LOW BIRTHWEIGHT

COUNTRY, REGIONAL AND GLOBAL ESTIMATES

World Health Organization

unicef

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This document was prepared by:

Tessa Wardlaw, Senior Programme Officer, Statistics and Monitoring, Division of Policy and Planning, UNICEF, New York;

Ann Blanc, Demographer, Blancroft Research International, New York;

Jelka Zupan, Medical Officer, Department of Reproductive Health and Research (RHR), WHO, Geneva; and

Elisabeth Åhman, Technical Officer, Department of Reproductive Health and Research (RHR), WHO, Geneva.

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EXECUTIVE SUMMARY

Low birthweight has been defined by the World Health Organization (WHO) as weight at birth of less than 2,500 grams (5.5 pounds). This is based on epidemiological observations that infants weighing less than 2,500 g are approximately 20 times more likely to die than heavier babies. More common in developing than developed countries, a birthweight below 2,500 g contributes to a range of poor health outcomes.

The goal of reducing low birthweight incidence by at least one third between 2000 and 2010 is one of the major goals in 'A World Fit for Children', the Declaration and Plan of Action adopted by the United Nations General Assembly Special Session on Children in 2002. The reduction of low birthweight also forms an important contribution to the Millennium Development Goal (MDG) for reducing child mortality. Activities towards the achievement of the MDGs will need to ensure a healthy start in life for children by making certain that women commence pregnancy healthy and well nourished, and go through pregnancy and childbirth safely. Low birthweight is therefore an important indicator for monitoring progress towards these internationally agreed-upon goals.

A baby's low weight at birth is either the result of preterm birth (before 37 weeks of gestation) or due to restricted foetal (intrauterine) growth. Low birthweight is closely associated with foetal and neonatal mortality and morbidity, inhibited growth and cognitive development, and chronic diseases later in life. Many factors affect the duration of gestation and foetal growth, and thus, the birthweight. They relate to the infant, the mother, or the physical environment and play an important role in determining the birthweight and the future health of the infant.

Birthweight is affected to a great extent by the mother's own foetal growth and her diet from birth to pregnancy, and thus, her body composition at conception. Mothers in deprived socio-economic conditions frequently have low birthweight infants. In those settings, the infant's low birthweight stems primarily from the mother's poor nutrition and health over a long period of time, including during pregnancy, the high prevalence of specific and non-specific infections, or from pregnancy complications, underpinned by poverty. Physically demanding work during pregnancy also contributes to poor foetal growth.

More than 20 million infants worldwide, representing 15.5 per cent of all births, are born with low birthweight, 95.6 per cent of them in developing countries. The level of low birthweight in developing countries (16.5 per cent) is more than double the level in developed regions (7 per cent).

Half of all low birthweight babies are born in South-central Asia, where more than a quarter (27 per cent) of all infants weigh less than 2,500 g at birth. Low birthweight levels in sub-Saharan Africa are around 15 per cent. Central and South America have, on average, much lower rates (10 per cent), while in the Caribbean the level (14 per cent) is almost as high as in sub-Saharan Africa. About 10 per cent of births in Oceania are low birthweight births.

One of the major challenges in measuring the incidence of low birthweight is the fact that more than half of infants in the developing world are not weighed. In the past, most estimates of low birthweight for developing countries were based on data compiled from health facilities. However, these estimates are biased for most developing countries because the majority of newborns are not delivered in facilities, and those who are represent only a selected sample of all births.

In recent years, household survey data have become much more widely available, and procedures have been applied to these data that adjust for the underreporting and misreporting of birthweights. The analysis presented in this report includes these data for the first time and thus represents a major improvement over past assessments. The rates, nonetheless, are still likely to underestimate the true magnitude of the problem.

I. INTRODUCTION

Low birthweight has been defined by the World Health Organization (WHO) as weight at birth of less than 2,500 grams (5.5 pounds).*, [1] This practical cut-off for international comparison is based on epidemiological observations that infants weighing less than 2,500 g are approximately 20 times more likely to die than heavier babies.[2] More common in developing than developed countries, a birthweight below 2,500 g contributes to a range of poor health outcomes.

The goal of reducing low birthweight incidence by at least one third between 2000 and 2010 is one of the major goals in 'A World Fit for Children,' the Declaration and Plan of Action adopted at the United Nations General Assembly Special Session on Children in 2002. The reduction of low birthweight also forms an important contribution to the Millennium Development Goal (MDG) for reducing child mortality. Activities towards the achievement of the MDGs will need to ensure a healthy start in life for children by making certain that women commence pregnancy healthy and well nourished, and go through pregnancy and childbirth safely. Low birthweight is therefore an important indicator for monitoring progress towards these internationally agreed-upon goals.

WHO and UNICEF published the first global, regional and country estimates of low birthweight rates in 1992.[3] At that time, the low birthweight rate for industrialized countries was around 7 per cent, and in less developed countries it ranged between 5 and 33 per cent, with an average of 17 per cent. Around the year 2000, UNICEF and WHO accelerated efforts to estimate global and country rates. The process of monitoring progress towards international goals on low birthweight reduction led to a greater recognition of the limitations of the available data, in particular the relatively small proportion of infants weighed at birth. In response, UNICEF proposed using household survey data adjusted for underreporting of low birthweight, a procedure originally developed by Boerma et al.[4] In addition, the unprecedented household survey activity, which occurred around the end-decade assessment of progress towards the World Summit for Children goals, provided a wealth of new data. The application by UNICEF of a modification of the original estimation procedure to these data provided the basis for the joint large-scale revision of the estimates of low birthweight presented in this document.

This report presents country, regional and global estimates of low birthweight for 2000, together with a detailed description of the methodology used. Some limited data on trends are also included. The limitations of low birthweight data are described and recommendations are made for further improvements in the data for this important indicator *(see Annex A, page 21)*.

II. CAUSES AND CONSEQUENCES OF LOW BIRTHWEIGHT

A baby's low weight at birth is either the result of preterm birth (before 37 weeks of gestation) or of restricted foetal (intrauterine) growth.[5] Low birthweight is closely associated with foetal and neonatal mortality and morbidity, inhibited growth and cognitive development, and chronic diseases later in life.[6]

Many factors affect the duration of gestation and of foetal growth, and thus, the birthweight. They relate to the infant, the mother or the physical environment and play an important role in determining the infant's birthweight and future health.[7]

- For the same gestational age, girls weigh less than boys, firstborn infants are lighter than subsequent infants, and twins weigh less than singletons;
- Birthweight is affected to a great extent by the mother's own foetal growth and her diet from birth to pregnancy, and thus, her body composition at conception;
- Women of short stature, women living at high altitudes, and young women have smaller babies;

* The WHO definition of low birthweight mainly serves for comparative health statistics and is not appropriate for clinical care. For clinical purposes, individual countries may choose alternative cut-off values.

- Once pregnant, the mother's nutrition and diet, lifestyle (e.g., alcohol, tobacco or drug abuse) and other exposures (e.g., malaria, HIV or syphilis), or complications such as hypertension can affect foetal growth and development, as well as the duration of pregnancy;
- Mothers in deprived socio-economic conditions frequently have low birthweight infants. In those settings, the infant's low birthweight stems primarily from the mother's poor nutrition and health over a long period of time, including during pregnancy, the high prevalence of specific and non-specific infections, or from pregnancy complications underpinned by poverty. Physically demanding work during pregnancy also contributes to poor foetal growth.

Low birthweight thus defines a heterogeneous group of infants: some are born early, some are born growth restricted, and others are born both early and growth restricted. It is generally recognized that being born with low birthweight is a disadvantage for the baby.

Short gestation (preterm birth) is the main cause of death, morbidity and disability. The shorter the gestation, the smaller the baby and the higher the risk of death, morbidity and disability. It has been shown that the mortality range can vary 100-fold across the spectrum of birthweight and rises continuously with decreasing weight.[8]

Low birthweight due to restricted foetal growth affects the person throughout life and is associated with poor growth in childhood and a higher incidence of adult diseases, such as type 2 diabetes, hypertension and cardiovascular disease. An additional risk for girls is having smaller babies when they become mothers.

III. LOW BIRTHWEIGHT AS AN INDICATOR

Low birthweight has long been used as an important public health indicator. Low birthweight is not a proxy for any one dimension of either maternal or perinatal health outcomes. Globally, the indicator is a good summary measure of a multifaceted public health problem that includes long-term maternal malnutrition, ill health, hard work and poor pregnancy health care.

On an individual basis, low birthweight is an important predictor of health; efforts must therefore go into measuring it as accurately as possible at birth and organizing and planning infant care accordingly. The smaller the baby, the more important it is to monitor his or her growth in the weeks after birth. This is particularly important for infants at high risk of poor feeding and inadequate growth. Countries should therefore be encouraged to ensure accurate and reliable weighing of infants as close to birth as possible.

While in industrialized countries the epidemiology of low birthweight has been extensively studied, in less developed countries reliable data on low birthweight remain limited. The primary reason is that more than 40 per cent of babies are born at home and without a skilled attendant,[9] and in these circumstances babies are rarely weighed. The registration of a vital event such as birth is incomplete in many developing countries, with only about 60 per cent of births registered worldwide.[10] Even when babies are weighed at birth — although birthweight is relatively easy to measure — their weight is not always measured accurately, or recorded, reported and tabulated correctly. Caution is therefore warranted in comparing data across countries, regions and time periods.

