

# THE STATE OF THE WORLD'S CHILDREN 2009

## EXECUTIVE SUMMARY

### Maternal and Newborn Health



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## 1 Maternal and newborn health: Where we stand

Pregnancy and childbirth are generally times of joy for parents and families. But in many countries and communities, they are also periods of great risk to the health and survival of women and newborns. Every day, around 1,500 women die from complications related to pregnancy and childbirth. Since 1990, the estimated annual number of maternal deaths worldwide has exceeded 500,000 – amounting to almost 10 million maternal deaths during the past 19 years.

The divide between the industrialized countries and developing regions, particularly the least developed countries, is perhaps greater on maternal mortality than on almost any other issue. This claim is borne out by the numbers: Based on 2005 data, the average lifetime risk of a woman in a least developed country dying from complications related to pregnancy or childbirth is more than 300 times greater than for a woman living in an industrialized country. No other mortality rate is so unequal. Furthermore, millions of women who survive childbirth suffer from pregnancy-related injuries, infections, diseases and disabilities, often with lifelong consequences.

The earliest days of life are the most vulnerable for a child. Almost 40 per cent of under-five deaths – numbering 3.7 million in 2004, the latest year for which firm estimates are available – take place during the first 28 days, the neonatal period. Three quarters of these neonatal deaths take place during the first 7 days, the early neonatal period. The risk of mortality is greatest during the first day after birth, when it is estimated that between 25 per cent and 45 per cent of neonatal deaths occur. The health divide in neonatal mortality is also marked; a child born in a least developed country is almost 14 times more likely to die during the first 28 days of life than a child born in an industrialized country.

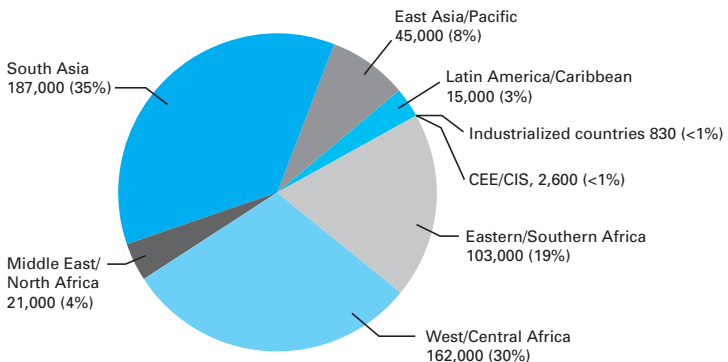
As with child mortality, the burden of death for mothers and newborns is disproportionately heavy in the continents of Africa and Asia, which together account for 95 per cent of maternal deaths and around 90 per cent of newborn deaths. Disparities across social groups within countries also remain high, especially in relation to poverty. Demographic and Health Surveys conducted between 1995 and 2002 show that within regions, neonatal mortality is 20–50 per cent higher for the poorest 20 per cent of households than for the richest quintile. Similar inequities exist for maternal mortality.

The timing and causes of maternal and newborn deaths are well understood. Obstetric complications – including post-partum haemorrhage, infections, eclampsia, and prolonged or obstructed labour – and complications of abortion account for most maternal deaths. Anaemia, exacerbated by malaria,

**Figure 1.1**

## Regional distribution of maternal deaths\*

Maternal deaths, 2005



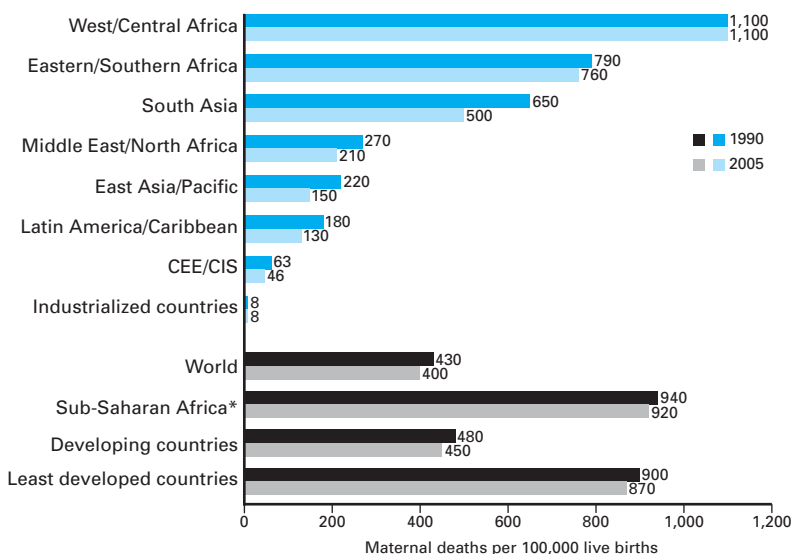
\* Percentages may not total 100% because of rounding.

