

# Executive Summary

## Headline Messages

### 15 million babies are born too soon every year

- More than 1 in 10 babies are born preterm, affecting families all around the world.
- Over 1 million children die each year due to complications of preterm birth. Many survivors face a lifetime of disability, including learning disabilities and visual and hearing problems.

### Rates of preterm birth are rising

- Preterm birth rates are increasing in almost all countries with reliable data.
- Prematurity is the leading cause of newborn deaths (babies in the first 4 weeks of life) and now the second-leading cause of death after pneumonia in children under the age of 5.
- Global progress in child survival and health to 2015 and beyond cannot be achieved without addressing preterm birth.
- Investment in women's and maternal health and care at birth will reduce stillbirth rates and improve outcomes for women and newborn babies, especially those who are premature.

### Prevention of preterm birth must be accelerated

- Family planning and increased empowerment of women, especially adolescents, plus improved quality of care before, between and during pregnancy can help to reduce preterm birth rates.
- Strategic investments in innovation and research are required to accelerate progress.

### Premature babies can be saved now with feasible, cost-effective care

- Historical data and new analyses show that deaths from preterm birth complications can be reduced by over three-quarters even without the availability of neonatal intensive care.
- Inequalities in survival rates around the world are stark: half of the babies born at 24 weeks (4 months early) survive in high-income countries, but in low-income settings, half the babies born at 32 weeks (two months early) continue to die due to a lack of feasible, cost-effective care, such as warmth, breastfeeding support, and basic care for infections and breathing difficulties.
- Over the last decade, some countries have halved deaths due to preterm birth by ensuring frontline workers are skilled in the care of premature babies and improving supplies of life-saving commodities and equipment.

### Everyone has a role to play

- Everyone can help to prevent preterm births and improve the care of premature babies, accelerating progress towards the goal of halving deaths due to preterm birth by 2025.
- The *Every Woman Every Child* effort, led by UN Secretary-General Ban Ki-moon, provides the framework to coordinate action and ensure accountability.

**Definition of preterm birth:** Babies born alive before 37 weeks of pregnancy are completed.

#### Sub-categories of preterm birth, based on weeks of gestational age:

Extremely preterm (<28 weeks)  
 Very preterm (28 to <32 weeks)  
 Moderate to late preterm (32 to <37 weeks)

Note: Births at 37 to 39 weeks still have suboptimal outcomes, and induction or cesarean birth should not be planned before 39 completed weeks unless medically indicated



Photo: Jenn Warren/Save the Children

## Inform

### Why do preterm births matter?

Urgent action is needed to address the estimated 15 million babies born too soon, especially as preterm birth rates are increasing each year (Figure 1). This is essential in order to progress on the Millennium Development Goal (MDG) for child survival by 2015 and beyond, since 40% of under-five deaths are in newborns, and it will also give added value to maternal health (MDG 5) investments (Chapter 1). For babies who survive, there is an increased risk of disability, which exacts a heavy load on families and health systems.

### Why does preterm birth happen?

Preterm birth occurs for a variety of reasons (Chapter 2). Some preterm births result from early induction of labor or cesarean birth whether for medical or non-medical reasons. Most preterm births happen spontaneously. Common causes include multiple pregnancies, infections and chronic conditions, such as diabetes and high blood pressure; however, often no cause is identified. There is also a genetic influence. Better understanding of the causes and mechanisms will advance the development of prevention solutions.

