	0
Madagascar	**44**	161	109	50	69	4.7	82	40	98	36	52	29	40	20	21	16
Malawi	**33**	242	174	64	74	5.3	106	40	143	43	63	27	49	22	21	14
Malaysia	**148**	17	10	7	58	3.5	8	4	14	6	7	3	9	4	4	2
Maldives	**139**	94	44	9	91	9.6	1	0	68	7	1	0	43	5	0	0
Mali	**6**	254	220	115	55	3.2	98	83	131	75	50	54	73	38	28	27
Malta	**153**	11	8	6	43	2.3	0	0	10	5	0	0	8	4	0	0
Marshall Islands	**63**	50	41	36	28	1.3	0	0	40	30	0	0	20	17	0	0
Mauritania	**20**	118	114	85	28	1.3	9	11	78	65	6	9	46	36	4	5
Mauritius	**112**	23	19	14	42	2.1	0	0	20	12	0	0	15	8	0	0
Mexico	**120**	47	26	13	72	5.0	115	31	37	11	92	27	21	7	51	17
Micronesia (Federated States of)	**65**	56	54	35	38	1.9	0	0	43	29	0	0	26	19	0	0
Monaco	**166**	8	5	4	55	3.2	0	0	6	3	0	0	4	2	0	0
Mongolia	**84**	108	63	22	79	6.3	8	2	77	19	6	1	32	11	2	1
Montenegro	**159**	17	14	5	72	5.0	0	0	15	4	0	0	11	3	0	0
Morocco	**73**	80	50	28	66	4.3	56	20	63	24	43	17	37	18	25	13
Mozambique	**23**	240	171	79	67	4.5	140	82	160	57	93	60	62	27	36	29
Myanmar	**44**	110	82	50	55	3.2	121	46	78	40	83	36	47	26	50	24
Namibia	**52**	74	76	45	38	1.9	4	3	50	33	3	2	28	16	1	1
Nauru	**65**	57	41	35	38	1.9	0	0	44	29	0	0	29	23	0	0
Nepal	**63**	141	81	36	75	5.5	98	20	98	29	68	16	59	22	41	12
Netherlands	**166**	8	6	4	54	3.1	2	1	7	3	1	1	5	2	1	0
New Zealand	**153**	11	7	6	49	2.7	1	0	9	5	1	0	4	3	0	0
Nicaragua	**84**	67	40	22	67	4.4	10	3	51	19	7	2	24	10	3	1
Niger	**10**	328	227	96	71	4.9	133	88	138	57	56	54	55	27	22	25
Nigeria	**7**	213	187	109	49	2.7	849	750	126	69	502	484	50	34	201	240
Niue	**83**	14	23	23	-67	-2.0	0	0	12	20	0	0	8	13	0	0
Norway	**182**	9	5	3	70	4.8	1	0	7	2	0	0	4	2	0	0
Oman	**125**	39	17	12	71	4.9	3	1	32	10	2	1	17	5	1	0
Pakistan	**22**	139	112	81	41	2.1	593	432	106	66	459	351	64	46	281	245
Palau	**104**	36	27	16	55	3.2	0	0	31	14	0	0	19	9	0	0
Panama	**99**	31	26	17	45	2.4	2	1	26	15	2	1	17	10	1	1
Papua New Guinea	**38**	89	79	57	36	1.8	12	12	65	45	9	9	32	25	4	5
Paraguay	**89**	47	34	21	56	3.3	6	3	37	18	5	2	23	11	3	1
Peru	**99**	80	39	17	79	6.2	53	10	56	13	38	8	28	8	18	5
Philippines	**73**	58	40	28	52	2.9	118	66	41	22	84	52	20	13	40	30
Poland	**159**	17	9	5	70	4.8	9	2	15	5	8	2	11	3	6	1
Portugal	**166**	15	7	4	76	5.6	2	0	12	3	1	0	7	2	1	0
Qatar	**142**	21	12	8	62	3.8	0	0	18	7	0	0	11	4	0	0
Republic of Korea	**182**	7	6	3	52	2.9	4	2	6	3	3	1	3	2	2	1
Republic of Moldova	**104**	33	31	16	52	3.0	3	1	27	14	2	1	19	12	2	1
Romania	**130**	38	27	11	71	4.9	15	2	31	10	12	2	14	6	5	1
Russian Federation	**133**	26	23	10	63	4.0	59	19	22	8	49	16	14	5	31	10
Rwanda	**56**	152	184	42	73	5.2	50	14	93	31	31	10	41	19	14	6
Saint Kitts and Nevis	**130**	28	19	11	63	4.0	0	0	23	8	0	0	18	7	0	0
Saint Lucia	**112**	23	18	14	37	1.8	0	0	19	13	0	0	13	9	0	0