**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.

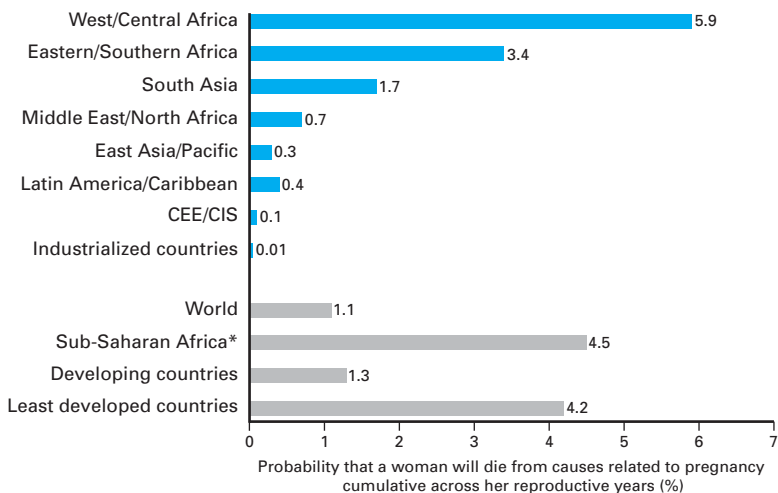
Figure 1.2

## Trends, levels and lifetime risk of maternal mortality

Maternal mortality ratios, 1990 and 2005



Lifetime risk of maternal death, 2005



\*Sub-Saharan Africa comprises the regions of Eastern/Southern Africa and West/Central Africa.

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.

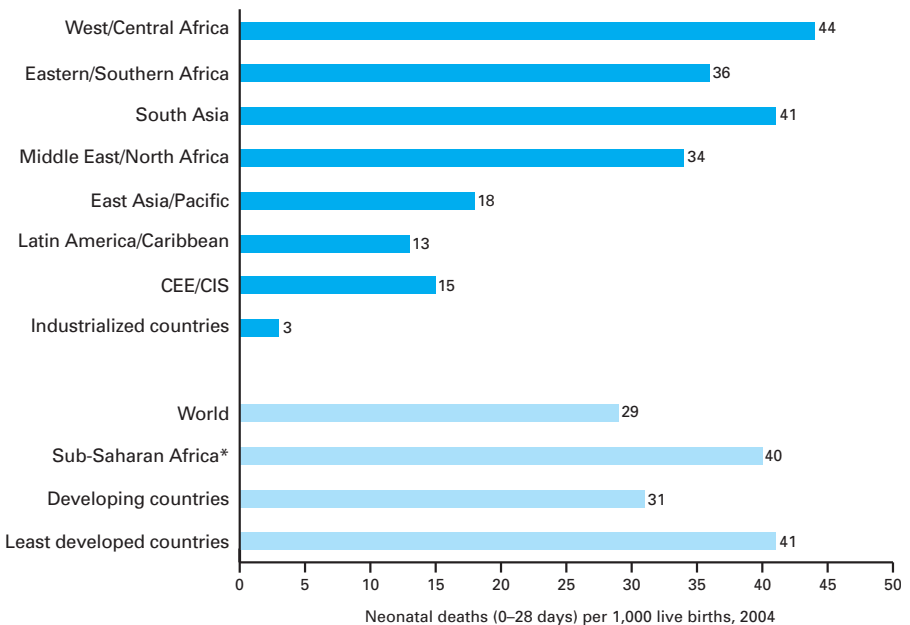
HIV and other conditions, heightens the risk of maternal death from haemorrhage. For newborns, the greatest health risks are posed by severe infections (including sepsis/pneumonia, tetanus and diarrhoea), asphyxia and pre-term births; taken together, these three main causes account for 86 per cent of newborn deaths.