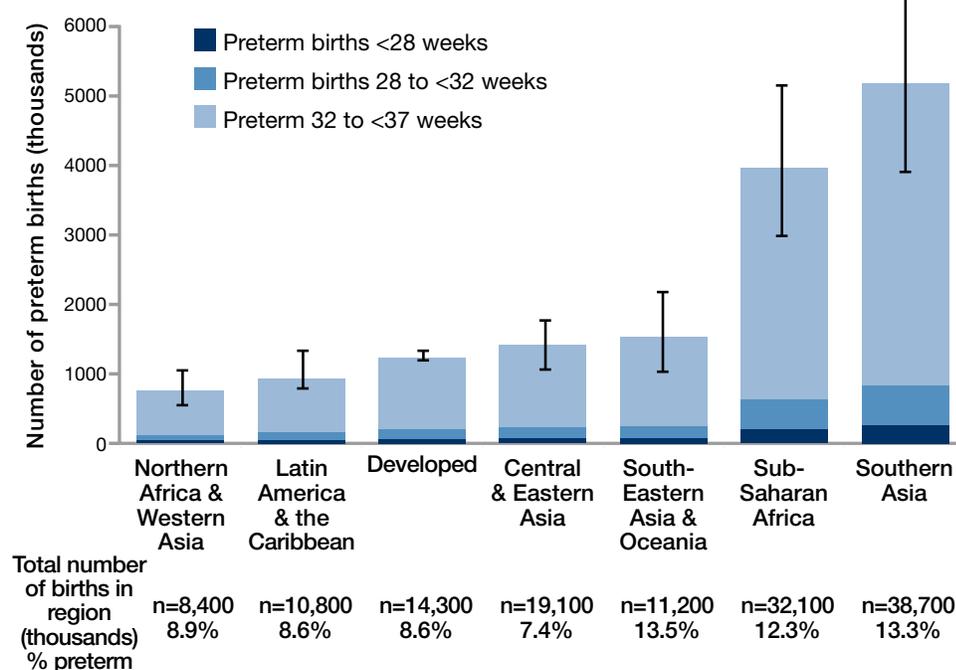


Photo: March of Dimes

### Where and when?

Over 60% of preterm births occur in Africa and South Asia (Figure 1). The 10 countries with the highest numbers include Brazil, the United States, India and Nigeria, demonstrating that preterm birth is truly a global problem. Of the 11 countries with preterm birth rates of over 15%, all but two are in sub-Saharan Africa (Figure 2). In the poorest countries, on average, 12% of babies are born too soon compared with 9% in higher-income countries. Within countries, poorer families are at higher risk.

Figure 1: Preterm births by gestational age and region for 2010



#### Preterm birth by the numbers:

- 15 million preterm births every year and rising
- 1.1 million babies die from preterm birth complications
- 5-18% is the range of preterm birth rates across 184 countries of the world
- >80% of preterm births occur between 32-37 weeks of gestation and most of these babies can survive with essential newborn care
- >75% of deaths of preterm births can be prevented without intensive care
- 7 countries have halved their numbers of deaths due to preterm birth in the last 10 years

Based on Millennium Development Goal regions.

Source: Blencowe et al National, regional and worldwide estimates of preterm birth rates in the year 2010 with time trends since 1990 for selected countries: a systematic analysis and implications

Of 65 countries with reliable trend data, all but 3 show an increase in preterm birth rates over the past 20 years. Possible reasons for this include better measurement and improved health such as increases in maternal age and underlying maternal health problems such as diabetes and high blood pressure; greater use of infertility treatments leading to increased rates of multiple pregnancies; and changes in obstetric practices such as more caesarean births before term.

There is a dramatic survival gap for premature babies depending on where they are born. For example, over 90% of extremely preterm babies (<28 weeks) born in low-income countries die within the first few days of life; yet less than 10% of babies of this gestation die in high-income settings, a 10:90 survival gap.

### Counting preterm births

The preterm birth rates presented in this report are estimated based on data from national registries, surveys and special studies (Blencowe et al., 2012). Standard definitions of preterm birth and consistency in reporting pregnancy outcomes are essential to improving the quality of data and ensuring that all mothers and babies are counted.

