

# Maternal and Newborn Health: A Global Challenge

U.S. Fund for UNICEF Youth Report  
The State of the World's Children 2009



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Cassie Landers, Ed.D, MPH  
author

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# Welcome!

Each year, UNICEF publishes *The State of the World's Children* (SOWC), a detailed report examining a significant issue relating to worldwide conditions affecting children. *Child Survival: A Global Challenge*, was the first youth version of *The State of the World's Children* published by the U.S. Fund for UNICEF in 2008. It described both the successes achieved and the challenges remaining in keeping children healthy during their first five years of life. The 2009 SOWC complements this theme by examining maternal and newborn health around the world. The U.S. Fund for UNICEF is pleased to make available this summary of the SOWC 2009 for youth.

For many families in the industrialized world, pregnancy and the birth of a new baby are occasions for celebration. But in developing countries they can also be times of anxiety over the survival of both the mother and the new baby. The average lifetime risk of a woman in one of the least developed countries dying from complications related to pregnancy or childbirth is more than 300 times greater than that of a woman living in an industrialized country.

This youth report is published by the U.S. Fund for UNICEF, which participates in the global effort to safeguard the health and well-being of children and families around the world. It is based on UNICEF's *The State of the World's Children 2009*, which is the primary source for facts and statistics. Read further to find the answers to:

- What is the scale and scope of the problem?
- What are the main causes of maternal and newborn deaths?

## WHAT IS UNICEF?

UNICEF, the United Nations Children's Fund, was created in 1946, one year after the United Nations was founded. From the beginning, UNICEF set out to change the world by meeting the needs of children and those who care for them. Initially it provided food, clothing, and health care to children in Europe and China who were in desperate need following World War II. UNICEF later broadened its mandate to meet the long-term needs of the world's children. With headquarters in New York City, UNICEF implements programs in more than 150 countries and territories around the world, most of them developing countries.

UNICEF makes a difference in the lives of children who are poor, sick, live with violence, and suffer discrimination, by working with governments and other decision makers. Its work is entirely funded through voluntary contributions from caring individuals, non-governmental organizations, and governments that recognize the importance of its mission.

UNICEF is unique. Many organizations help children in need, but when UNICEF speaks, world leaders listen. It has the global authority to turn innovative ideas for children into reality.

## WHAT DOES UNICEF DO?

**Gives children the best start in life:** UNICEF develops health and nutrition programs to give young children the best start in life. Children’s well-being depends on their mothers’ good health. The organization acts to ensure that pregnant women have access to proper nutrition, prenatal care, and a safe delivery.

**Helps children survive and thrive:** UNICEF acts to make sure that children survive and thrive all the way to adulthood. Prevention against childhood diseases is a big part of the organization’s work. By immunizing children against common diseases and making sure children are well nourished, UNICEF provides simple but effective protection against major threats to their survival and well-being. It also acts to ensure that safe water and basic sanitation are available to children and those who care for them.

**Promotes education for all:** Education is crucial to a child’s development. UNICEF supports programs that educate children from preschool age through adolescence. UNICEF knows that children who have a good education are more likely to become good thinkers, good citizens, and good parents to their own children. Special efforts are made to give girls and boys equal learning opportunities.



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**Creates protective environments:** UNICEF believes that no child should be exposed to violence, abuse, or exploitation. The organization helps create protective environments that fortify children against abuse the same way that good nutrition and adequate health care fortify them against disease. UNICEF strives for peace and security, and works to hold governments and leaders accountable for the promises they make to children.

**Provides help during emergencies:** Conflict and natural disaster have a fierce effect on children, putting their health and well-being at risk. UNICEF supplies food, water, and health care to children caught in conflict. Even in times of war, it is crucial that children attend school and have safe places to play and learn.

**Encourages authentic and meaningful child participation:** UNICEF encourages children to make their views on the issues that affect them known. Participation also involves adults listening to children's multiple and varied ways of communicating. Engaging children in dialogue and exchange allows them to learn constructive ways of influencing the world around them.

## The Greatest Health Divide in the World

For many families in the industrialized world, pregnancy and the birth of a new baby are occasions for celebration. But in developing countries they can also be times of anxiety over the survival of both the mother and the new baby. The average lifetime risk of a woman in one of the least developed countries dying from complications related to pregnancy or childbirth is more than 300 times greater than that of a woman living in an industrialized country.

This difference in risk of maternal death between the industrialized world and many developing countries has been called the greatest health divide in the world.