Most of these conditions are preventable or treatable with such essential measures as quality reproductive health services, antenatal care, skilled health workers assisting at birth, access to emergency obstetric and newborn care when necessary, adequate nutrition, post-natal care for mothers and newborns, and education to foster healthy practices for women and newborns. Research has shown that around 80 per cent of maternal deaths could be averted if women had access to essential maternity and basic health-care services. Infections, which cause 36 per cent of neonatal deaths, could be reduced with better maternal screening and immunization, and hygienic delivery and umbilical cord care practices.

In addition to the direct causes of maternal and newborn mortality and morbidity, there are a number of underlying factors at the household,

**Figure 1.3**

### 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.

community and district levels that also undermine the health and survival of mothers and newborns. These include: lack of education and knowledge for girls and young women, who are still more likely than boys to be out of school; insufficient access to nutritious food and essential micronutrients; poor environmental health facilities; and inadequate and limited access to basic health-care services. There are also basic factors, such as poverty, social exclusion, gender discrimination and political insecurity, that serve to entrench the direct and underlying causes of maternal and newborn mortality and morbidity.

The factors jeopardizing maternal and newborn survival and health across the developing world reinforce the benefits of a continuum of care, which underlines the imperative of delivering essential services for mothers and children at critical points in time (adolescence, pre-pregnancy, pregnancy, birth, post-natal and neonatal periods, infancy and childhood), and at key locations where they can be readily accessed by women and children (household and community, outreach and outpatient, and health facilities).

The continuum of care emphasizes that a woman's capacity to sustain her own health and life, and that of her child, during pregnancy and childbirth begins with skills, care and protection received from early adolescence. Healthy women who receive adequate nutrition, quality reproductive health and maternity services and basic health care before, during and after their pregnancies are more likely to give birth to strong babies who survive. Similarly, nurtured, healthy babies are more likely to survive into infancy and early childhood and beyond.

Improving maternal and newborn health does not rest solely in the provision of health services. To be truly effective and sustainable, the scaling up of essential interventions must take place within a framework that strives to strengthen and integrate programmes with health systems and promotes an environment supportive of women's rights. Without actions to address gender discrimination and inequities that are perpetuated against women and girls, actions to support enhanced primary health care risk being much less effective, sustainable, or even possible.





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## **2** Creating a supportive environment for maternal and newborn health

Creating a supportive environment for maternal and newborn health requires challenging the social, economic and cultural barriers that perpetuate gender inequality and discrimination. This involves several key actions: educating women and girls and reducing the poverty they experience; protecting them from abuse, exploitation, discrimination and violence; fostering their participation and their involvement in household decision-making and economic and political life; and empowering them to demand their rights and essential services for themselves and their children. Greater involvement of men in maternal and newborn health care and in addressing gender discrimination and inequalities is also critical to establishing a supportive environment.

The empowerment of girls and women has a direct impact on maternal and child health. Education, in particular, can lower the exposure of girls and women to maternity risks. Research shows that educated adolescents are more likely to wait until after their teenage years to start families. This delay is often critical: Complications from pregnancy and childbirth are an important cause of mortality for girls aged 15–19 worldwide, accounting for

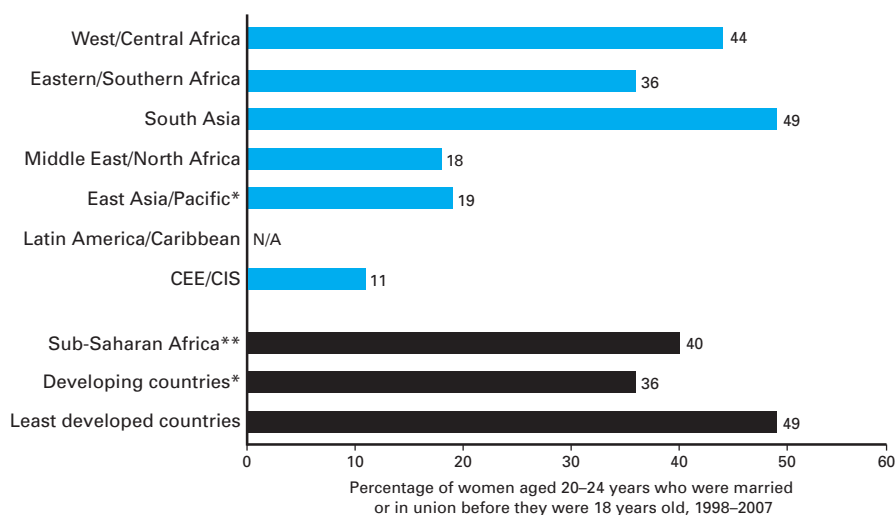
70,000 deaths annually. In addition to delaying pregnancy, studies show that educated mothers are more likely to immunize their children, be better informed about nutrition, and use improved birth spacing practices. Their children tend to have higher survival rates and better nutrition.