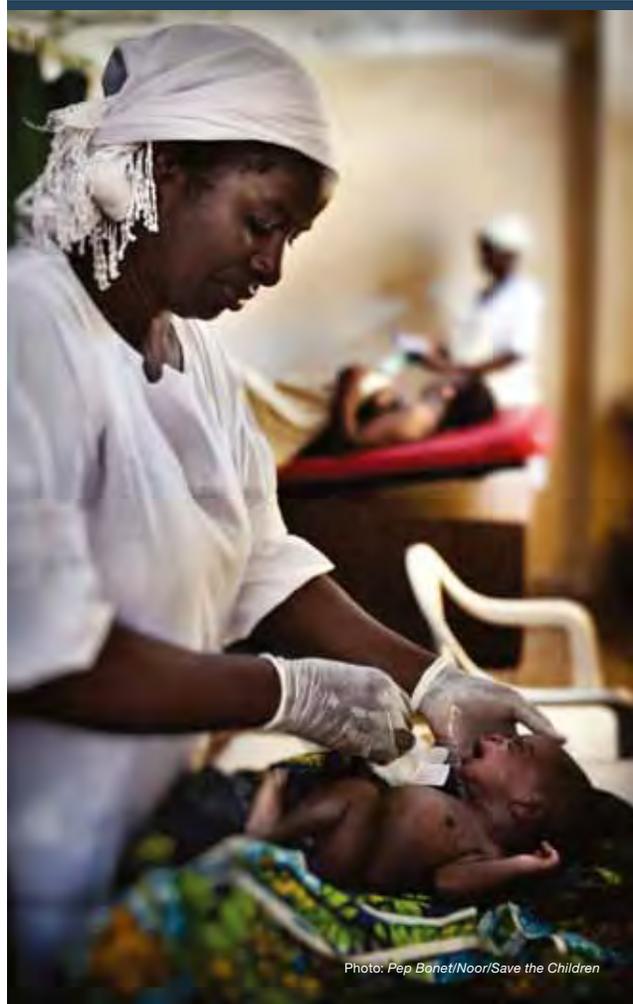
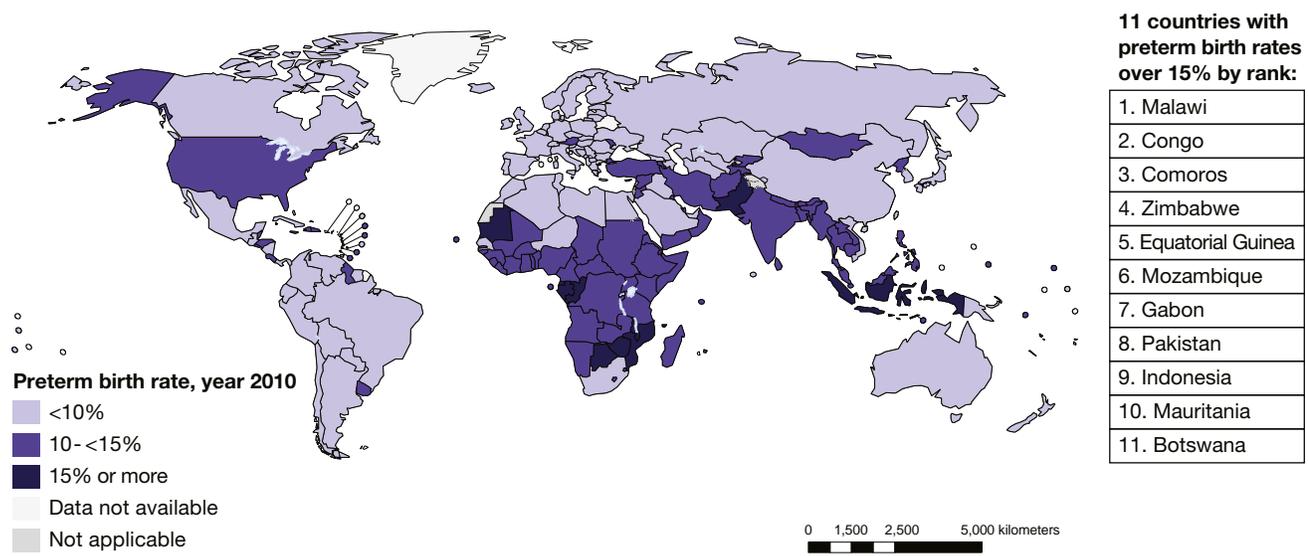