Recent knowledge about the impact of intrauterine and early-life events on infant development, cognitive development and lifelong sequelae, indicates that a broader definition of the outcome of pregnancy is needed than birthweight alone. While low birthweight continues to be useful in focusing attention on a healthy start to independent life, it has also become increasingly evident that the cut-off value of 2,500 g may not be appropriate for all settings. Some countries with high incidence of low birthweight do not necessarily have high mortality rates, as for example in Sri Lanka.[11]

IV. MEASURING LOW BIRTHWEIGHT

Definitions[12]

Birthweight is the first weight of the foetus or newborn obtained after birth. For live births, birthweight should preferably be measured within the first hour of life, before significant postnatal weight loss has occurred.

Low birthweight is defined as less than 2,500 g (up to and including 2,499 g).*

The incidence of low birthweight in a population is defined as the percentage of live births that weigh less than 2,500 g out of the total of live births during the same time period. The low birthweight incidence rate therefore is:

$$\frac{\text{Number of live born babies with birthweight less than 2,500 g}}{\text{Number of live births}} \times 100$$

Data sources

For industrialized countries, the main sources of information on low birthweight are service-based data and national birth registration systems. For developing countries, low birthweight estimates are primarily derived from national household surveys, as well as data from routine reporting systems. The data used in this report were published by June 2004; reported data generally referred to the period 1997–2001.

Prior to about 1990, most estimates of low birthweight for developing countries were based on data compiled from health facilities. However, such estimates are biased for most developing countries because the majority of newborns are not delivered in facilities and those that are delivered in health facilities are a selected sample of all births. As an alternative to facility-based data, information on birthweight has been collected systematically since about 1990 from mothers participating in nationally representative household surveys, mostly the USAID-supported Demographic and Health Surveys (DHS) and the UNICEF-supported Multiple Indicator Cluster Surveys (MICS).

Adjustment procedures for household survey data

Survey data are limited since the majority of infants in developing countries are not weighed at birth. However, various methods have been developed to adjust for this problem and establish national estimates. An adjustment procedure originally proposed in 1996 by Boerma et al. used the mother's subjective assessment of the infant's size at birth (i.e., very large, larger than average, average, smaller than average, very small) in addition to the birthweight data.[13] The mother's assessment of the infant's size at birth is available for virtually all children in the survey. The adjustment is essentially a straightforward weighting procedure in which the proportion with low birthweight in each category of size is multiplied by the total proportion of births in the corresponding category and summed to obtain overall estimates of the prevalence of low birthweight. This methodology provides significantly improved estimates because it attempts to correct for the bias due to underreporting of birthweight by using information on all children, including those who are not weighed. Nevertheless, it was not adopted on a large scale until recently.

The assumptions implicit in this adjustment are:

1) that the births with numerical birthweights reported are as likely to be low birthweight births as those without birthweight reported, and

2) within the same country, the relationship between birthweight and the mother's assessment of infant size does not depend on whether the infant was weighed.

In an assessment of survey data from more than 40 countries, Blanc and Wardlaw[14] examined these assumptions and documented that the characteristics of infants with numerical birthweights were not representative of all births. Births that were weighed were more likely to involve mothers who

* In 1976, the 29th World Health Assembly agreed on the following definition: "Low birthweight is a weight at birth of less than 2,500 g (up to and including 2,499 g) irrespective of gestational age." This replaced the earlier definition of 2,500 g or less.

were better educated and resided in urban areas. They were also more likely to be in a medical facility and with assistance from skilled health personnel. These characteristics are generally associated with higher birthweights and, therefore, the resulting estimates were still likely to underestimate the level of low birthweight.

In addition, Blanc and Wardlaw[15] noted significant misreporting (or 'heaping') of survey data of recorded birthweights on multiples of 500 g. For purposes of estimating low birthweight, it is the heaping at 2,500 g, the cut-off point for low birthweight, that affects the estimates. Based on an assessment of the distribution of births weighing between 2,001 g and 2,999 g in 88 surveys, they recommended that one quarter of the births recorded as exactly 2,500 g should be reclassified as low birthweight.

Applying both adjustments (i.e., mother's assessment of size at birth and heaping on 2,500 g) is likely to yield higher estimates of the incidence of low birthweight. Results from 114 DHS and MICS surveys showed that the adjustments for birth size and for heaping resulted, on average, in an increase of 24 per cent in the incidence of low birthweight compared with the reported data with no adjustments.

Estimating low birthweight incidence

National estimates of the incidence of low birthweight were pursued using a range of data sources and methods for 174 countries or territories with a population of more than 300,000.

The first step in generating the estimates involved reviewing all data available to WHO and UNICEF as of June 2004 and identifying the most recent. The data came from national household surveys and routine government reporting. National estimates were derived from a country-by-country analysis of the available data using the methods described below. No data were available for 18 countries that together correspond to less than 2 per cent of global births.

Depending on the data availability and how data were reported, the methods in order of priority were as follows:

National household surveys

To the extent possible, original survey data files were reanalysed to apply a consistent methodology for adjusting numerical birthweight data for underreporting and heaping at 2,500 g. However, for those countries where it was not possible to obtain the original survey data files, published estimates were adjusted using methods that differed according to the nature of the published figures.

A. Adjusted for relative birth size and heaping at 2,500 grams

When surveys included questions on both numerical birthweight and relative size, and the data files were available for further analysis* (38 DHS and 23 MICS) the methodology developed by Blanc and Wardlaw[16] was used to adjust the low birthweight data. If more than one survey was available within a two-year period, the one with the larger sample size was used.

B. Adjusted for relative birth size only/ published estimate used

There were eight countries for which data files were not available for further analysis but the published estimate was adjusted for underreporting of numerical birthweight. There were two DHS adjusted for relative birth size only, and six CDC-supported Reproductive Health Surveys (RHS) based on numerical birthweight and mothers' assessment of whether the infant weighed less than 2,500 g.[17] For these countries, estimates were taken directly from the survey reports.

C. Average adjustment of 24 per cent applied to published data

For four DHS and six MICS surveys, the data files were not available for further analysis and the published estimate did not adjust for underreporting. For these countries, a simple adjustment of 24 per cent was applied. This figure was based on the average increase across 114 MICS and DHS surveys after adjustments were made for relative birth size and heaping at 2,500 grams.

* In some countries babies are rarely weighed, so it was decided to include only surveys where the number of infants weighed was 200 or more, and that included at least 30 cases of low birthweight.

D. No adjustment to published data

When the numerical birthweight was available for more than 95 per cent of births, no adjustment was made (three MICS, DHS, or RHS surveys). Neither was any adjustment applied when it could not be clarified whether an estimate was already adjusted for underreporting (four DHS/MICS surveys: Democratic People's Republic of Korea, occupied Palestinian territory, Papua New Guinea and Sudan).

E. Relative birth size only, with no adjustment

When the data file was not available for further analysis and only a published estimate of comparative birth size was available from the survey, this was used without correction. In three Gulf Family Health Surveys (GFHS),[18] the percentage assessed by the newborn's mother as 'below normal' weight at birth was used, and in one DHS survey the percentage assessed as 'small' or 'very small' at birth was used.

Routine service statistics

F. No adjustment made

For all industrialized countries, unadjusted data from routine service statistics were used. These estimates were not adjusted because coverage of routine service statistics is high. For developing countries without a household survey estimate, data from routine service statistics were used when coverage was judged to be adequate. For these countries, data were compiled from the WHO/EURO database[19] (19 countries); the WHO/EURO database and the UNICEF 'Social Monitor 2003'[20] (16 countries); and WHO regional office documentation.[21, 22, 23]

No recent data available

G. No data available

For 18 countries and territories with a population of more than 300,000 (Afghanistan, Channel Islands, Congo, Cyprus, Djibouti, French Guiana, Guadeloupe, Liberia, Martinique, Mauritania, Netherlands, Netherlands Antilles, Réunion, Sao Tome and Principe, Sierra Leone, Somalia, United States Virgin Islands and Western Sahara) and for six countries and territories listed in Table 3 *(page 10)* with a smaller population (Andorra, Liechtenstein, Monaco, Nauru, San Marino, Seychelles), no recent information was available.

The methods outlined above are summarized in Table 1 *(page 7)*.

Table 1 shows that national surveys provide low birthweight data for 62 per cent of births, routine service statistics cover 36 per cent of births, while data are not available for less than 2 per cent of births. The country estimates determined by these methodologies are used to calculate regional and global estimates, while also allowing some cautious comparisons between countries.

Country, regional and global estimates

Country estimates of low birthweight incidence for countries with a population above 300,000 were weighted by the annual number of births for each country as estimated by the United Nations Population Division for the year 2000[24] to calculate the regional and global estimates for UN geographical regions *(see Table 2, page 8)*. Countries and territories for which no data were available (covering less than 2 per cent of births) were, de facto, assigned their region's average to calculate the global and regional estimates. Estimates aggregated by WHO and UNICEF regions are presented in Tables 4 and 5 *(pages 19 and 20)*.

National estimates of low birthweight incidence arrived at using the six methods outlined above are listed in Table 3 *(page 10)*. The majority of the estimates refer to a year between 1997 and 2001. These estimates should be regarded as the best possible on the basis of available information and should be seen as indicating orders of magnitude rather than as precise figures. Given the different methods used, caution should be exercised in comparing across countries. These estimates may differ from countries' own official estimates.