Numbers and percentages are rounded and therefore may not sum to totals. All calculations are based on unrounded numbers.

Country estimates of child mortality and causes of under-five deaths

Share of neonatal deaths in under-five deaths(%)		Deaths among children under 5 years of age due to: (%) 2015																	
		Neonatal period (0–27 days)								Post-neonatal period (1–59 months)									
1990	2015	Pneumonia	Preterm	Intrapartum	Sepsis	Tetanus	Congenital	Diarrhoea	Other	Pneumonia	Diarrhoea	Malaria	AIDS	Measles	Injuries	Meningitis	Other	Total	Countries and areas
22	35	2	10	9	8	0	3	0	2	14	9	13	1	1	6	3	19	100	Liberia
50	53	2	21	8	3	0	14	0	5	6	2	0	0	0	10	1	28	100	Libya
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Liechtenstein
57	49	2	15	7	8	0	16	0	2	4	0	0	0	0	11	4	33	100	Lithuania
50	46	0	25	5	2	0	8	0	7	0	0	0	0	0	7	2	45	100	Luxembourg
26	40	3	11	12	7	0	5	0	3	15	9	4	1	0	8	2	20	100	Madagascar
20	34	2	11	9	7	0	3	0	2	11	8	7	8	1	6	2	23	100	Malawi
54	57	1	21	7	3	1	16	0	7	4	1	0	0	0	6	1	31	100	Malaysia
45	57	2	22	6	4	0	16	0	6	5	2	0	0	0	4	1	31	100	Maldives
29	33	2	10	9	7	0	2	0	2	11	9	24	1	1	4	2	15	100	Mali
67	67	0	26	3	1	0	35	0	2	2	0	0	0	0	2	4	25	100	Malta
40	47	3	17	10	7	0	7	0	3	14	7	0	0	0	7	2	23	100	Marshall Islands
40	42	3	17	9	9	1	2	0	2	12	10	4	1	1	6	1	21	100	Mauritania
63	62	3	25	5	7	0	15	0	6	8	2	0	0	0	4	1	24	100	Mauritius
44	53	3	18	7	8	0	13	0	4	8	3	0	0	0	7	1	27	100	Mexico
47	54	3	18	13	7	0	8	0	4	11	6	0	0	0	7	1	20	100	Micronesia (Federated States of)
50	50	0	19	6	3	0	17	0	5	2	0	0	0	0	10	1	38	100	Monaco
30	50	3	16	11	6	0	10	0	3	12	6	0	0	0	7	1	23	100	Mongolia
65	64	2	23	31	2	0	5	0	1	2	0	0	0	0	2	1	31	100	Montenegro
45	64	3	22	14	11	0	10	0	4	8	4	0	0	0	6	1	17	100	Morocco
25	35	2	11	9	7	0	3	0	2	12	9	13	5	0	6	2	19	100	Mozambique
41	53	3	18	13	7	0	6	0	4	13	7	1	1	2	6	2	16	100	Myanmar
39	36	2	14	8	5	0	4	0	2	17	9	0	5	0	8	2	24	100	Namibia
50	60	3	20	14	9	0	10	0	4	11	6	0	0	0	5	1	17	100	Nauru
42	62	4	19	14	12	0	8	0	4	11	5	0	0	1	6	2	13	100	Nepal
56	63	0	20	9	6	0	21	0	8	2	0	0	0	0	4	1	30	100	Netherlands
39	54	3	22	7	3	0	15	0	4	4	1	0	0	0	14	2	26	100	New Zealand
35	44	3	16	7	4	1	9	0	4	14	8	0	0	0	5	1	27	100	Nicaragua
17	29	2	9	8	6	0	2	0	2	19	11	11	0	0	6	5	19	100	Niger
24	32	2	10	10	5	1	2	0	2	15	10	14	3	1	5	2	17	100	Nigeria
0	0	0	0	0	0	0	0	0	0	16	2	0	0	0	23	3	55	100	Niue
46	57	0	15	8	2	0	18	0	13	2	0	0	0	0	3	1	37	100	Norway
44	45	0	17	7	2	1	12	0	6	6	1	0	0	0	9	1	38	100	Oman
47	57	3	22	12	10	1	3	1	4	11	8	0	0	1	5	1	16	100	Pakistan
55	60	2	25	7	6	0	15	0	5	5	1	0	0	0	13	1	19	100	Palau
56	56	3	18	8	8	0	15	0	4	10	5	0	0	0	3	1	23	100	Panama
36	43	3	14	12	6	0	5	0	3	14	7	12	1	1	5	2	16	100	Papua New Guinea
49	53	2	21	7	6	0	12	0	5	9	6	0	1	0	5	1	25	100	Paraguay
35	49	2	19	6	4	0	12	0	5	8	5	0	0	0	9	1	28	100	Peru
34	45	2	15	10	6	0	7	0	3	16	7	0	0	0	8	2	21	100	Philippines
63	59	1	29	5	3	0	19	0	3	4	0	0	0	0	5	1	32	100	Poland
48	55	1	20	6	3	0	18	0	7	1	0	0	0	0	7	1	36	100	Portugal
53	48	0	20	6	2	0	14	0	6	4	0	0	0	0	10	1	37	100	Qatar
37	47	0	25	4	3	0	9	0	6	2	1	0	0	0	9	1	39	100	Republic of Korea
56	75	10	19	10	7	0	25	0	4	6	1	0	0	0	6	1	12	100	Republic of Moldova
36	56	7	24	4	1	0	16	0	4	21	1	0	0	0	6	1	15	100	Romania
53	53	1	22	6	3	0	15	0	4	6	1	0	1	0	7	1	31	100	Russian Federation
27	44	3	12	12	8	0	6	0	3	11	7	4	1	0	8	1	24	100	Rwanda
62	60	0	13	35	6	0	6	0	0	0	3	0	0	0	7	3	27	100	Saint Kitts and Nevis
56	65	2	30	12	10	0	7	0	5	4	0	0	0	0	4	1	26	100	Saint Lucia