*The State of the World's Children (SOWC) 2009* examines maternal and newborn health around the world. It complements the story told in *Child Survival: A Global Challenge*, based on UNICEF's 2008 *SOWC*, which described both the successes achieved and the challenges remaining in reducing under-five child mortality rates (U5MR).

### I. What is the scope of the problem?

Healthy pregnancy and childbirth depend on the care and attention given to women and newborns by communities and families. Many women in the developing world give birth at home without trained doctors. Their babies are usually healthy and survive the few weeks of life. But every day, almost 1,500 women around the world die from complications related to pregnancy and childbirth. Moreover, millions of women who survive childbirth still suffer from pregnancy-related problems, often with lifelong consequences.

The reality is that most of these deaths and conditions are preventable. Research shows that approximately 80 percent of maternal deaths could be prevented if women had access to basic health care services, including well-equipped health facilities, medicines, and skilled health care providers.



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## Comparing Progress

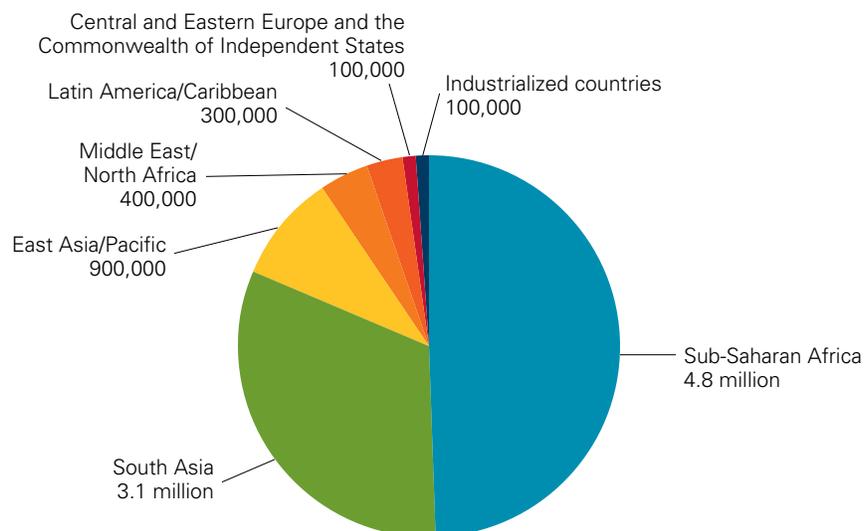
Many developing countries have made excellent progress in improving their child survival rates in recent years, but there has been less headway in reducing maternal mortality. Niger and Malawi, for example, reduced their under-five death rates by almost half between 1990 and 2007. In Indonesia, under-five death rates fell to nearly a third of the rate in 1990, and in Bangladesh they decreased by more than a half.

This same rate of progress has not been made in addressing health risks for mothers, who are most vulnerable in the first days after delivery. Also, while the rate of survival for children under five years of age is improving globally, the risks faced by infants in the first 28 days remain at unacceptably high levels in many countries.

**The number of under-five deaths (U5MR) worldwide has fallen from around 13 million in 1990 to 9.2 in 2007\*. By contrast, there have been limited gains toward the Millennium Development Goal 5.A.1, which aims to reduce the 1990 maternal mortality ratio by three-quarters by 2015.**

### In 2006, 9.7 Million Children Died Before Age Five

Estimated number of under-five deaths, by region, 2006



\*Source: UNICEF, SOWC 2009, pg. 4.

## Millennium Development Goals on Maternal and Child Health

### Millennium Development Goal 4: Reduce child mortality

Targets	Indicators
4.A: Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate	4.1 Under-five mortality rate 4.2 Infant mortality rate 4.3 Proportion of one-year-old children immunized against measles

### Millennium Development Goal 5: Improve maternal health\*

Targets	Indicators
5.A: Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio	5.1 Maternal mortality ratio 5.2 Proportion of births attended by skilled health personnel
5.B: Achieve, by 2015, universal access to reproductive health	5.3 Contraceptive prevalence rate 5.4 Adolescent birth rate 5.5 Antenatal care coverage (at least one visit and at least four visits) 5.6 Unmet need for family planning

\* The revised Millennium Development Goals framework agreed by the United Nations General Assembly at the 2005 World Summit, with the new official list of indicators effective as of 15 January 2008, has added a new target (5.B) and four new indicators for monitoring Millennium Development Goal 5.