Reliability of estimates

The estimates shown in Tables 2 and 3 *(pages 8 and 10)* represent a substantial improvement over earlier efforts at compiling internationally comparable information. First, the number of countries with usable data on low birthweight has increased. Second, for the growing number of countries with household survey data on low birthweight, a

TABLE 1
Sources of data and adjustment procedures for country estimates

Sources of data and adjustment procedures		Number of countries	% of global births covered
NATIONAL HOUSEHOLD SURVEYS			
A	Adjusted for relative birth size and heaping at 2,500 g	61	56
B	Adjusted for relative birth size only/published estimate used	8	1
C	Average adjustment of 24% applied to published data	10	3
D	No adjustment to published data	7	1
E	Relative birth size only, with no adjustment	4	1
ROUTINE SERVICE STATISTICS			
F	Industrialized countries, no adjustment	40	10
F	Developing countries, no adjustment	44	26
NO DATA AVAILABLE			
G	No estimates made	18	2
ALL COUNTRIES			
A-G	All methods	192	100

standard methodology can be applied. Although the survey-based estimates have their limitations *(see page 4)*, they are likely to be more accurate than previous estimates based on routine reporting systems of unknown completeness.

It is important to keep in mind, however, that the survey data are frequently incomplete due to low proportions of infants weighed at birth. For countries with survey-based estimates, the higher the proportion of births weighed, the greater the reliability of the estimate. For the global and regional estimates, some populous countries that heavily influence the averages have low proportions weighed. For example, only about one in three births were reported as weighed in the DHS survey in India.

In spite of improvements in the availability of data, there are 18 countries (corresponding to less than 2 per cent of births), for which no recent information on birthweight was available. Further, for the 44 developing countries in which low birthweight estimates were derived from routine service statistics, the completeness of coverage is not known. Among industrialized countries, low birthweight rates may reflect differences in definitions used for reporting births, such as cut-offs for registering births and birthweight.[25]

V. ANALYSIS AND INTERPRETATION

Incidence of low birthweight

Table 2 *(page 8)* shows that 15.5 per cent of all births, or more than 20 million infants worldwide, are born with low birthweight. The level of low birthweight in developing countries (16.5 per cent) is more than double the level in developed regions (7 per cent). More than 95 per cent of low birthweight babies are born in developing countries.

There is significant variation in low birthweight incidence across the main geographic regions, ranging from 6 per cent to 18 per cent. The highest incidence of low birthweight occurs in the subregion of South-Central Asia, where 27 per cent of infants are low birthweight. For other subregions within Asia, the incidence is much lower, although there is considerable variation. More than half of the 49 Asian countries and territories have low birthweight rates below 10 per cent, while seven countries have levels above 20 per cent. The low incidence in China (6 per cent) dominates the average for Eastern Asia, but due to its large population size, contributes

TABLE 2
Percentage and number of low birthweight infants by United Nations regions*, 2000**

	% low birthweight infants	Number low birthweight infants (1,000s)	Number of live births [26] (1,000s)
WORLD	**15.5**	**20,629**	**132,882**
More developed	7.0	916	13,160
Less developed	16.5	19,713	119,721
Least developed countries	18.6	4,968	26,639
AFRICA	**14.3**	**4,320**	**30,305**
Eastern Africa	13.5	1,440	10,649
Middle Africa	12.3	545	4,413
Northern Africa	15.3	701	4,587
Southern Africa	14.6	181	1,243
Western Africa	15.4	1,454	9,412
ASIA* **	**18.3**	**14,195**	**77,490**
Eastern Asia***	5.9	1,203	20,537
South-central Asia	27.1	10,819	39,937
South-eastern Asia	11.6	1,360	11,743
Western Asia	15.4	813	5,273
EUROPE	**6.4**	**460**	**7,185**
Eastern Europe	6.4	174	2,709
Northern Europe	6.5	70	1,070
Southern Europe	5.9	85	1,440
Western Europe	6.7	131	1,965
LATIN AMERICA AND CARIBBEAN	**10.0**	**1,171**	**11,671**
Caribbean	13.7	103	754
Central America	10.1	347	3,423
South America	9.6	721	7,494
NORTHERN AMERICA	**7.7**	**343**	**4,479**
OCEANIA* **	**10.5**	**27**	**255**
Australia/New Zealand	6.5	20	300
Melanesia	10.8	24	226
Micronesia	12.7	2	13
Polynesia	3.8	1	15

Figures may not add up to totals due to rounding. Also see Tables 4 and 5, pages 19 and 20.

* Countries and territories by United Nations regions are listed in Annex B, *(page 23)*.

** The latest available estimates by country and territory, on which these global and regional estimates are calculated, may refer to an earlier or a more recent year than 2000 *(see Table 3)*. However, considering that low birthweight rates are changing only slowly, the latest rates available have been taken to also refer to the year 2000 for the calculation of these global and regional estimates.

*** Australia, Japan and New Zealand have been excluded from the regional estimates, but are included in the total for developed countries.

significantly to the overall number of low birthweight births. Overall, almost 70 per cent of all low birthweight births occur in Asia.

Low birthweight levels in sub-Saharan Africa are around 13 per cent to 15 per cent, with little variation across the region as a whole. While few countries have very high or very low rates, the majority fall between 10 per cent and 20 per cent. These rates are higher than in most other subregions in the world, presenting a major challenge.

Central and South America have, on average, much lower rates (10 per cent) while in the Caribbean, the level (14 per cent) is almost as high as in sub-Saharan Africa. About 10 per cent of births in Oceania are low birthweight.

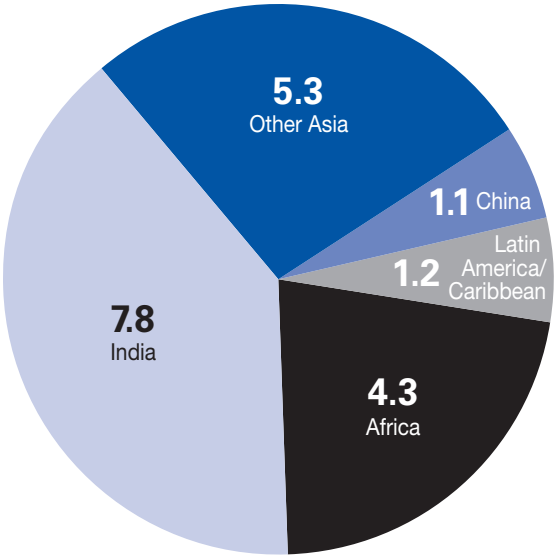
Among the more developed regions, North America averages 8 per cent, while Europe has the lowest regional average at 6 per cent.

Number of low birthweight infants

Globally, more than 20 million infants are born with low birthweight. The number of low birthweight babies is concentrated in two regions of the developing world: Asia and Africa. Seventy-two per cent of low birthweight infants in developing countries are born in Asia where most births also take place, and 22 per cent are born in Africa. India alone accounts for 40 per cent of low birthweight births in the developing world and more than half of those in Asia. There are more than 1 million infants born with low birthweight in China and nearly 8 million in India. Latin America and the Caribbean, and Oceania have the lowest number of low birthweight infants, with 1.2 million and 27,000, respectively.

It should be noted that in developing countries, more than 50 per cent of low birthweight infants are born in 13 of the countries that have birthweight estimates available and that have among the highest incidences (20 per cent or higher), whereas only 14 per cent are born in 53 countries with an incidence of less than 10 per cent.

More than 20 million low birthweight infants are born each year in the developing world*



* Oceania (excluding Australia, Japan and New Zealand) had 27,000 low birthweight infants. **Source:** UNICEF/WHO, 2004.

Percentage of infants not weighed at birth

The large proportion of infants not weighed at birth constitutes a significant impediment to reliable monitoring of low birthweight. Recent data from 82 DHS and MICS surveys have allowed for more accurate assessment of the overall proportion of infants not weighed at birth. In the developing world as a whole, it is estimated that more than half (58 per cent) of births are not weighed. This proportion is highest in South Asia and sub-Saharan Africa where 74 per cent and 65 per cent of births are not weighed, respectively. The highest proportion of infants who are weighed are in Latin America and the Caribbean (only 17 per cent not weighed) and in Central and Eastern Europe and the Commonwealth of Independent States (21 per cent not weighed). These data indicate that not all babies born with the assistance of skilled health personnel are weighed or have their weight recorded. For comparison, 58 per cent of babies in the developing world are born with a skilled attendant at delivery,[27] while overall only 42 per cent are weighed.

Trend data on the percentage of births not weighed were available for 20 countries, covering around half of the births in the developing world. These data suggest that the percentage of births that are not weighed is falling. Around 1990, approximately 74 per cent of births were not weighed in these 20 countries and this level improved to 62 per cent in 2000. Declines in the percentage of births that are not weighed were evident in Asia (excluding China), and appear to be largely driven by improvements in India and Indonesia. In Indonesia, data from four DHS surveys indicate a steady decline in the proportion of births that were not weighed, from 63 per cent to 22 per cent between 1991 and 2002. No change was noted in sub-Saharan Africa.