Child marriage, a violation of rights according to international conventions and many national laws, can rob girls of their opportunities for schooling and lead to pregnancies at younger ages. The younger a girl is when she becomes pregnant, the greater the health risks for herself and her baby. Girls who give birth before the age of 15 are five times more likely to die in child-birth than women in their twenties. Moreover, if a mother is younger than 18, her infant’s risk of dying before reaching age one is 60 per cent greater than that of an infant born to a mother older than 19. Even if the child survives, he or she has a greater likelihood of suffering from low birthweight, undernutrition, and late physical and cognitive development.

Although child marriage is becoming less common overall, the pace of change is slow. Challenging prevailing attitudes towards child marriage will require action by governments and other parties, including religious and community leaders, and the promotion of education, particularly at the secondary level.

**Figure 2.1**

### Child marriage is highly prevalent in South Asia and sub-Saharan Africa



\* Excludes China. \*\* Sub-Saharan Africa comprises the regions of Eastern/Southern Africa and West/Central Africa.

**Source:** Demographic and Health Surveys, Multiple Indicator Cluster Surveys and other national surveys.

Combating violence and abuse against women and girls is critical to improving maternal and newborn health. Large-scale studies from the World Health Organization (WHO) and the recent United Nations studies on violence against women and children have revealed high levels of abuses. The health consequences of violence against women and girls increase the risk of poor physical and reproductive outcomes. Female genital mutilation/cutting (FGM/C) is a violation of the rights of women and girls and a form of violence that is estimated to have been undergone by around 70 million girls and women aged 15–49 in 27 countries of Africa and the Middle East. FGM/C can significantly increase the risk of complications during delivery. According to a WHO study, the practice can cause prolonged bleeding and infection and leads to an additional one to two perinatal deaths per 100 deliveries. Other forms of violence, including physical violence perpetrated by intimate partners and rape, can lead to many health problems for mothers and children. Establishing comprehensive mechanisms that cover legislation and its enforcement, research, programmes and budgets increasing women's voices in the debate and sustaining attention on the issue will be imperative to reduce violence against women and girls from its current levels.

Supporting women within the household and in broader society can have multiple beneficial effects for maternal and newborn health. When women are able to participate in key decisions in the household, studies have shown they are more likely to ensure that their children are well nourished and to seek appropriate medical care for themselves and their children. The acumen of women acting collectively is among the strongest reasons most newborns and mothers survive pregnancy and childbirth. When women are empowered to participate in their communities, they can challenge the attitudes and practices that entrench gender discrimination, share work, pool resources, and collectively devise and sustain initiatives to improve maternal and newborn health. Men can also be partners in this endeavour. Evidence has shown that men are more likely to be engaged, participatory fathers when they feel positive about themselves and their relationships and when families and friends support their involvement in their children's lives.

Because women's participation in parliamentary politics is still limited and relatively recent, the influence of women parliamentarians in support of maternal and newborn health is still unknown. Evidence suggests, however, that they are likely to strongly support and promote measures to prioritize initiatives to provide improved child care and strengthen women's rights. Such measures are fundamental to the creation of a supportive environment in which to advance a continuum of health care for women, newborns and children.



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## 3 The continuum of care across time and location: Risks and opportunities

The continuum of care framework aims to transcend the traditional emphasis on single, disease-specific interventions. Its central premise can be summarized as follows: Essential services for mothers, newborns and children are most effective when they are delivered in integrated packages at critical points during the life cycle of mothers and children, in dynamic health systems that span key locations, underpinned by an environment supportive of the rights of women and children.

### Delivering services at critical points

The essential services required to support a continuum of maternal and newborn care include enhanced nutrition; safe water, sanitation and hygiene facilities and practices; disease prevention and treatment; quality reproductive health services; adequate antenatal care; skilled assistance at delivery; basic and comprehensive emergency obstetric and newborn care; post-natal

care; neonatal care; and Integrated Management of Neonatal and Childhood Illnesses.