Numbers and percentages are rounded and therefore may not sum to totals. All calculations are based on unrounded numbers.

Country estimates of child mortality and causes of under-five deaths

Countries and areas	Under-five mortality rank	Under-five mortality rate (deaths per 1,000 live births)					Number of under-five deaths (thousands)		Infant mortality rate (deaths per 1,000 live births)		Number of infant deaths (thousands)		Neonatal mortality rate (deaths per 1,000 live births)		Number of neonatal deaths (thousands)	
	2015	1990	2000	2015	Decline (%) 1990–2015	Annual rate of reduction (%) 1990–2015	1990	2015	1990	2015	1990	2015	1990	2015	1990	2015
Saint Vincent and the Grenadines	**96**	25	22	18	25	1.2	0	0	20	17	0	0	13	12	0	0
Samoa	**96**	31	22	18	44	2.3	0	0	26	15	0	0	17	10	0	0
San Marino	**182**	11	6	3	73	5.3	0	0	10	3	0	0	7	1	0	0
Sao Tome and Principe	**49**	111	89	47	57	3.4	1	0	71	35	0	0	28	17	0	0
Saudi Arabia	**110**	44	23	15	67	4.5	25	9	36	13	20	8	22	8	13	5
Senegal	**49**	140	135	47	66	4.4	44	27	70	42	22	24	40	21	13	12
Serbia	**148**	28	13	7	76	5.8	4	1	25	6	4	1	18	4	3	0
Seychelles	**112**	17	14	14	18	0.8	0	0	14	12	0	0	11	9	0	0
Sierra Leone	**5**	264	236	120	54	3.1	46	26	157	87	27	19	54	35	9	8
Singapore	**182**	8	4	3	65	4.2	0	0	6	2	0	0	4	1	0	0
Slovakia	**148**	18	12	7	59	3.5	1	0	16	6	1	0	13	4	1	0
Slovenia	**182**	10	6	3	75	5.5	0	0	9	2	0	0	6	1	0	0
Solomon Islands	**73**	40	33	28	29	1.4	0	0	32	24	0	0	16	12	0	0
Somalia	**3**	180	174	137	24	1.1	51	61	108	85	31	38	45	40	13	18
South Africa	**58**	60	75	41	32	1.6	64	42	47	34	51	34	20	11	22	11
South Sudan	**13**	253	182	93	63	4.0	66	39	150	60	40	26	67	39	18	17
Spain	**166**	11	7	4	63	3.9	5	2	9	4	4	1	7	3	3	1
Sri Lanka	**133**	21	16	10	54	3.1	7	3	18	8	6	3	14	5	5	2
State of Palestine	**89**	44	30	21	52	3.0	4	3	36	18	3	3	22	12	2	2
Sudan	**27**	128	106	70	45	2.4	100	89	80	48	64	61	41	30	33	39
Suriname	**89**	48	34	21	55	3.2	1	0	41	19	0	0	23	12	0	0