Photo: Pep Banet/Noor/Save the Children

Figure 2: Global burden of preterm birth in 2010



The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: World Health Organization  
 Map Production: Public Health Information and Geographic Information Systems (GIS)  
 World Health Organization  
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Source: Blencowe et al National, regional and worldwide estimates of preterm birth rates in the year 2010 with time trends since 1990 for selected countries: a systematic analysis and implications.  
 Note: rates by country are available on the accompanying wall chart.  
 Not applicable= non WHO Members State



Photo: Susan Warner/Save the Children

## Preconception

Empowering and educating girls as well as providing care to women and couples before and between pregnancies improve the opportunity for women and couples to have planned pregnancies increasing chances that women and their babies will be healthy, and survive. In addition, through reducing or addressing certain risk factors, preterm birth prevention may be improved (Chapter 3).

### *Invest and plan*

Adolescent pregnancy, short time gaps between births, unhealthy pre-pregnancy weight (underweight or obesity), chronic disease (e.g., diabetes), infectious diseases (e.g., HIV), substance abuse (e.g., tobacco use and heavy alcohol use) and poor psychological health are risk factors for preterm birth. One highly cost-effective intervention is family planning, especially for girls in regions with high rates of adolescent pregnancy. Promoting better nutrition, environmental and occupational health and education for women are also essential. Boys and men, families and communities should be encouraged to become active partners in preconception care to optimize pregnancy outcomes.

### *Implement priority, evidence-based interventions*

- Family planning strategies, including birth spacing and provision of adolescent-friendly services;
- Prevention, and screening/ management of sexually transmitted infections (STIs), e.g., HIV and syphilis;
- Education and health promotion for girls and women;
- Promoting healthy nutrition including micronutrient fortification and addressing life-style risks, such as smoking, and environmental risks, like indoor air pollution.

### *Inform and improve program coverage and quality*

Consensus around a preconception care package and the testing of this in varying contexts is an important research need. When researching pregnancy outcomes or assessing reproductive, maternal, newborn and child health strategies, preterm birth and birthweight measures should be included as this will dramatically increase the information available to understand risks and advance solutions.



## Premature baby care

The survival chances of the 15 million babies born preterm each year vary dramatically depending on where they are born (Chapter 5). South Asia and sub-Saharan Africa account for half the world's births, more than 60% of the world's preterm babies and over 80% of the world's 1.1 million deaths due to preterm birth complications. Around half of these babies are born at home. Even for those born in a health clinic or hospital, essential newborn care is often lacking.

The risk of a neonatal death due to complications of preterm birth is at least 12 times higher for an African baby than for a European baby. Yet, more than three-quarters of premature babies could be saved with feasible, cost-effective care, and further reductions are possible through intensive neonatal care.

### *Invest and plan*

Governments, together with civil society, must review and update existing policies and programs to integrate high-impact care for premature babies within existing programs for maternal, newborn and child health. Urgent increases are needed in health system capacity to take care of newborns particularly in the field of human resources, such as training nurses and midwives for newborn and premature baby care, and ensuring reliable supplies of commodities and equipment. Seven middle-income countries have halved their neonatal deaths from preterm birth through strategic scale up of referral-level care.



Photo: Sanjana Shrestha/Save the Children

## Pregnancy and birth

Pregnancy and childbirth are critical windows of opportunity for providing effective interventions to improve maternal health and reduce mortality and disability due to preterm birth. While many countries report high coverage of antenatal care and increasing coverage of facility births, significant gaps in coverage, equity and quality of care remain between and within countries, including high-income countries (Chapter 4).



Photo: Aubrey Wade/  
Save the Children

### Invest and plan

Countries need to ensure universal access to comprehensive antenatal care, quality childbirth services and emergency obstetric care. Workplace policies are important to promote healthy pregnancies and reduce the risk of preterm birth, including regulations to protect pregnant women from physically-demanding work. Environmental policies to reduce exposure to potentially harmful pollutants, such as from traditional cookstoves and secondhand smoke, are also necessary.