*Quality reproductive health services:* A growing consensus is emerging on the importance of improving reproductive health services for young people in particular, and curbing the growing incidence of HIV and other sexually transmitted diseases among them. Building reproductive health capacity at the national level will necessitate identifying problems, setting priorities and formulating strategies with the participation of all stakeholders.

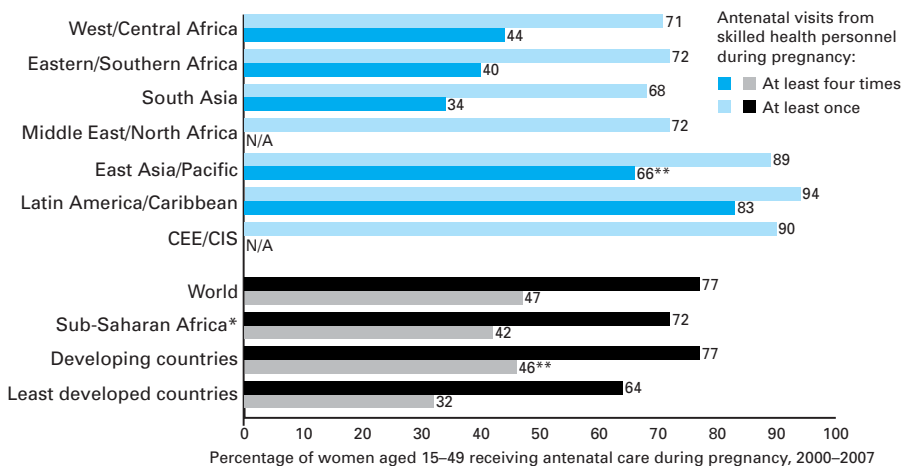
*Enhanced nutrition:* Adequate nutrition for adolescent girls and pregnant women is critical for the health and survival prospects of both mothers and newborns. The undernutrition of young women, which is particularly prevalent in South Asia from an early age, increases the health risks for both them and their babies. Programmes targeted towards improving maternal health are increasingly focused on enhancing the nutrition of girls and women. Increased food intake and supplementation with folic acid and iron are being encouraged during pre-pregnancy and pregnancy. Dietary diversification, the use of iodized salt and deworming also support the health of pregnant women and mothers. Vitamin A supplementation is recommended for post-partum women. Improved feeding practices for newborns, especially early and exclusive breastfeeding, helps protect them against disease.

*Safe water, sanitation, and hygiene facilities and practices:* Clean delivery practices are vital to safeguard the health of mothers and newborns from infections. Severe infections, which are often associated with unhygienic delivery practices and unsafe water and poor sanitation, accounted for 36 per cent of neonatal deaths in 2000. Promoting hygienic delivery practices and immunization has contributed to a significant reduction in the incidence of maternal and neonatal tetanus since 1980.

*Disease prevention and treatment:* Interventions to prevent and treat infectious diseases in pregnant women are essential complements to maternity services. Two key areas of prevention and treatment relate to HIV and malaria, particularly in sub-Saharan Africa. The fight against HIV shows signs of progress: Prevalence rates among women aged 15–24 attending antenatal clinics have declined in 14 of 17 countries with sufficient data since 2000/2001 and antiretroviral therapy to prevent mother-to-child transmission of HIV worldwide has increased from 10 per cent in 2004 to 33 per cent in 2007. Distribution of insecticide-treated mosquito nets to pregnant women and intermittent preventive treatment of malaria – which consists of a single dose of antimalarial drugs at least twice during pregnancy whether the pregnant woman has malaria or not – are two measures that are