Swaziland	**36**	75	128	61	19	0.8	3	2	56	45	2	2	22	14	1	1
Sweden	**182**	7	4	3	57	3.3	1	0	6	2	1	0	4	2	0	0
Switzerland	**166**	8	6	4	52	3.0	1	0	7	3	1	0	4	3	0	0
Syrian Arab Republic	**120**	37	23	13	65	4.2	17	6	30	11	14	5	17	7	7	3
Tajikistan	**52**	108	93	45	59	3.5	24	12	85	39	19	10	32	21	7	5
Thailand	**125**	37	23	12	67	4.4	40	9	30	11	33	8	20	7	22	5
The former Yugoslav Republic of Macedonia	**153**	37	16	6	85	7.6	1	0	33	5	1	0	17	4	1	0
Timor-Leste	**41**	176	110	53	70	4.8	5	3	132	45	4	2	56	22	2	1
Togo	**24**	146	121	78	46	2.5	23	20	90	52	14	13	43	27	7	7
Tonga	**99**	22	18	17	24	1.1	0	0	19	14	0	0	10	7	0	0
Trinidad and Tobago	**94**	31	29	20	33	1.6	1	0	27	18	1	0	20	13	0	0
Tunisia	**112**	57	32	14	75	5.6	13	3	44	12	10	3	28	8	6	2
Turkey	**112**	75	40	14	82	6.8	104	19	56	12	77	16	33	7	45	10
Turkmenistan	**42**	91	82	51	43	2.3	12	6	73	44	10	5	30	23	4	3
Tuvalu	**77**	57	43	27	53	3.0	0	0	44	23	0	0	30	18	0	0
Uganda	**40**	187	148	55	71	4.9	151	85	111	38	92	60	39	19	32	30
Ukraine	**139**	20	19	9	54	3.1	12	4	17	8	10	3	12	6	7	2
United Arab Emirates	**148**	17	11	7	59	3.5	1	1	14	6	1	1	8	4	0	0
United Kingdom	**166**	9	7	4	55	3.2	7	3	8	4	6	3	5	2	3	2
United Republic of Tanzania	**46**	165	131	49	71	4.9	178	98	100	35	109	72	40	19	43	39
United States	**148**	11	8	7	42	2.2	43	25	9	6	36	21	6	4	22	14
Uruguay	**133**	23	17	10	56	3.3	1	0	20	9	1	0	12	5	1	0
Uzbekistan	**59**	72	63	39	45	2.4	52	26	59	34	43	23	31	20	22	14
Vanuatu	**73**	36	29	28	23	1.0	0	0	29	23	0	0	16	12	0	0
Venezuela (Bolivarian Republic of)	**110**	30	22	15	50	2.7	17	9	25	13	15	8	13	9	8	5
Viet Nam	**84**	51	34	22	57	3.4	99	34	37	17	71	27	24	11	46	18
Yemen	**56**	126	95	42	67	4.4	75	34	89	34	54	28	44	22	27	18
Zambia	**33**	191	163	64	66	4.4	70	39	113	43	42	27	36	21	13	13
Zimbabwe	**26**	76	106	71	7	0.3	29	38	51	47	19	25	22	24	8	13

Numbers and percentages are rounded and therefore may not sum to totals. All calculations are based on unrounded numbers.