Trends in low birthweight incidence

An analysis of trends in low birthweight is difficult because of the lack of comparability of estimates between countries and within countries over time. However, it is possible to conduct a limited analysis based on data from DHS and MICS surveys. Such trend data are available for 20 developing countries, covering about half the population of the developing world (excluding China). A population-weighted average for available survey points around 1990 and 2000 was calculated, and the incidence of low birthweight remained roughly constant, with rates of 24 per cent and 23 per cent for 1990 and 2000, respectively. The lack of change appears to apply in both sub-Saharan Africa and Asia. Available data are insufficient for the other regions. The limited availability of comparable trend data precludes publication of the individual regional trend estimates.

Although estimates for 1990 and 2000 cannot be compared due to different methodologies, the global incidence of low birthweight appears not to have changed significantly over that period.

The experience from some countries where the incidence of low birthweight has been measured over a long period, as in Sri Lanka, shows that the incidence changes only slowly.

TABLE 3
UNICEF/WHO estimates of the incidence of low birthweight, 2000*

Country or territory	Year	% of low birthweight infants	Number of low birthweight infants (1,000s)	% of births not weighed	Source	Method
Afghanistan		NA		NA		G
Albania	2000	3	2	11	MICS 2000 (reanalysed June 2003)	A
Algeria	2000	7	49	NA	National Report on Follow-up to the World Summit for Children	F
Andorra		NA		NA		G
Angola	2000	12	81	48	MICS 2000 (reanalysed June 2003)	A
Antigua and Barbuda	1990–99	8	<1	NA	PAHO, Health Situation in the Americas, Basic Indicators 2001	F
Argentina	1999	7	51	NA	PAHO, Health Situation in the Americas, Basic Indicators 2001	F
Armenia	2000	7	2	4	DHS 2000 (reanalysed June 2003)	A
Australia	2000	7	16	NA	Australian Institute of Health and Welfare 2000 http://www.aihw.gov.au/publications/health/ah	F
Austria	2001	7	5	NA	WHO Regional Office for Europe, European Health for All Database http://hfadb.who.dk/HFA	F
Azerbaijan	2000	11	16	27	MICS 2000 (reanalysed June 2003)	A
Bahamas	1990–99	7	<1	NA	PAHO, Health Situation in the Americas, Basic Indicators 2001	F
Bahrain	1999	8	1	NA	Health Statistics 1999, Manama, Bahrain (from WHO)	F
Bangladesh	1998	30	1268	NA	Mid-term Evaluation 1998 of the Bangladesh Integrated Nutrition Project, MOH and Family Welfare	F
Barbados	1990–99	10	<1	NA	PAHO, Health Situation in the Americas, Basic Indicators 2001	F
Belarus	2001	5	5	NA	WHO Regional Office for Europe, European Health for All Database http://hfadb.who.dk/HFA	F
Belgium	1997	8	8	NA	WHO Regional Office for Europe, European Health for All Database http://hfadb.who.dk/HFA	F
Belize	1999	6	<1	NA	MOH/MCH, Annual Midwifery Report 2001	F
Benin	2001	16	43	31	DHS 2001 (reanalysed June 2004)	A
Bhutan	1999	15	11	NA	WHO/Regional Office for South-East Asia, Health Situation in the South-East Asia Region 1998-2000	F
Bolivia	1998	9	22	36	DHS 1998 (reanalysed June 2003)	A
Bosnia and Herzegovina	2000	4	1	5	MICS 2000, Table 20	D
Botswana	2000	10	5	24	MICS 2000, Table 16	A
Brazil	1996	10	361	7	DHS 1996 (reanalysed June 2003)	A
Brunei Darussalam	1999	10	<1	NA	WHO/Office of the Western Pacific Region, Country Health Information Profiles 2002 Revision (MOH)	F
Bulgaria	2001	10	6	NA	Country Statistical Office as cited in UNICEF (2003),'Social Monitor 2003', Innocenti Research Centre, Florence	F

* Estimates generally refer to 2000, but in some cases the latest available data may refer to an earlier or a more recent year.

Table 3 *(continued)*

Country or territory	Year	% of low birthweight infants	Number of low birthweight infants (1,000s)	% of births not weighed	Source	Method
Burkina Faso	1999	19	108	72	DHS 1999 (reanalysed June 2003)	A
Burundi	2000	16	44	39	MICS 2000 (reanalysed June 2003)	A
Cambodia	2000	11	52	83	DHS 2000 (reanalysed June 2003)	A
Cameroon	1998	11	59	46	DHS 1998 (reanalysed June 2003)	A
Canada	2000	6	19	NA	Statistics Canada website http://www.statcan.ca/english/freepub/82-221-XIE/tables/htmltable	F
Cape Verde	1998	13	2	42	Inquerito Demografico e de Saude Reprodutiva, Cabo Verde 1998, Final Report, p. 152 (CDC)	B
Central African Republic	2000	14	20	44	MICS 2000 (reanalysed June 2003)	A
Chad	1997	17	63	89	DHS 1997 (reanalysed June 2003)	A
Channel Islands		NA		NA		G
Chile	2001	5	15	NA	MOH, 2002	F
China	1998-99	6	1,146	NA	MOH, Report on the Low Birthweight and Anemia of Reproductive Age Women, and correspondence with UNICEF/Beijing	F
China, Hong Kong (Special Administrative Region)	2000	5	3	NA	WHO/Office of the Western Pacific Region, Country Health Information Profiles, 2002 Revision (Health Statistics)	F
China, Macao (Special Administrative Region)	2000	5	<1	NA	WHO/Office of the Western Pacific Region, Country Health Information Profiles, 2002 Revision (Health Statistics)	F
Colombia	2000	9	85	27	DHS 2000, Final Report, p. 118	C
Comoros	2000	25	7	36	MICS 2000 (reanalysed June 2003)	A
Congo		NA		NA		G
Cook Islands	2000	3	<1	NA	WHO/Office of the Western Pacific Region, Country Health Information Profiles, 2002 Revision (MOH, 2000)	F
Costa Rica	2000	7	5	NA	Caja Costarricense de Seguro Social, 2001	F
Côte d'Ivoire	2000	17	97	23	MICS 2000 (reanalysed June 2003)	A
Croatia	2000	6	3	NA	Country Statistical Office as cited in UNICEF (2003), 'Social Monitor 2003', Innocenti Research Centre, Florence	F
Cuba	2001	6	8	NA	Obstetrics and Neonatology Statistical System, National Health Statistics Bureau of the Ministry of Public Health	F
Cyprus		NA		NA		G
Czech Republic	2001	7	6	NA	Country Statistical Office as cited in UNICEF (2003), 'Social Monitor 2003', Innocenti Innocenti Research Centre, Florence	F
Democratic Republic of the Congo	2000	12	293	47	MICS 2000 (reanalysed June 2003)	A
Democratic Republic of Timor-Leste	2002	10	2	90	MICS 2002, Draft Report, p. 61 and Annex Table 1	C
Denmark	2001	5	3	NA	WHO Regional Office for Europe, European Health for All Database http://hfadb.who.dk/HFA	F

Table 3: UNICEF/WHO estimates of the incidence of low birthweight, 2000* *(continued)*

Country or territory	Year	% of low birthweight infants	Number of low birthweight infants (1,000s)	% of births not weighed	Source	Method
Djibouti		NA		NA		G
Dominica	1990–99	10	<1	NA	PAHO, Health Situation in the Americas, Basic Indicators 2001	F
Dominican Republic	2002	11	23	2	DHS 2002 (reanalysed June 2004)	A
Ecuador	1999	16	48	23	Encuesta Demografica y de Salud Materna e Infantil, Informe General, p. 181 (CDC)	B
Egypt	2000	12	219	64	DHS 2000 (reanalysed June 2003)	A
El Salvador	1998	13	21	NA	FESAL 1998 Final Report, p. 218 and Table 8.29 (CDC)	B
Equatorial Guinea	2000	13	3	31	MICS 2000 (reanalysed June 2003)	A
Eritrea	1995	21	32	86	DHS 1995, Final Report, inside front cover (data file restricted)	B
Estonia	2001	4	<1	NA	Country Statistical Office, as cited in UNICEF, 'Social Monitor, 2003', Innocenti Research Centre, Florence	F
Ethiopia	2000	15	427	96	DHS 2000 (reanalysed June 2003)	A
Fiji	1998	10	2	NA	WHO/Office of the Western Pacific Region, Country Health Information Profiles 2002 Revision (MOH)	F
Finland	2001	4	3	NA	WHO Regional Office for Europe, European Health for All Database http://hfadb.who.dk/HFA	F
France	1998	7	51	NA	WHO Regional Office for Europe, European Health for All Database http://hfadb.who.dk/HFA	F
French Guiana		NA		NA		G
French Polynesia	2000	6	<1	NA	WHO/Office of the Western Pacific Region, Country Health Information Profiles 2002 Revision (MOH)	F
Gabon	2000	14	6	9	DHS 2000 (reanalysed June 2003)	A
Gambia	2000	17	9	62	MICS 2000 report, Table 20	C
Georgia	2001	6	3	NA	Women's Reproductive Health Survey, Georgia, 1999–2000, Final Report, p. 102 (CDC)	B
Germany	1999	7	49	NA	WHO Regional Office for Europe, European Health for All Database http://hfadb.who.dk/HFA	F
Ghana	1998	11	74	67	DHS 1998 (reanalysed June 2003)	A
Greece	1999	8	8	NA	WHO Regional Office for Europe, European Health for All Database http://hfadb.who.dk/HFA	F
Grenada	1990–99	9	<1	NA	PAHO, Health Situation in the Americas, Basic Indicators 2001	F
Guadeloupe		NA				G
Guam	1999	8	<1	NA	WHO/Office of the Western Pacific Region, Country Health Information Profiles 2002 Revision (MOH)	F
Guatemala	1999	13	53	22	DHS 1999 (reanalysed June 2003)	A
Guinea	1999	12	44	58	DHS 1999 (reanalysed June 2003)	A