Source: United Nations, Millennium Development Goals Indicators: The official United Nations site for the MDG indicators, <http://mdgs.un.org/unsd/mdg/Host.aspx?Content=Indicators/OfficialList.htm>, accessed 1 August 2008.

## Preventing Deaths During the First Days of Life

The earliest days of life are the most vulnerable for a child. Globally, almost 40 percent of deaths of children under the age of five take place during the neonatal period (the first 28 days of life). A child born in one of the least developed countries is almost 14 times more likely to die during the first 28 days of life than a child born in an industrialized country. Though most neonatal deaths are preventable, they currently represent a much higher proportion of under-five deaths than in previous years. Deaths in the first week of life have risen from 23 percent of under-five deaths in 1980 to 28 percent in 2000. The rising proportion reflects two key factors:

- The difficulty of reaching many babies who are born at home, without effective and timely interventions.
- Neglect of simple, cost-effective neonatal survival interventions, due to an emphasis on post-natal interventions like immunization.

Emphasis on interventions after 28 days of life has meant a neglect of simple, cost-effective neonatal survival interventions.

**Did You Know? Three-quarters (75 percent) of newborns, die during their first seven days of life. In fact the risk of dying is greatest during the first day after birth. It is estimated that between 25 percent and 45 percent of neonatal deaths occur in the first day.**

Source: UNICEF, SOWC 2009, pg. 8.

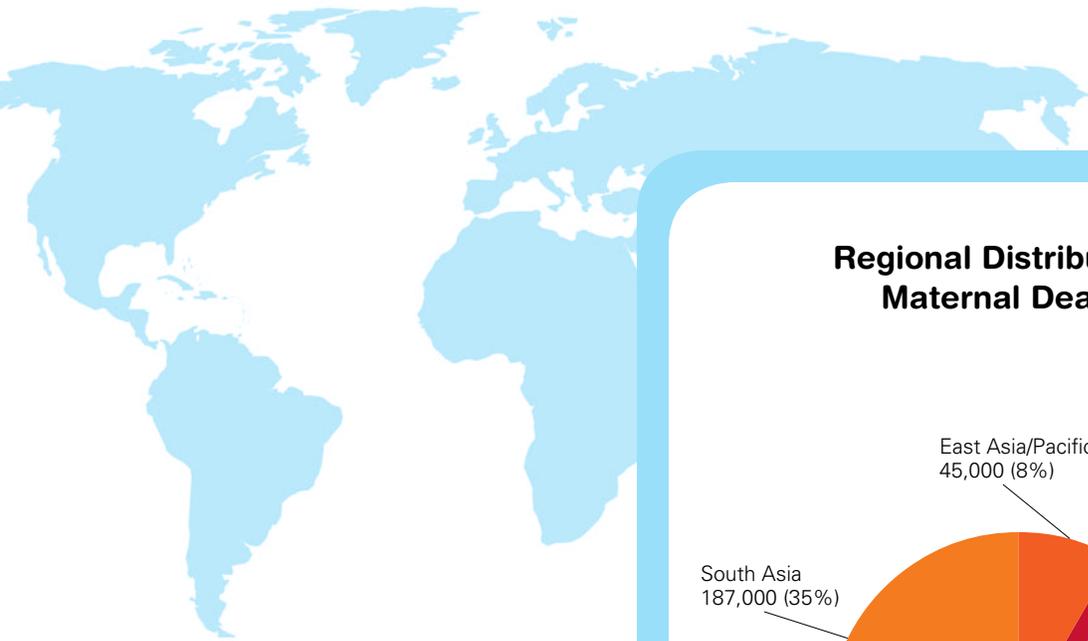


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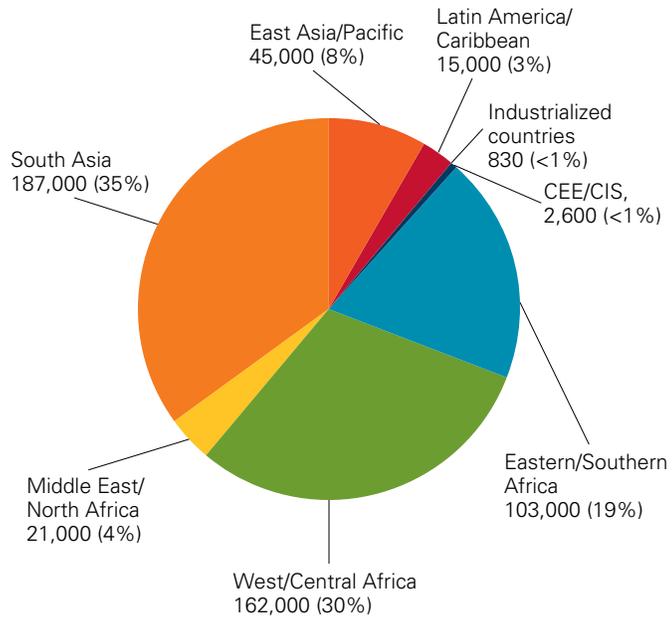
## **II. Where are the highest rates of maternal and newborn deaths?**