Country estimates of child mortality and causes of under-five deaths

Share of neonatal deaths in under-five deaths (%)		Deaths among children under 5 years of age due to: (%) 2015																	
		Neonatal period (0–27 days)								Post-neonatal period (1–59 months)									
1990	2015	Pneumonia	Preterm	Intrapartum	Sepsis	Tetanus	Congenital	Diarrhoea	Other	Pneumonia	Diarrhoea	Malaria	AIDS	Measles	Injuries	Meningitis	Other	Total	Countries and areas
52	63	1	34	11	9	0	6	0	2	5	0	0	0	0	4	0	28	100	Saint Vincent and the Grenadines
54	54	3	22	6	6	0	13	0	4	7	3	0	0	0	6	1	28	100	Samoa
67	0	0	0	0	0	0	0	0	0	4	0	0	0	0	17	2	77	100	San Marino
27	37	2	11	9	7	0	5	0	2	10	8	17	0	1	6	1	21	100	Sao Tome and Principe
50	54	1	22	7	4	0	14	0	6	5	1	0	0	0	10	1	30	100	Saudi Arabia
29	45	3	13	11	10	0	5	0	3	12	9	4	1	1	7	2	21	100	Senegal
61	63	1	37	10	1	0	10	0	3	4	0	0	0	0	4	1	29	100	Serbia
67	61	0	19	6	10	0	13	0	12	5	1	0	0	0	8	1	25	100	Seychelles
20	29	2	9	8	6	0	2	0	2	12	10	20	0	2	5	1	20	100	Sierra Leone
52	37	1	13	3	2	0	12	0	5	12	0	0	0	0	6	0	45	100	Singapore
71	57	1	28	4	1	0	20	0	3	8	0	0	0	0	5	1	28	100	Slovakia
54	54	1	30	5	6	0	10	0	2	2	1	0	0	0	6	0	37	100	Slovenia
41	43	2	13	11	6	0	8	0	3	16	7	1	0	0	8	2	23	100	Solomon Islands
26	29	3	7	11	3	2	2	0	2	22	14	1	1	5	6	5	18	100	Somalia
34	27	2	9	6	4	0	2	0	4	15	9	0	8	1	9	1	30	100	South Africa
27	43	4	11	15	5	3	3	0	2	17	8	7	4	1	5	4	13	100	South Sudan
65	66	0	21	9	6	0	18	0	12	1	0	0	0	0	4	1	28	100	Spain
66	54	2	20	7	2	1	14	0	9	5	2	0	0	0	6	1	32	100	Sri Lanka
51	56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	State of Palestine
32	43	4	12	12	9	1	4	0	2	14	10	1	0	2	8	2	20	100	Sudan
49	54	1	23	9	9	0	9	0	3	7	1	0	2	0	9	2	25	100	Suriname
30	23	1	8	6	4	0	3	0	2	15	10	0	12	0	8	1	31	100	Swaziland
51	53	1	12	10	3	0	16	0	10	3	0	0	0	0	3	0	40	100	Sweden
47	69	0	27	8	3	0	23	0	8	1	0	0	0	0	4	0	26	100	Switzerland
45	54	2	19	8	3	1	14	0	6	5	16	0	0	0	3	0	22	100	Syrian Arab Republic
30	47	3	14	12	7	0	7	0	4	15	8	0	0	0	7	2	22	100	Tajikistan
55	54	2	22	7	3	0	15	0	5	7	3	0	1	0	6	1	28	100	Thailand
47	64	0	46	7	3	0	7	0	1	5	1	0	0	0	2	3	24	100	The former Yugoslav Republic of Macedonia
31	44	3	10	13	8	0	5	0	4	18	9	2	0	0	8	2	18	100	Timor-Leste
30	34	2	10	10	7	0	3	0	2	13	8	18	1	0	5	2	17	100	Togo
46	40	2	16	5	4	0	10	0	2	9	3	0	0	0	10	2	37	100	Tonga
63	64	4	24	9	3	0	13	0	11	3	0	0	2	0	6	1	23	100	Trinidad and Tobago
48	59	2	20	10	3	1	15	0	8	6	2	0	0	0	4	0	28	100	Tunisia
43	53	1	23	4	3	0	16	0	6	3	1	0	0	0	4	1	39	100	Turkey
33	44	2	15	11	6	0	6	0	3	14	8	0	0	0	6	1	26	100	Turkmenistan
53	67	4	28	10	6	0	13	0	5	8	3	0	0	0	5	1	15	100	Tuvalu
21	35	2	10	10	6	0	4	0	2	14	8	7	6	0	7	3	21	100	Uganda
61	59	3	25	7	3	0	17	0	5	5	2	0	2	1	5	1	25	100	Ukraine
50	51	0	21	7	2	0	16	0	6	4	1	0	0	0	7	0	37	100	United Arab Emirates
48	56	1	31	5	1	0	16	0	2	3	0	0	0	0	3	1	36	100	United Kingdom
24	39	3	10	11	8	0	5	0	2	12	8	5	3	0	8	1	23	100	United Republic of Tanzania
52	55	0	25	4	2	0	14	0	9	2	2	0	0	0	12	0	29	100	United States
53	51	1	16	7	7	0	17	0	4	6	1	0	0	0	7	1	34	100	Uruguay
43	52	3	18	12	7	0	8	0	4	12	6	0	0	0	6	1	23	100	Uzbekistan
46	42	3	17	7	3	1	8	0	3	11	14	1	0	1	6	1	25	100	Vanuatu
44	60	4	24	8	10	0	10	0	3	7	5	0	0	0	8	1	19	100	Venezuela (Bolivarian Republic of)
47	52	4	21	7	4	0	12	0	4	10	7	0	0	1	4	1	25	100	Viet Nam
36	53	4	17	13	8	1	6	1	4	12	7	1	0	0	8	1	18	100	Yemen
19	34	2	9	10	6	0	3	0	2	13	9	7	6	0	7	1	22	100	Zambia
29	34	2	12	10	5	0	3	0	2	12	9	2	9	0	7	1	25	100	Zimbabwe