Table 3 *(continued)*

Country or territory	Year	% of low birthweight infants	Number of low birthweight infants (1,000s)	% of births not weighed	Source	Method
Guinea-Bissau	2000	22	15	64	MICS 2000 (reanalysed June 2003)	A
Guyana	2000	12	2	8	MICS 2000 (reanalysed June 2003)	A
Haiti	2000	21	51	88	DHS 2000 (reanalysed June 2003)	A
Honduras	2001	14	29	30	Encuesta Nacional de Epidemiologia y Salud Familiar, Informe Final, p. 276 (CDC)	B
Hungary	2001	9	8	NA	Country Statistical Office as cited in UNICEF (2003), 'Social Monitor 2003', Innocenti Research Centre, Florence	F
Iceland	2001	4	<1	NA	WHO Regional Office for Europe, European Health for All Database http://hfadb.who.dk/HFA	F
India	1999	30	7,837	71	DHS 1999 (reanalysed June 2003)	A
Indonesia	2002	9	411	22	DHS 2002 (reanalysed June 2004)	A
Iran (Islamic Republic of)	1995	7	88	NA	National Report on Follow-up to the World Summit for Children/MOPH, Statistics 2000	F
Iraq	2000	15	129	65	MICS 2000, p. 25 and Table 21, p. 48	C
Ireland	1999	6	3	NA	WHO Regional Office for Europe, European Health for All Database http://hfadb.who.dk/HFA	F
Israel	2001	8	10	NA	WHO Regional Office for Europe, European Health for All Database http://hfadb.who.dk/HFA	F
Italy	1998	6	31	NA	WHO Regional Office for Europe, European Health for All Database http://hfadb.who.dk/HFA	F
Jamaica	2001	9	5	NA	MOH, Annual Statistics, 2001	F
Japan	2000	8	93	NA	WHO/Office of the Western Pacific Region, Country Health Information Profiles 2002 Revision (Health Statistics)	F
Jordan	1997	10	15	5	DHS 1997 (inside front cover)	B
Kazakhstan	1999	8	21	1	DHS 1999 (reanalysed June 2003)	A
Kenya	1998	11	111	54	DHS 1998 (reanalysed June 2003)	A
Kiribati	1998	5	<1	NA	WHO/Office of the Western Pacific Region, Country Health Information Profiles 2002 Revision (MOH, 2000)	F
Korea, Democratic People's Republic of	2002	7	26	NA	Nutrition Assessment 2000, p. 24	D
Korea, Republic of	2000	4	23	NA	WHO/Office of the Western Pacific Region, Country Health Information Profiles 2002 Revision (NSO)	F
Kuwait	1997–98	7	3	NA	MOH	F
Kyrgyzstan	1997	7	8	2	DHS 1997 (reanalysed June 2003)	A
Lao People's Democratic Republic	2000	14	28	83	MICS 2000 (reanalysed June 2003)	A

Table 3: UNICEF/WHO estimates of the incidence of low birthweight, 2000* *(continued)*

Country or territory	Year	% of low birthweight infants	Number of low birthweight infants (1,000s)	% of births not weighed	Source	Method
Latvia	2001	5	<1	NA	Country Statistical Office as cited in 'Social Monitor 2003', Innocenti Research Centre, Florence	F
Lebanon	2000	6	4	NA	National Report on Follow-up to the World Summit for Children/MPH/UNICEF Survey on Perinatal Morbidity and Mortality, 2000	F
Lesotho	2000	14	8	30	MICS 2000 (reanalysed June 2003)	A
Liberia		NA		NA		G
Libyan Arab Jamahiriya	1995	7	9	NA	Arab Libyan Maternal and Child Survey (in Arabic), p. 133	E
Liechtenstein		NA		NA		
Lithuania	2001	4	1	NA	Country Statistical Office as cited in UNICEF (2003), 'Social Monitor 2003', Innocenti Research Centre, Florence	F
Luxembourg	2000	8	<1	NA	WHO Regional Office for Europe, European Health for All Database http://hfadb.who.dk/HFA	F
Madagascar	2000	14	97	64	MICS 2000 (reanalysed June 2003)	A
Malawi	2000	16	84	47	DHS 2000 (reanalysed June 2003)	A
Malaysia	1998	10	53	NA	Department of Statistics, 1999 Vital Statistics Malaysia	F
Maldives	2001	22	2	87	MICS 2001	C
Mali	2001	23	140	77	DHS 2001 (reanalysed June 2004)	A
Malta	2001	6	<1	NA	WHO Regional Office for Europe, European Health for All Database http://hfadb.who.dk/HFA	F
Marshall Islands	1999	12	<1	NA	WHO/Office of the Western Pacific Region, Country Health Information Profiles 2002 Revision (MOHE, 2002)	F
Martinique		NA		NA		G
Mauritania		NA		NA		A
Mauritius	1998	13	3	NA	MOH, Health Statistics Annual 1998, Oct. 1999	F
Mexico	1999	9	212	NA	National Report on the Follow-up to the World Summit for Children	F
Micronesia, Federated States of	2000	18	<1	NA	WHO/Office of the Western Pacific Region, Country Health Information Profiles 2002 Revision (MOH, 2002)	F
Moldova, Republic of	2001	5	3	NA	Country Statistical Office as cited in UNICEF (2003), 'Social Monitor 2003', Innocenti Research Centre, Florence	F
Monaco		NA		NA		G
Mongolia	1998	8	5	4	Mongolia Reproductive Health Survey 1998, National Report, National Statistical Office, Table 8.08	D
Morocco	1992	11	77	71	DHS 2000 (reanalysed June 2003)	A
Mozambique	1997	14	106	56	DHS 1997 (reanalysed June 2003)	A

Table 3 *(continued)*

Country or territory	Year	% of low birthweight infants	Number of low birthweight infants (1,000s)	% of births not weighed	Source	Method
Myanmar	2000	15	179	NA	WHO/Regional Office for South-East Asia, Health Situation in the South-East Asia Region 1998–2000	F
Namibia	2000	14	9	18	DHS 2000 (reanalysed June 2004)	A
Nauru		NA		NA		G
Nepal	2001	21	169	NA	DHS 2001, Table 9.8 (based on very small and smaller than average infants)	E
Netherlands		NA		NA		G
Netherlands Antilles		NA		NA		G
New Caledonia	2000	8	<1	NA	WHO/Office of the Western Pacific Region, Country Health Information Profiles 2002 Revision (MOH)	F
New Zealand	2000	6	3	NA	WHO/Office of the Western Pacific Region, Country Health Information Profiles 2002 Revision (Health Information Service)	F
Nicaragua	2001	12	20	26	DHS 2001 (reanalysed June 2004)	A
Niger	1998	17	104	80	DHS 1998 (reanalysed June 2003)	A
Nigeria	2003	14	655	85	DHS 2003 (reanalysed June 2004)	A
Niue	2000	0	<1	NA	WHO/Office of the Western Pacific Region, Country Health Information Profiles 2002 Revision (MOH, 2002)	F
Norway	2000	5	3	NA	WHO Regional Office for Europe, European Health for All Database http://hfadb.who.dk/HFA	F
Occupied Palestinian territory	2000	9	11	0.1	MICS 2000	D
Oman	2001	8	7	NA	MOH, 2001 Annual Statistical Book, Chapter 2, p. 2–5	F
Pakistan	1991	19	994	91	DHS 1991 (reanalysed June 2003)	A
Palau	1998	9	<1	NA	WHO/Office of the Western Pacific Region, Country Health Information Profiles 2002 Revision (MOH, 1999)	F
Panama	1997	10	7	NA	PAHO, Health Situation in the Americas, Basic Indicators 2001	F
Papua New Guinea	1996	11	20	NA	DHS 1996 (national report) obtained from WHO/Office of the Western Pacific Region	D
Paraguay	1995-96	9	15	18	Encuesta Nacional de Demografia y Salud Reproductiva, Table 13.1, p. 164	B
Peru	1996	11	71	33	DHS 1996 (reanalysed June 2003)	A
Philippines	2000	20	396	34	MICS 2000 (reanalysed June 2003)	A
Poland	2001	6	22	NA	Country Statistical Office as cited in UNICEF (2003), 'Social Monitor 2003', Innocenti Research Centre, Florence	F
Portugal	2001	8	9	NA	WHO Regional Office for Europe, European Health for All Database http://hfadb.who.dk/HFA	F

Table 3: UNICEF/WHO estimates of the incidence of low birthweight, 2000* *(continued)*