The risk of maternal and infant mortality is greatest in Africa and Asia. Together these two continents account for 95 percent of maternal deaths and almost 90 percent of newborn deaths.

In the developing world, a woman has a 1 in 76 lifetime risk of maternal death, compared with a probability of 1 in 8,000 for women in industrialized countries. Approximately 99 percent of global deaths arising from pregnancy and complications occur in the developing world. The vast majority occur in Africa and Asia, where high fertility rates, shortage of trained personnel, and weak health systems spell tragedy for many young women.



### Regional Distribution of Maternal Deaths\*



\* Percentages may not total 100% because of rounding.

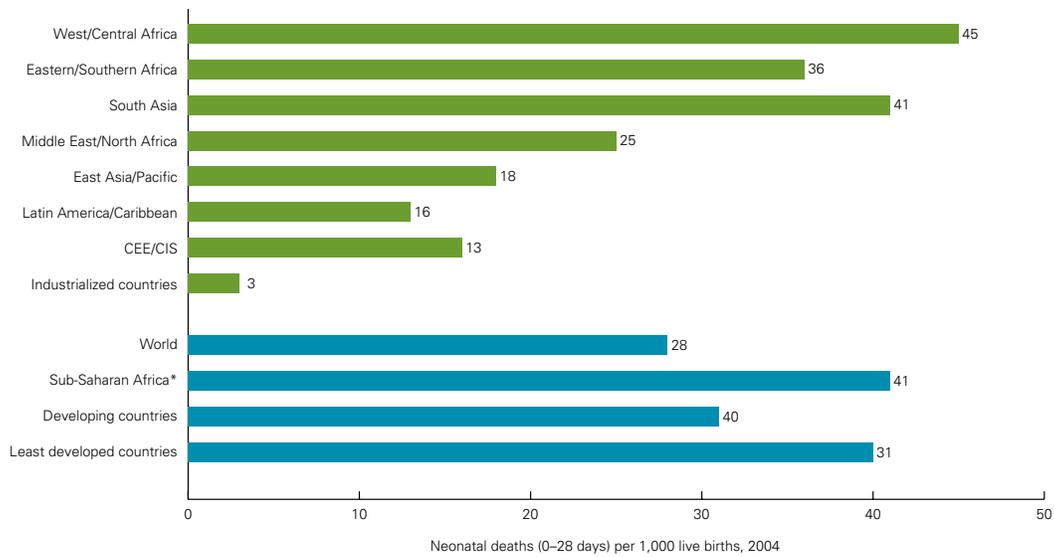
Source: World Health Organization, United Nations Children’s Fund, United Nations Population Fund and the World Bank, *Maternal Mortality in 2005: Estimates developed by WHO, UNICEF, UNFPA and the World Bank*, WHO, Geneva, 2007, p. 35.

The ten countries in the world with the highest lifetime risk of maternal death are (in no particular order):

- Afghanistan
- Angola
- Chad
- Democratic Republic of the Congo
- Guinea-Bissau
- Liberia
- Mali
- Niger
- Sierra Leone
- Somalia

A woman’s lifetime risk of maternal death in these ten countries ranges from 1 in 7 in Niger to 1 in 15 in Mali. The pattern of neonatal mortality follows the pattern of maternal mortality. The highest rates of neonatal deaths are found in South Asia (41 per 1,000 live births) and West and Central Africa (44 per 1,000 live births). The neonatal mortality rate in industrialized countries is 3 per 1,000 live births.

## Regional Rates of Neonatal Mortality



\*Sub-Saharan Africa comprises the regions of Eastern/Southern Africa and West/Central Africa.  
Source: World Health Organization, using vital registration systems and household surveys.