### Implement priority, evidence-based interventions

- Ensure antenatal care for all pregnant women, including screening for, and diagnosis and treatment of infections such as HIV and STIs, nutritional support and counseling;
- Provide screening and management of pregnant women at higher risk of preterm birth, e.g., multiple pregnancies, diabetes, high blood pressure, or with a history of previous preterm birth;
- Effectively manage preterm labor, especially provision of antenatal corticosteroids to reduce the risk of breathing difficulties in premature babies. This intervention alone could save around 370,000 lives each year;
- Promote behavioral and community interventions to reduce smoking, secondhand smoke exposure, and other pollutants; and prevention of violence against women by intimate partners;
- Reduce non-medically indicated inductions of labor and cesarean births especially before 39 completed weeks of gestation.

### Inform and improve program coverage and quality

Better measurement of antenatal care services will improve monitoring coverage and equity gaps of high-impact interventions. Implementation research is critical for informing efforts to scale up effective interventions and improve the quality of care. Discovery research on normal and abnormal pregnancies will facilitate the development of preventive interventions for universal application.



Pregnancy

Photo: Papi Ntoor/Save the Children

### Implement priority, evidence-based interventions

- Essential newborn care for all babies, including thermal care, breastfeeding support, and infection prevention and management and, if needed, neonatal resuscitation;
- Extra care for small babies, including Kangaroo Mother Care (carrying the baby skin-to-skin, additional support for breastfeeding), could save an estimated 450,000 babies each year;
- Care for preterm babies with complications:
- Treating infections, including with antibiotics;
- Safe oxygen management and supportive care for respiratory distress syndrome, and, if appropriate and available, continuous positive airway pressure and/or surfactant;
- Neonatal intensive care for those countries with lower mortality and higher health system capacity.

### Inform and improve program coverage and quality

Innovation and implementation research is critical to accelerate the provision of care for premature babies, especially skilled human resources and robust, reliable technologies. Monitoring coverage of preterm care interventions, including Kangaroo Mother Care, as well as addressing quality and equity requires urgent attention. Better tracking of long-term outcomes, including visual impairment for surviving babies, is critical.



Photo: March of Dimes

## Implement

### Priority interventions, packages and strategies for preterm birth

Reducing the burden of preterm birth has a dual track: prevention and care.

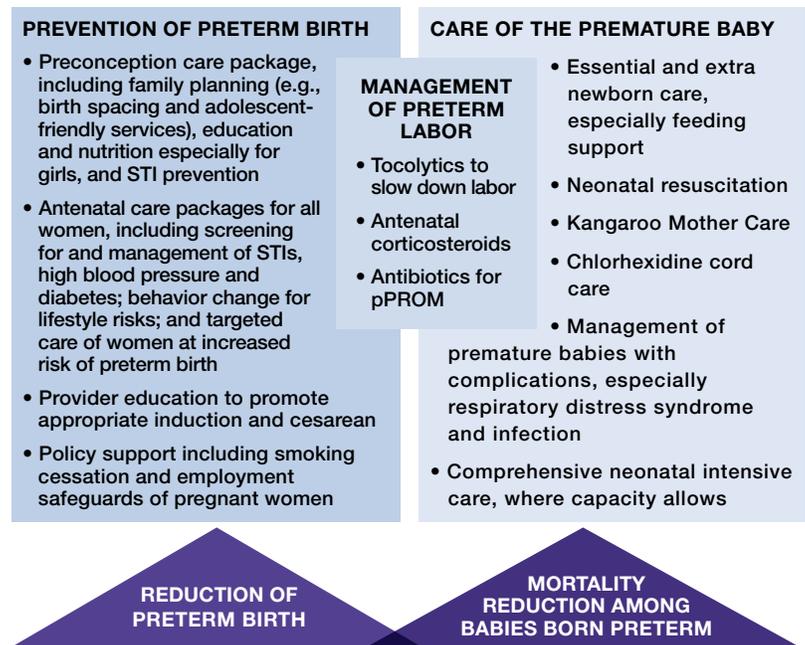
Interventions with proven effect for prevention are clustered in the preconception, between pregnancy and pregnancy periods as well as during preterm labor (Figure 3).