Country or territory	Year	% of low birthweight infants	Number of low birthweight infants (1,000s)	% of births not weighed	Source	Method
Puerto Rico	1990–99	14	8	NA	PAHO, Health Situation in the Americas, Basic Indicators 2001	F
Qatar	1999	10	1	NA	National Report on Follow-up to the World Summit for Children/MOPH, Statistics 2000	F
Reúnion		NA		NA		G
Romania	2001	9	20	NA	Country Statistical Office as cited in UNICEF (2003), 'Social Monitor 2003', Innocenti Research Centre, Florence	F
Russian Federation	2001	6	79	NA	Country Statistical Office as cited in UNICEF (2003), 'Social Monitor 2003', Innocenti Research Centre, Florence	F
Rwanda	2000	9	30	73	DHS 2000 (reanalysed June 2003)	A
Saint Kitts and Nevis	1990–99	9	<1	NA	PAHO, Health Situation in the Americas, Basic Indicators 2001	F
Saint Lucia	1990–99	8	<1	NA	PAHO, Health Situation in the Americas, Basic Indicators 2001	F
Saint Vincent and the Grenadines	1990–99	10	<1	NA	PAHO, Health Situation in the Americas, Basic Indicators 2001	F
Samoa	1997	4	<1	NA	WHO/Office of the Western Pacific Region, Country Health Information Profiles 2002 Revision	F
San Marino		NA		NA		G
Sao Tome and Principe		NA		NA		G
Saudi Arabia	1996	11	79	NA	Saudi Arabia Family Health Survey 1996, Section 11.3.4 p. 162	E
Senegal	2000	18	64	44.6	MICS 2000 (reanalysed June 2003)	A
Serbia and Montenegro	2001	4	5	NA	Country Statistical Office as cited in UNICEF (2003), 'Social Monitor 2003', Innocenti Research Centre, Florence	F
Seychelles		NA		NA		G
Sierra Leone		NA		NA		G
Singapore	2000	8	4	NA	WHO/Office of the Western Pacific Region, Country Health Information Profiles 2002 Revision (MOH, 2000)	F
Slovakia	2001	7	4	NA	Country Statistical Office as cited in UNICEF (2003), 'Social Monitor 2003', Innocenti Research Centre, Florence	F
Slovenia	2001	6	1	NA	Country Statistical Office as cited in UNICEF (2003), 'Social Monitor 2003', Innocenti Research Centre, Florence	F
Solomon Islands	1996	13	2	NA	WHO/Office of the Western Pacific Region, Country Health Information Profiles 2002 Revision (MOH)	F
Somalia		NA		NA		G
South Africa	1998	15	155	32	DHS 1998, Final Report, p. 117	C
Spain	1997	6	23	NA	WHO Regional Office for Europe, European Health for All Database http://hfadb.who.dk/HFA	F

Table 3 *(continued)*

Country or territory	Year	% of low birthweight infants	Number of low birthweight infants (1,000s)	% of births not weighed	Source	Method
Sri Lanka	2000	22	69	15	DHS 2000 (national report)	C
Sudan	1999	31	335	NA	Safe Motherhood Survey 1999, Table 20A quoted in MICS 2000 report, p. 20	D
Suriname	2000	13	1	8	MICS 2000 (reanalysed June 2003)	A
Swaziland	2000	9	3	19	MICS 2000 (reanalysed June 2003)	A
Sweden	1999	4	4	NA	WHO Regional Office for Europe, European Health for All Database http://hfadb.who.dk/HFA	F
Switzerland	1999	6	4	NA	WHO Regional Office for Europe, European Health for All Database http://hfadb.who.dk/HFA	F
Syrian Arab Republic	2000	6	28	11.9	National Report on Follow-up to the World Summit for Children	F
Tajikistan	2000	15	25	46	MICS 2000 (reanalysed June 2003)	A
Tanzania, United Republic of	1999	13	184	55	DHS 1999 (reanalysed June 2003)	A
The former Yugoslav Republic of Macedonia	2001	5	2	NA	Country Statistical Office as cited in UNICEF (2003), 'Social Monitor 2003', Innocenti Research Centre, Florence	F
Thailand	2001	9	95	NA	Ministry of Public Health (from MOPH website)	F
Togo	1998	15	26	56	DHS 1998 (reanalysed June 2003)	A
Tonga	2001	0	<1	NA	WHO/Office of the Western Pacific Region, Country Health Information Profiles 2002 Revision (MOH, 2001)	F
Trinidad and Tobago	2000	23	4	3	MICS 2000 (reanalysed June 2003)	A
Tunisia	2000	7	11	12	MICS 2000 report, Table 9.10	C
Turkey	1998	16	232	32	DHS 1998 (reanalysed June 2003)	A
Turkmenistan	2000	6	6	3	DHS 2000, Final Report, Table 10.6, p. 120	D
Tuvalu	2000	5	<1	NA	WHO/Office of the Western Pacific Region, Country Health Information Profiles 2002 Revision (Health Record)	F
Uganda	2000	12	147	71	DHS 2000 (reanalysed June 2004)	A
Ukraine	2003	5	22	NA	Country Statistical Office as cited in UNICEF (2003), 'Social Monitor 2003', Innocenti Research Centre, Florence	F
United Arab Emirates	1995	15	8	NA	Gulf Child Health Survey, 1995	E
United Kingdom	2000	8	52	NA	National Report on Follow-up to the World Summit for Children	F
United States of America	2002	8	323	NA	NCHS, National Vital Statistics report 2002, Vol. 51.	F
United States Virgin Islands		NA		NA		
Uruguay	2002	8	5	NA	PAHO, Health Situation in the Americas, Basic Indicators 2001	F
Uzbekistan	2000	7	38	2	MICS 2000 (reanalysed June 2003)	A
Vanuatu	2001	6	<1	NA	WHO/Office of the Western Pacific Region, Country Health Information Profiles 2002 Revision (NSO)	F

Table 3: UNICEF/WHO estimates of the incidence of low birthweight, 2000* *(continued)*

Country or territory	Year	% of low birthweight infants	Number of low birthweight infants (1,000s)	% of births not weighed	Source	Method
Venezuela	2000	7	43	1	MICS 2000 (reanalysed June 2003)	A
Viet Nam	2000	9	140	29	MICS 2000 (reanalysed June 2003)	A
Western Sahara		NA		NA		G
Yemen	1997	32	262	92	DHS 1997, Final Report, p. 119	C
Zambia	2002	12	54	56	DHS 2002 (reanalysed June 2004)	A
Zimbabwe	1999	11	48	21	DHS 1999 (reanalysed June 2003)	A

NA Not available

Key for method

A Survey data: Adjusted for relative birth size and heaping at 2,500 g
B Survey data: Adjusted for relative birth size only/published estimate used
C Survey data: Average adjustment of 24 per cent applied to published data
D Survey data: No adjustment to numerical birthweight
E Survey data: Relative birth size only with no adjustment
F Routine service statistics: No adjustment
G No data available

* Estimates generally refer to 2000, but in some cases the latest available data may refer to an earlier or a more recent year.

TABLE 4
Percentage and number of low birthweight infants by WHO regions and subregions*, 2000**

	Estimated % of low birthweight infants	Number of low birthweight infants (1,000s)	Number of live births (1,000s)
AFRICA	**13.9**	**3,597**	**25,915**
Subregion 1: High child, high adult mortality stratum	14.4	1,720	11,930
Subregion 2: High child, very high adult mortality stratum	13.4	1,877	13,986
THE AMERICAS	**9.4**	**1,502**	**16,066**
Subregion 3: Very low child, very low adult mortality stratum	7.6	351	4,614
Subregion 4: Low child, low adult mortality stratum	9.4	886	9,432
Subregion 5: High child, high adult mortality stratum	13.1	265	2,020
EASTERN MEDITERRANEAN	**16.9**	**2,564**	**15,185**
Subregion 6: Low child, low adult mortality stratum	8.0	255	3,169
Subregion 7: High child, high adult mortality stratum	19.2	2,309	12,016
EUROPE	**8.0**	**821**	**10,238**
Subregion 8: Very low child, very low adult mortality stratum	6.6	289	4,372
Subregion 9: Low child, low adult mortality stratum	10.7	393	3,657
Subregion 10: Low child, high adult mortality stratum	6.3	140	2,210
SOUTH-EAST ASIA	**26.2**	**10,069**	**38,452**
Subregion 11: Low child, low adult mortality stratum	9.7	575	5,956
Subregion 12: High child, high adult mortality stratum	29.2	9,494	32,496
WESTERN PACIFIC	**7.4**	**1,989**	**26,767**
Subregion 13: Very low child, very low adult mortality stratum	7.6	118	1,551
Subregion 14: Low child, low adult mortality stratum	7.4	1,871	25,216

Figures may not add up to totals due to rounding.

* Countries and territories listed by WHO regions and subregions are listed in Annex C *(pages 24–25)*.

** The latest available estimates by country and territory, on which these global and regional estimates are calculated, may refer to an earlier or a more recent year than 2000 *(see Table 3)*. However, considering that low birthweight rates are changing only slowly, the latest rates available have been taken to also refer to the year 2000 for the calculation of these global and regional estimates.

TABLE 5
Percentage and number of low birthweight infants by UNICEF regions*, 2000**

Region	Estimated % of low birthweight infants	% of births not weighed	Number of low birthweight infants (in millions)
Sub-Saharan Africa	14	65	4
Eastern and Southern Africa	14	63	2
Western and Central Africa	15	66	2
Middle East and North Africa	15	60	1
South Asia	28	74	11
East Asia and Pacific	8	30	3
Latin America and Caribbean	9	17	1
CEE/CIS	7	21	0.5
Industrialized countries	7	—	0.8
Developing countries	16	58	20
Least developed countries	19	68	5
World	16	—	21

* Regional averages include all available data regardless of reference year. See Annex D (*page 25*) for UNICEF regional groupings.