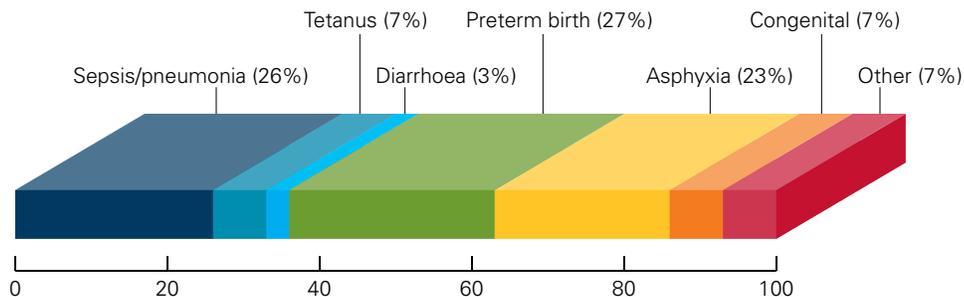
### III. What are the main causes of maternal and newborn deaths?

The causes of maternal and newborn deaths are well known. For mothers, these causes involve complications during childbirth — including hemorrhage, infections, and prolonged labor. Many mothers suffer from anemia, which is often exacerbated by malaria, HIV, and other conditions that increase the risk of maternal deaths.

For newborns, the greatest risks come from three main causes: severe infections, asphyxia (difficulty breathing after birth), and preterm (premature) birth. Taken together, these three causes account for 86 percent of newborn deaths.

### Direct Causes of Neonatal Deaths, 2000\*

Low birthweight, which is related to maternal malnutrition, is a causal factor in 60–80 percent of neonatal deaths.



Source: Lawn, Joy E., Simon Cousens and Jelka Zupan, '4 million neonatal deaths; When? Where? Why?', *The Lancet*, vol. 365, no. 9462, 5 March 2005, p. 895.

In addition to these direct causes, several underlying causes at the household, community, and country levels put the health of mothers and their babies at even greater risk. Some of these underlying causes include:

- Lack of education for girls and young women, who are still more likely than boys to be out of school;
- Lack of access to nutritious food and micronutrients;
- Inadequate health care facilities and lack of skilled health care providers;
- Limited access to basic health care services.

**Did You Know?** According to the latest international estimates, 15 percent of all newborns are born with low birthweight. This is an underlying factor in 60-80 percent of neonatal deaths. Maternal undernutrition is correlated with a higher incidence of low birthweight in infants.

Source: UNICEF, SOWC 2009, Pg. 14.

### **How Does Poverty Affect Maternal and Newborn Health?**

Poverty affects maternal and newborn health in several important ways. Poverty can increase the rate of maternal infections and undernutrition. Poverty often discourages a woman from obtaining health care and reduces her access to health care services. Even when services are available, poverty severely limits the quality provided. We know from health surveys that neonatal mortality is 20-50 percent higher for the poorest 20 percent of households than for the richest percentage. Similar data has been reported for maternal mortality.

Source: UNICEF, SOWC 2009, pg. 15-16.

## **IV. What can be done to improve the health and survival of mothers and newborns?**

The health and survival of mothers and their newborns are closely linked. Many of the programs and strategies that save new mothers' lives also benefit their infants. While new knowledge is needed to understand all the causes of maternal and newborn death, the basic preventive strategies are well understood.

## Focusing on Cost-Effective Strategies



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UNICEF and its partners are working hard to provide a range of simple, cost-effective strategies to improve maternal and newborn survival rates. These include:

- **Good quality health services**  
Almost 80 percent of maternal deaths could be prevented if women had access to essential maternity and basic health care services.
- **Prenatal care**  
Quality prenatal care provides a package of health and nutrition services. Infections, which cause 36 percent of neonatal deaths, could be reduced with better maternal screening and immunization.
- **Skilled health workers assisting at the time of birth**  
Skilled health workers (a doctor, nurse, or midwife) who assist at the time of birth could decrease risk of infection through clean deliveries and proper care of the umbilical cord.
- **Access to emergency care**  
Emergency obstetric and newborn care can save the lives of mothers and newborns with problems.
- **Adequate nutrition for newborns and nursing mothers**  
Nutrition counseling and supplementation should be part of routine pre- and post-natal care
- **Post-natal care for mothers and their babies**  
Post-natal care for mothers and newborns should begin as soon as possible after delivery, with additional visits during the first six weeks. Essential care needs to be provided for all newborns and extra care for low birthweight babies. Post-natal care includes educating women in how to care for themselves and their newborns, with emphasis on breastfeeding as an essential factor in keeping infants healthy.