Interventions to reduce death and disability among premature babies can be applied both during labor and after birth. If interventions with proven benefit were universally available to women and their babies (i.e., 95% coverage), then almost 1 million premature babies could be saved each year.

### A global action agenda for research

Preterm birth has multiple causes; therefore, solutions will not come through a single discovery but rather from an array of discoveries addressing multiple biological, clinical, and social-behavioral risk factors. The dual agenda of preventing preterm birth and addressing the care and survival gap for premature babies requires a comprehensive research strategy, but involves different approaches along a pipeline of innovation. The pipeline starts from describing the problem and risks more thoroughly, through discovery science to understanding causes, to developing new tools, and finally to research the delivery of these new tools in various health system contexts. Research capacity and leadership from low- and middle-income countries is critical to success and requires strategic investment.

**Figure 3:** Approaches to prevent preterm births and reduce deaths among premature babies



For preterm prevention research, the greatest emphasis should be on descriptive and discovery learning, understanding what can be done to prevent preterm birth in various contexts. While requiring a long-term investment, risks for preterm birth and the solutions needed to reduce these risks during each stage of the reproductive, maternal, newborn and child health continuum, are becoming increasingly evident (Chapters 3-5). However, for many of these risks such as genital tract infections, we do not yet have effective program solutions for prevention.

For premature baby care, the greatest emphasis should be on development and delivery research, learning how to implement what is known to be effective in caring for premature babies, and this has a shorter timeline to impact at scale (Chapter 6). Some examples include adapting technologies such as robust and simplified devices for support for babies with breathing difficulties, or examining the roles of different health care workers (e.g., task shifting).



## Goal by 2025

Since prematurity contributes significantly to child mortality, Born Too Soon presents a new goal for the reduction of deaths due to complications of preterm birth.

- For countries with a current neonatal mortality rate level of more than or equal to 5 per 1,000 live births, the goal is to reduce the mortality due to preterm birth by 50% between 2010 and 2025.
- For countries with a current neonatal mortality rate level of less than 5 per 1,000 live births, the goal is to eliminate remaining preventable preterm deaths, focusing on equitable care for all and quality of care to minimize long-term impairment.

After the publication of this report, a technical expert group will be convened to establish a goal for reduction of preterm birth rate by 2025, for announcement on World Prematurity Day 2012.

Details of these goals are given in Chapter 6 of the report.

## Everyone has a role to play... to reach every woman, every newborn, every child

Reducing preterm births and improving child survival are ambitious goals. The world has made much progress reducing maternal, newborn and child deaths since the MDGs were set, but accelerated progress will require even greater collaboration and coordination among national and local governments, donors, UN and other multilaterals, civil society, the business community, health care professionals and researchers, working together to advance investment, implementation, innovation and information-sharing (Figure 4, Chapter 6).



Photo: Ritam Banerjee for Getty Images/Save the Children

Figure 4: Shared actions to address preterm births

		Primary role	Secondary role: supporting effort	Governments and policymakers	Donor countries and philanthropy	UN and other multilaterals	Civil society	Business community	Health care workers & associations	Academics and researchers
<b>Invest</b>	Ensure preterm interventions and research given proportional focus, so funding is aligned with health burden	✓	✓	✓	✓	✓	✓			
	Plan and implement preterm birth strategies at global and country level and align on preterm mortality reduction goal	✓			✓				✓	
<b>Implement</b>	Introduce programs to ensure coverage of evidence-based interventions, particularly to reduce preterm mortality	✓			✓	✓	✓	✓		
	Perform research to support both prevention and treatment agendas	✓			✓		✓	✓	✓	
<b>Innovate</b>	Pursue implementation research agenda to understand how best to scale up interventions	✓			✓		✓	✓	✓	
	Significantly improve preterm birth reporting by aligning on consistent definition and more consistently capturing data	✓			✓	✓		✓	✓	
<b>Inform</b>	Raise awareness of preterm birth at all levels as a central maternal, newborn and child health issue	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Continue support for <i>Every Woman Every Child</i> and other reproductive, maternal, newborn and child health efforts, which are inextricably linked with preterm birth									
Ensure accountability of stakeholders across all actions										