Figure 3.1

## Antenatal care coverage

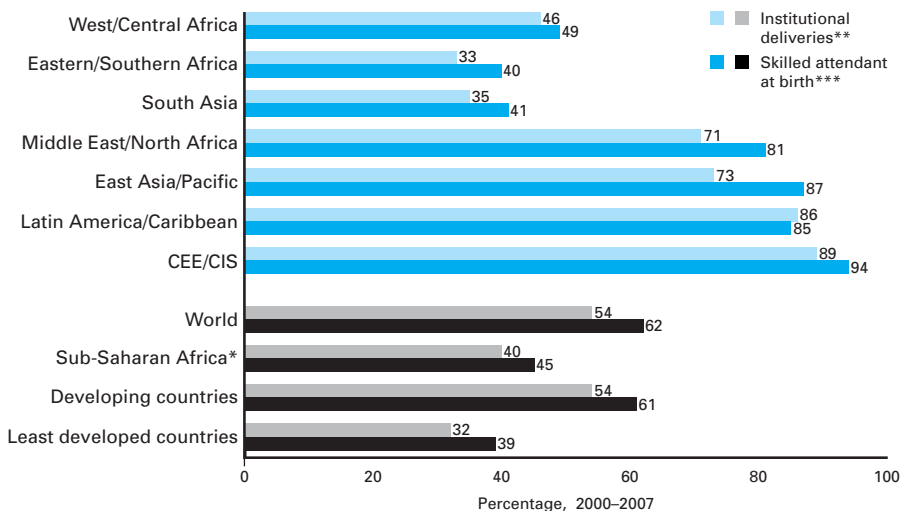


\* Sub-Saharan Africa comprises the regions of Eastern/Southern Africa and West/Central Africa. \*\* Excludes China.

Source: Demographic and Health Surveys, Multiple Indicator Cluster Surveys and other national household surveys.

Figure 3.2

## Delivery care coverage



\* Sub-Saharan Africa comprises the regions of Eastern/Southern Africa and West/Central Africa.

\*\* Institutional deliveries refers to the proportion of women aged 15–49 years who gave birth in the two years preceding the survey and delivered in a health facility.

\*\*\* Skilled attendant at birth refers to the percentage of births attended by skilled health personnel (doctors, nurses and midwives).

Source: Demographic and Health Surveys, Multiple Indicator Cluster Surveys, World Health Organization and UNICEF.

helping to contain malaria. Although efforts to prevent and treat HIV and malaria have achieved some successes in recent years, much more needs to be done to address the toll of these diseases.

*Adequate antenatal care:* Much ill health among pregnant women is preventable, detectable or treatable through antenatal visits. UNICEF and WHO recommend a minimum of four antenatal visits. These visits enable women to receive key interventions, such as tetanus immunization, screening and treatment for infections, and vital information on complications during pregnancy and delivery. Most of the data relate to women who have received at least one antenatal visit. In the developing world as a whole, three quarters of pregnant women received antenatal care from a skilled health provider at least once, though many do not receive the recommended four visits.

*Skilled assistance at delivery:* No substitute exists for the assistance of skilled health personnel at delivery. There has been a marked increase in skilled attendance in all regions of the developing world over the past decade, except in sub-Saharan Africa. During the 2000–2007 period, skilled health workers attended 61 per cent of the total number of births in the developing world. The two regions with lowest coverage, South Asia (41 per cent) and sub-Saharan Africa (45 per cent) also have the highest incidence of maternal mortality. For the developing world as a whole, deliveries of women from the poorest fifth of households are around half as likely to be attended by skilled health workers as those from the richest households. WHO recommends that skilled birth attendants administer active management of the third stage of labour (which follows completed delivery of the newborn and lasts until the completed delivery of the placenta) for all mothers – a procedure that is the most widely accepted method to reduce post-partum haemorrhage, a leading cause of maternal death.

*Basic and comprehensive emergency obstetric and newborn care:* Timely care in a medical facility is sometimes necessary to save the life of a woman experiencing complications during childbirth. Trained health personnel should not only be able to assist with a normal delivery or a delivery with moderate complications, they should also be able to recognize serious complications that require referral for more specialized emergency care. Studies have shown that around 15 per cent of live births are likely to need emergency obstetric care and Caesarean sections may be required in 5–15 per cent of births. It is evident that there are many important gaps in coverage, especially in rural areas of sub-Saharan Africa, where rates of Caesarean section are around 2 per cent. The quality of care delivered is critical: To provide adequate assistances, facilities must have sufficient medicines, supplies, equipment and trained personnel. Factors hindering the provision of and access



to emergency obstetric care include cost, distance, lack of personnel, and cultural barriers.