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## Defining “Continuum of Care”

For these programs to work, they must be provided at key points in the life cycle. These cycles include adolescence, before, during, and after pregnancy for the mother, and during infancy and early childhood for the child. In addition, the programs must be available at key locations where they can be easily accessed by women and children — including at home and at community, outpatient, and health facilities. The concept of continuum of care recognizes that an integrated approach is better than single, separate programs.

## Looking at the Big Picture

Efforts to improve maternal and newborn health must be supported by policies that strengthen and integrate health services with wider health systems. Moreover, these efforts must be provided in an environment that supports and respects women. Without policies to tackle gender discrimination and inequalities that are perpetuated against women and girls, we will continue to fall short of our commitments for women and children living in the most difficult circumstances.

Recent trends are encouraging. Increased international assistance and the emergence of global health partnerships reflect a renewed urgency about improving maternal and newborn health. Political commitment is also growing, resulting in greater public-private cooperation and increased coordination of resources, competencies, and actions. There is no need to wait for a new scientific breakthrough to show us the way forward. The knowledge that can save millions of newborn and maternal lives is available. The Millennium Development Goals provide an international framework for the action required to save these lives. The challenge at hand is to ensure that human and financial resources, political will, and international collaboration remain committed to improving the health and survival of mothers and newborns.

# Glossary

**anemia:** a condition in which the blood is deficient in red blood cells, in hemoglobin, or in total volume.

**asphyxia:** a lack of oxygen or excess of carbon dioxide in the body that results in unconsciousness and often death; it is usually caused by interruption of breathing or inadequate oxygen supply.

**child survival:** the likelihood of a child surviving until the age of five.

**least developed countries:** a broad category describing countries that are not classified as industrialized.

The list of least developed countries and territories includes: Afghanistan, Angola, Bangladesh, Benin, Bhutan, Burkina Faso, Burundi, Cambodia, Cape Verde, 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, Maldives, Mali, Mauritania, Mozambique, Myanmar, Nepal, Niger, Rwanda, Samoa, São Tomé and Príncipe, Senegal, Sierra Leone, Solomon Islands, Somalia, Sudan, Timor-Leste, Togo, Tuvalu, Uganda, United Republic of Tanzania, Vanuatu, Yemen, and Zambia.

**hemorrhage:** a copious discharge of blood from the blood vessels.

**industrialized world:** countries characterized by highly developed industry and less dependence on agriculture; other factors shared by industrialized countries include high levels of wealth and household income, widespread literacy, advanced scientific and medical technologies, and a general lack of hunger and extreme poverty (people living on US\$1 per day or less).

UNICEF's list of industrialized countries and territories includes: Andorra, Australia Austria, Belgium, Canada, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Holy See, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, Netherlands, New Zealand, Norway, Poland, Portugal, San Marino, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom, and United States of America.

**lifetime risk of maternal death:** lifetime risk of maternal death takes into account both the probability of becoming pregnant and the probability of dying as a result of that pregnancy, accumulated across a woman's reproductive years.

**low birthweight baby:** an infant born with a weight of less than five pounds (2,500 grams).

**malaria:** a disease caused by parasites in red blood cells that is transmitted by mosquito bites. Malaria is common in tropical and subtropical regions.

**maternal:** relating to mothers.

**maternal mortality:** deaths of women from pregnancy-related causes.

**maternal mortality ratio:** annual number of deaths of women from pregnancy-related causes, expressed per 100,000 live births.

**micronutrient:** an organic compound, such as a vitamin, essential in small amounts for growth and health.

**neonatal:** of, relating to, or affecting the newborn and especially the human infant during the first month after birth.

**neonatal mortality rate:** probability of dying during the first 28 days of life, expressed per 1,000 live births.

**obstetric:** of, relating to, or associated with childbirth.

**post-natal care:** health care services women receive following a baby's birth.

**prenatal care:** health care services women receive during pregnancy.

**preterm birth:** in humans, any birth that occurs less than 37 weeks after conception. A full-term pregnancy lasts anywhere from 37 to 42 weeks.

**under-five mortality rate (U5MR):** the death rate among children younger than five. In statistical terms this means the likelihood of a child dying between birth and exactly five years of age, expressed per 1,000 live births.



**U.S. Fund for UNICEF**

125 Maiden Lane, New York, NY 10038

1.800.4UNICEF

[www.teachunicef.org](http://www.teachunicef.org)

[teachUNICEF@unicefusa.org](mailto:teachUNICEF@unicefusa.org)

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