** The latest available estimates by country and territory, on which these global and regional estimates are calculated, may refer to an earlier or a more recent year than 2000 *(see Table 3)*. However, considering that low birthweight rates are changing only slowly, the latest rates available have been taken to also refer to the year 2000 for the calculation of these global and regional estimates.

ANNEX A

Recommendations on how to improve the measurement of birthweight

1. Definitions[28]

Birthweight

Birthweight is the first weight of the foetus or newborn obtained after birth. For live births, birthweight should preferably be measured within the first hour of life before significant postnatal weight loss has occurred.

Low birthweight

Low birthweight is defined as less than 2,500 g (up to and including 2,499 g).

Very low birthweight is less than 1,500 g (up to and including 1,499 g).

Extremely low birthweight is less than 1,000 g (up to and including 999 g).

The definitions of 'low', 'very low', and 'extremely low' birthweight do not constitute mutually exclusive categories. Below the set limits they are all inclusive and therefore overlap (i.e., 'low' includes 'very low' and 'extremely low', while 'very low' includes 'extremely low').

Incidence of low birthweight

Low birthweight in a population is defined as the percentage of live births that weigh less than 2,500 g out of the total of live births during the same time period. The low birthweight incidence rate is therefore:

$$\frac{\text{Number of live born babies with birthweight less than 2,500 g}}{\text{Number of live births}} \times 100$$

2. Weighing babies is essential

WHO and UNICEF recommend that all babies are weighed at birth. The weight should be recorded on the newborn's health record for later use in monitoring the baby's growth.

For comparison and statistical purposes it is important that babies are weighed at the same point in time. Where inappropriate early feeding practices prevail, important weight loss (up to 10 per cent) occurs during the first few days of life. If babies are weighed several days after birth, the ensuing low birthweight incidence will be higher than the true rate.

3. Registration of birthweight

Low birthweight data collected in household surveys for many developing countries are a vast improvement over data available earlier. However, as long as so few mothers can report their infant's weight, survey data will have large confidence intervals. Low birthweight incidence rates of less developed countries where information on only a small proportion of births is known are therefore not suitable for direct comparison. Even with careful adjustments[29] it appears that the incidence is underestimated.

Mothers whose babies are weighed may not remember their child's birthweight if it is not registered on a health card or birth certificate. Slightly more than 40 per cent of babies were weighed, while even fewer mothers actually recall the birthweight when asked about births during the past five years. Countries will have to emphasize the importance of birthweight as a public health measure and facilitate its reporting to be able to rely on this valuable indicator.

4. Weighing, recording and reporting

The following recommendations can help improve the quality of data on birthweight, avoiding the most common pitfalls in measuring and reporting birthweight that are related to errors in weighing the infant, accurate recording and appropriate reporting.

a. How to weigh

Accurate weighing requires regularly calibrated scales with a measurement accuracy of at least 10 g, as well as the correct reading technique. Digit preference is frequently observed in birthweight data, especially around 500 g values. Heaping at these values can substantially affect the actual incidence of low birthweight in the population. Digit preference can only improve by

regularly analysing and presenting data to those who weigh babies.

Where spring scales and especially categorical spring scales (<1,500 g, 1,500-<2,500 g, 2,500 g and more) are used, adequate measures should be taken to ensure accurate reading. Rounding up and down is very common when using those scales, which produces an inaccurate birthweight for the individual and may considerably distort the reported low birthweight rates in the population.

Proxy measures of low birthweight, e.g., chest circumference, have been recommended for assessing birthweight at home; however, they are not a good substitute for growth assessment at the individual level and cannot be included in the population incidence of low birthweight.

b. How to record birthweight

The actual weight of the infant should be recorded to the degree of accuracy to which it is measured. While statistical tabulations may include 500 g groupings for birthweight, the weight of the infant should not be recorded in those groupings.[30]

c. How to report birthweight data

For statistical purposes, the lower birthweight cut-off should always be indicated. WHO recommends 500 g as the lower limit for reporting. It is also essential to clearly specify the definition of which babies are included in the statistics: live births, stillbirths, single births, multiple births, or all births.

Data can be tabulated either as percentage of infants weighing less than 2,500 g, or further divided as very low birthweight (less than 1,500 g) or extremely low birthweight (less than 1,000 g). These categories are not mutually exclusive. If presented in 500 g categories they should be 500–999 g, 1,000–1,499 g, 1,500–1,999 g, etc.

Other ways of presenting the birthweight distribution are the mean with standard deviation, the median, or the mode.

d. Avoid reporting errors

On a population basis, low birthweight data can be collected every 5 or even every 10 years since the incidence in the population changes slowly. Where a system for data collection, analysis and reporting is in place, low birthweight rates should be reported annually. All babies should be weighed at birth regardless of reporting obligations. A major effort is needed to improve the quality of data for this indicator, as reporting may be fraught with errors, some of which are outlined below:

- Although low birthweight is defined as less than 2,500 g, sometimes low birthweight rates are reported to include 2,500 g. Including 2,500 g can substantially affect the rate, mostly because of the digit preference at 2,500 g. Such rates cannot be compared to rates generated using a definition of less than 2,500 g;
- Low birthweight rates should cover an extended period of time, as rates covering a short period only may be subject to seasonal variations. Seasonal fluctuations are usually due to the availability of food or to disease epidemics; [31, 32, 33]
- When a high proportion of births take place outside health facilities, survey methods are the main (and frequently only) sources of population-based information on birthweight. Surveys rely on records of the infants' birthweight or maternal recall. Where there is no written record, mothers may not remember the weight correctly, and rounding upwards is common. A recent analysis by Blanc and Wardlaw[34] showed that babies who are not weighed tend to be of lower socio-economic status, and tend to have lower birthweight. The method to assess the low birthweight rate in a population through surveys is therefore prone to underestimate the incidence and is highly dependent on carefully executed surveys;
- In institutions such as hospitals, maternity wards and health centres, birthweight is routinely measured and recorded. Low birthweight incidence based on such data may, however, not be representative of the population at large. Hospital data may over- or underestimate the true levels. Where institutional deliveries are rare, the low birthweight rate may be high because of a high incidence of preterm deliveries and other complications. On the other hand, hospital data may underestimate the population rate when women who deliver in hospitals come from higher socio-economic strata than women who deliver at home.

ANNEX B

Countries and territories grouped by United Nations regions*

More developed regions

All regions of Europe, plus Northern America, Australia/New Zealand and Japan.

Less developed regions

All regions of Africa, Asia (excluding Japan), Latin America and the Caribbean, plus Melanesia, Micronesia and Polynesia.

Least developed countries

Africa

Angola, Benin, Burkina Faso, Burundi, Cape Verde, Central African Republic, Chad, Comoros, Democratic Republic of the Congo, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Niger, Rwanda, Sao Tome and Principe, Senegal, Sierra Leone, Somalia, Sudan, Togo, Uganda, United Republic of Tanzania, Zambia.

Asia

Afghanistan, Bangladesh, Bhutan, Cambodia, Lao People's Democratic Republic, Maldives, Myanmar, Nepal, Yemen.

Caribbean

Haiti.

Oceania

Kiribati, Samoa, Solomon Islands, Tuvalu, Vanuatu.

Africa

Eastern Africa

Burundi, Comoros, Djibouti, Eritrea, Ethiopia, Kenya, Madagascar, Malawi, Mauritius, Mozambique, Réunion, Rwanda, Seychelles, Somalia, Uganda, United Republic of Tanzania, Zambia, Zimbabwe.

Middle Africa

Angola, Cameroon, Central African Republic, Chad, Congo, Democratic Republic of the Congo, Equatorial Guinea, Gabon, Sao Tome and Principe.

Northern Africa

Algeria, Egypt, Libyan Arab Jamahiriya, Morocco, Sudan, Tunisia, Western Sahara.

Southern Africa

Botswana, Lesotho, Namibia, South Africa, Swaziland.

Western Africa

Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Saint Helena, Senegal, Sierra Leone, Togo.

Asia

Eastern Asia

China, Hong Kong Special Administrative Region of; China, Macao Special Administrative Region of; Democratic People's Republic of Korea, Japan, Mongolia, Republic of Korea.

South-central Asia

Afghanistan, Bangladesh, Bhutan, India, Iran (Islamic Republic of), Kazakhstan, Kyrgyzstan, Maldives, Nepal, Pakistan, Sri Lanka, Tajikistan, Turkmenistan, Uzbekistan.

South-eastern Asia

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

Western Asia

Armenia, Azerbaijan, Bahrain, Cyprus, Georgia, Iraq, Israel, Jordan, Kuwait, Lebanon, occupied Palestinian territory, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, Turkey, United Arab Emirates, Yemen.

Europe

Eastern Europe

Belarus, Bulgaria, Czech Republic, Hungary, Poland, Republic of Moldova, Romania, Russian Federation, Slovakia, Ukraine.

Northern Europe

Channel Islands, Denmark, Estonia, Faeroe Islands, Finland, Iceland, Ireland, Isle of Man, Latvia, Lithuania, Norway, Sweden, United Kingdom.

Southern Europe

Albania, Andorra, Bosnia and Herzegovina, Croatia, Gibraltar, Greece, Holy See, Italy, Malta, Portugal, San Marino, Serbia and Montenegro, Slovenia, Spain, The former Yugoslav Republic of Macedonia.

Western Europe
Austria, Belgium, France, Germany, Liechtenstein, Luxembourg, Monaco, Netherlands, Switzerland.