Numbers and percentages are rounded and therefore may not sum to totals. All calculations are based on unrounded numbers.

Regional estimates of child mortality and causes of under-five deaths

Region	Under-five mortality rate (deaths per 1,000 live births)					Number of under-five deaths (thousands)		Infant mortality rate (deaths per 1,000 live births)		Number of infant deaths (thousands)		Neonatal mortality rate (deaths per 1,000 live births)		Number of neonatal deaths (thousands)		Share of neonatal deaths in under-five deaths (%)	
	1990	2000	2015	Decline (%) 1990–2015	Annual rate of reduction (%) 1990–2015	1990	2015	1990	2015	1990	2015	1990	2015	1990	2015	1990	2015
Sub-Saharan Africa	180	154	83	54	3.1	3,871	2,947	108	56	2,343	2,018	46	29	994	1,027	26	35
Eastern & Southern Africa	167	140	67	60	3.7	1,736	1,068	103	46	1,082	740	43	25	458	402	26	38
West & Central Africa	198	172	99	50	2.8	2,031	1,789	116	66	1,195	1,216	49	32	502	586	25	33
Middle East & North Africa	71	50	29	59	3.6	659	324	53	23	491	261	30	15	273	172	41	53
South Asia	129	94	53	59	3.6	4,687	1,870	92	42	3,306	1,481	58	30	2,129	1,065	45	57
East Asia & the Pacific	58	42	18	69	4.7	2,532	538	44	15	1,967	449	29	9	1,271	270	50	50
Latin America & the Caribbean	54	32	18	67	4.4	632	196	43	15	500	167	22	9	255	102	40	52
CEE/CIS	48	37	17	64	4.1	354	108	39	15	284	94	21	9	156	57	44	52
World	**91**	**76**	**43**	**53**	**3.0**	**12,749**	**5,945**	**63**	**32**	**8,924**	**4,450**	**36**	**19**	**5,106**	**2,682**	**40**	**45**