Latin America and the Caribbean

Caribbean
Anguilla, Antigua and Barbuda, Aruba, Bahamas, Barbados, British Virgin Islands, Cayman Islands, Cuba, Dominica, Dominican Republic, Grenada, Guadeloupe, Haiti, Jamaica, Martinique, Montserrat, Netherlands Antilles, Puerto Rico, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago, Turks and Caicos Islands, United States Virgin Islands.

Central America
Belize, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama.

South America
Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Falkland Islands (Malvinas), French Guiana, Guyana, Paraguay, Peru, Suriname, Uruguay, Venezuela.

Northern America

Bermuda, Canada, Greenland, Saint Pierre and Miquelon, United States.

Oceania

Australia and New Zealand
Australia, New Zealand.

Melanesia
Fiji, New Caledonia, Papua New Guinea, Solomon Islands, Vanuatu.

Micronesia
Guam, Kiribati, Marshall Islands, Micronesia (Federated States of), Nauru, Northern Mariana Islands, Palau.

Polynesia
American Samoa, Cook Islands, French Polynesia, Niue, Pitcairn, Samoa, Tokelau, Tonga, Tuvalu, Wallis and Futuna Islands.

Source for regional groupings: The United Nations Population Division.

ANNEX C

WHO Member States grouped by WHO regions

Regional Office for Africa Member States, Subregion 1

Algeria, Angola, Benin, Burkina Faso, Cameroon, Cape Verde, Chad, Comoros, Equatorial Guinea, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Madagascar, Mali, Mauritania, Mauritius, Niger, Nigeria, São Tomé and Principé, Seychelles, Sierra Leone, Togo.

Regional Office for Africa Member States, Subregion 2

Botswana, Burundi, Central African Republic, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Eritrea, Ethiopia, Kenya, Lesotho, Malawi, Mozambique, Namibia, Rwanda, South Africa, Swaziland, Uganda, United Republic of Tanzania, Zambia, Zimbabwe.

Regional Office for the Americas Member States, Subregion 3

Canada, Cuba, United States of America.

Regional Office for the Americas Member States, Subregion 4

Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Brazil, Chile, Colombia, Costa Rica, Dominica, Dominican Republic, El Salvador, Grenada, Guyana, Honduras, Jamaica, Mexico, Panama, Paraguay, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Uruguay, Venezuela.

Regional Office for the Americas Member States, Subregion 5

Bolivia, Ecuador, Guatemala, Haiti, Nicaragua, Peru.

Regional Office for the Eastern Mediterranean Member States, Subregion 6

Bahrain, Cyprus, Iran (Islamic Republic of), Jordan, Kuwait, Lebanon, Libyan Arab Jamahiriya, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, Tunisia, United Arab Emirates.

Regional Office for the Eastern Mediterranean Member States, Subregion 7

Afghanistan, Djibouti, Egypt, Iraq, Morocco, Pakistan, Somalia, Sudan, Yemen.

Regional Office for Europe Member States, Subregion 8

Andorra, Austria, Belgium, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, Luxembourg, Malta, Monaco, Netherlands, Norway, Portugal, San Marino, Slovenia, Spain, Sweden, Switzerland, United Kingdom.

Regional Office for Europe Member States, Subregion 9

Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, Georgia, Kyrgyzstan, Poland, Romania, Serbia and Montenegro, Slovakia, Tajikistan, The former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Uzbekistan.

Regional Office for Europe Member States, Subregion 10

Belarus, Estonia, Hungary, Kazakhstan, Latvia, Lithuania, Republic of Moldova, Russian Federation, Ukraine.

Regional Office for South-East Asia Member States, Subregion 11

Indonesia, Sri Lanka, Thailand.

Regional Office for South-East Asia Member States, Subregion 12

Bangladesh, Bhutan, Democratic People's Republic of Korea, India, Maldives, Myanmar, Nepal.

Regional Office for the Western Pacific Member States Subregion 13

Australia, Brunei Darussalam, Japan, New Zealand, Singapore.

Regional Office for the Western Pacific Member States Subregion 14

Cambodia, China, Cook Islands, Fiji, Kiribati, Lao People's Democratic Republic, Malaysia, Marshall Islands, Micronesia (Federated States of), Mongolia, Nauru, Niue, Palau, Papua New Guinea, Philippines, Republic of Korea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu, Viet Nam.

ANNEX D

Countries and territories grouped by UNICEF regions

Sub-Saharan Africa

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

Middle East and North Africa

Algeria; Bahrain; Djibouti; Egypt; Iran, Islamic Republic of; Iraq; Jordan; Kuwait; Lebanon; Libyan Arab Jamahiriya; Morocco; Occupied Palestinian Territory; Oman; Qatar; Saudi Arabia; Sudan; Syrian Arab Republic; Tunisia; United Arab Emirates; Yemen.

South Asia

Afghanistan; Bangladesh; Bhutan; India; Maldives; Nepal; Pakistan; Sri Lanka.

East Asia and Pacific

Brunei Darussalam; Cambodia; China; Cook Islands; Fiji; Indonesia; Kiribati; Korea, Democratic People's Republic; Korea, Republic of; Lao People's Democratic Republic; Malaysia; Marshall Islands; Micronesia, Federated States of; Mongolia; Myanmar; Nauru; Niue; Palau; Papua New Guinea; Philippines; Samoa; Singapore; Solomon Islands; Thailand; Timor-Leste; Tonga; Tuvalu; Vanuatu; Viet Nam.

Latin America and Caribbean

Antigua and Barbuda; Argentina; Bahamas; Barbados; Belize; Bolivia; 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.

Central and Eastern Europe, Commonwealth of Independent States

Albania; Armenia; Azerbaijan; Belarus; Bosnia and Herzegovina; Bulgaria; Croatia; Georgia; Kazakhstan; Kyrgyzstan; Moldova, Republic of; Romania; Russian Federation; Serbia and Montenegro; Tajikistan; the former Yugoslav Republic of Macedonia; Turkey; Turkmenistan; Ukraine; Uzbekistan.

Industrialized countries

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; United States.

Developing countries and territories

Afghanistan; Algeria; Angola; Antigua and Barbuda; Argentina; Armenia; Azerbaijan; Bahamas; Bahrain; Bangladesh; Barbados; Belize; Benin; Bhutan; Bolivia; Botswana; Brazil; Brunei Darussalam; Burkina Faso; Burundi; Cambodia; Cameroon; Cape Verde; Central African Republic; Chad; Chile; China; Colombia; Comoros; Congo; Congo, Democratic Republic of; Cook Islands; Costa Rica; Côte d'Ivoire; Cuba; Cyprus; Djibouti; Dominica; Dominican Republic; Ecuador; Egypt; El Salvador; Equatorial Guinea; Eritrea; Ethiopia; Fiji; Gabon; Gambia; Georgia; Ghana; Grenada; Guatemala; Guinea; Guinea-Bissau; Guyana; Haiti; Honduras; India; Indonesia; Iran, Islamic Republic of; Iraq; Israel; Jamaica; Jordan; Kazakhstan; Kenya; Kiribati; Korea, Democratic People's Republic of; Korea, Republic of; Kuwait; Kyrgyzstan; Lao People's Democratic Republic; Lebanon; Lesotho; Liberia; Libyan Arab Jamahiriya; Madagascar; Malawi; Malaysia; Maldives; Mali; Marshall Islands; Mauritania; Mauritius; Mexico; Micronesia, Federated States of; Mongolia; Morocco; Mozambique; Myanmar; Namibia; Nauru; Nepal; Nicaragua; Niger; Nigeria; Niue; Occupied Palestinian Territory; Oman; Pakistan; Palau; Panama; Papua New Guinea; Paraguay; Peru; Philippines; Qatar; Rwanda; Saint Kitts and Nevis; Saint Lucia; Saint Vincent/Grenadines; Samoa; Sao Tome and Principe; Saudi Arabia; Senegal; Seychelles; Sierra Leone; Singapore; Solomon Islands; Somalia; South Africa; Sri Lanka; Sudan; Suriname; Swaziland; Syrian Arab Republic; Tajikistan; Tanzania, United Republic of; Thailand; Timor-Leste; Togo; Tonga; Trinidad and Tobago; Tunisia; Turkey; Turkmenistan; Tuvalu; Uganda; United Arab Emirates; Uruguay; Uzbekistan; Vanuatu; Venezuela; Viet Nam; Yemen; Zambia; Zimbabwe.

Least developed countries

Afghanistan; Angola; Bangladesh; Benin; Bhutan; Burkina Faso; Burundi; Cambodia; Cape Verde; Central African Republic; Chad; Comoros; Congo, Democratic Republic of; 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; Sao Tome and Principe; Senegal; Sierra Leone; Solomon Islands; Somalia; Sudan; Tanzania, United Republic of; Timor-Leste; Togo; Tuvalu; Uganda; Vanuatu; Yemen; Zambia.

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Children can be ensured a healthy start in life if women start pregnancy healthy and well nourished, and go through pregnancy and childbirth safely.

United Nations Children's Fund (UNICEF)
Strategic Information Unit, Division of Policy and Planning
3 UN Plaza, New York, NY 10017, USA
pubdoc@unicef.org
www.unicef.org

World Health Organization (WHO)
Department of Reproductive Health and Research
Avenue Appia 20, 1211 Geneva 27, Switzerland
reproductive-health@who.int
www.who.int

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