Deaths among children under 5 years of age due to: (%) 2015

Region	Neonatal period (0–27 days)								Post-neonatal period (1–59 months)								
	Pneumonia	Preterm	Intrapartum	Sepsis	Tetanus	Congenital	Diarrhoea	Other	Pneumonia	Diarrhoea	Malaria	AIDS	Measles	Injuries	Meningitis	Other	Total
Sub-Saharan Africa	2	10	10	6	1	3	0	2	14	10	10	3	1	6	2	19	100
Eastern & Southern Africa	3	10	11	6	1	4	0	2	14	10	5	3	1	7	2	21	100
West & Central Africa	2	10	10	6	1	2	0	2	14	10	13	2	1	5	3	18	100
Middle East & North Africa	3	18	12	7	1	9	0	4	11	7	0	0	1	7	1	21	100
South Asia	3	23	12	9	1	6	0	3	12	9	0	0	2	4	2	14	100
East Asia & Pacific	3	17	12	5	0	9	0	4	12	5	1	1	1	9	2	20	100
Latin America & Caribbean	2	18	8	7	0	11	0	6	10	4	0	0	0	7	1	26	100
CEE/CIS	2	20	9	5	0	12	0	4	9	4	0	0	0	6	1	27	100
World	**3**	**16**	**11**	**7**	**1**	**5**	**0**	**3**	**13**	**9**	**5**	**1**	**1**	**6**	**2**	**18**	**100**

Estimates of child mortality and causes of under-five deaths **by income**

Income level	Under-five mortality rate (deaths per 1,000 live births)					Number of under-five deaths (thousands)		Infant mortality rate (deaths per 1,000 live births)		Number of infant deaths (thousands)		Neonatal mortality rate (deaths per 1,000 live births)		Number of neonatal deaths (thousands)		Share of neonatal deaths in under-five deaths (%)	
	1990	2000	2015	Decline (%) 1990–2015	Annual rate of reduction (%) 1990–2015	1990	2015	1990	2015	1990	2015	1990	2015	1990	2015	1990	2015
Low income	187	150	76	59	3.6	2,555	1,667	113	53	1,555	1,173	49	27	669	596	26	36
Middle income	90	73	41	55	3.2	9,933	4,170	64	31	7,151	3,186	39	20	4,303	2,028	43	49
Lower middle income	120	93	53	56	3.3	7,188	3,492	83	40	4,973	2,647	48	26	2,919	1,713	41	49
Upper middle income	55	40	19	66	4.3	2,745	678	43	15	2,178	539	28	9	1,384	316	50	47
High income	16	11	7	56	3.3	261	108	13	6	217	91	8	4	134	58	52	54
World	**91**	**76**	**43**	**53**	**3.0**	**12,749**	**5,945**	**63**	**32**	**8,924**	**4,450**	**36**	**19**	**5,106**	**2,682**	**40**	**45**

Deaths among children under 5 years of age due to: (%) 2015

Income level	Neonatal period (0–27 days)								Post-neonatal period (1–59 months)								
	Pneumonia	Preterm	Intrapartum	Sepsis	Tetanus	Congenital	Diarrhoea	Other	Pneumonia	Diarrhoea	Malaria	AIDS	Measles	Injuries	Meningitis	Other	Total
Low income	2	11	10	6	1	3	0	2	14	10	9	2	2	6	3	19	100
Middle income	3	18	11	7	1	6	0	3	12	8	4	1	1	5	2	17	100
Lower middle income	3	18	11	8	1	5	0	3	13	9	4	1	1	5	2	16	100
Upper middle income	3	16	10	5	0	8	0	4	11	6	2	1	0	8	1	24	100
High income	1	22	6	4	0	14	0	6	4	1	0	0	0	8	1	30	100
World	**3**	**16**	**11**	**7**	**1**	**5**	**0**	**3**	**13**	**9**	**5**	**1**	**1**	**6**	**2**	**18**	**100**

Numbers and percentages are rounded and therefore may not sum to totals. All calculations are based on unrounded numbers.

Published by UNICEF
United Nations
Children's Fund
3 UN Plaza
New York, NY 10017
www.unicef.org

For the online edition,
scan this QR code or go to
www.apromiserenewed.org

ISBN: 978-92-806-4815-7

September 2015