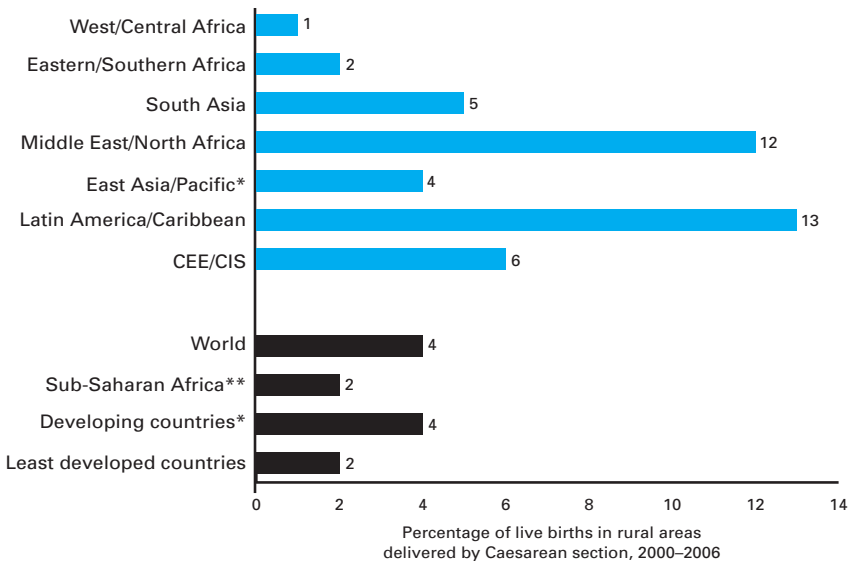
*Post-natal care for mothers and newborns:* Post-natal care is an area that needs urgent attention. Women seek post-natal care less often than antenatal or delivery care, and even mothers who benefit from immediate post-partum care are often neglected during the days and weeks that follow. Even when a delivery is professionally supervised, post-partum care may be limited to a single check six weeks later. Post-natal care can improve neonatal health, too, especially in promotion of hygienic child care and early and exclusive breastfeeding. Given the multiple impediments to facility-based care following childbirth, including the costs or difficulties in arranging transportation and accommodation for family members, outreach visits can have a vital part in post-natal care, irrespective of where the birth took place.

### Linking lives to place

It is now recognized that delivering interventions in packages can also increase their efficiency and cost-effectiveness. In addition, when services are integrated, there is both more incentive for people to use them and greater opportunity to extend and enhance coverage. The goal is to develop

**Figure 3.3**

### Emergency obstetric care: Rural Caesarean section



\* Excludes China. \*\* Sub-Saharan Africa comprises the regions of Eastern/Southern Africa and West/Central Africa.

Source: Demographic and Health Surveys, other national household surveys and UNICEF.



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a comprehensive primary-health-care system that provides women and children with essential services and strengthens links between households and health facilities.

*Health in the home:* In the developing world as a whole, 54 per cent of births take place in clinics or hospitals, but in South Asia and sub-Saharan Africa – the regions bearing the brunt of maternal and neonatal mortality – more than 60 per cent of women give birth at home. Direct user charges, travel and accommodation costs, together with other indirect costs such as the income foregone by accompanying family members, may prove prohibitive to seeking medical care in facilities. The main burden of post-partum and neonatal care often falls on the family of the mother and newborn.

Better health can begin at home. Nutrition and hygiene practices in the household are prime determinants of the health risks faced by mothers and newborns. Inadequate nutrition, inattention to basic hygiene practices, such as hand washing with soap or ashes after using latrines and before preparing and eating meals, and indoor air pollution can accentuate the spread of infections and diarrhoeal diseases. Exclusive breastfeeding of infants up to six months has considerable potential to improve child health and well-being. Improving household knowledge of elementary health, nutrition and environmental health interventions, along with increased empowerment of women to make decisions about their own and their child's health, could have a strong positive impact on health outcomes for both newborns and new and expectant mothers.

*Community partnerships:* Communities have a vital role in health care, not merely in the absence of more expensive alternatives but as a path to greater empowerment and human rights. Community partnerships in health often involve training people as community health workers who make home visits or staff established health centres. Exclusive breastfeeding, hand washing with soap and the use of insecticide-treated mosquito nets for malaria prevention are three of the most common interventions advocated by community health workers. In addition, many community partnerships in health include workers who are able to advise on measures to prevent mother-to-child transmission of HIV and contribute to the management of childhood illnesses such as malaria, pneumonia and neonatal sepsis. In rural Nepal, for example, trained community health workers have collaborated with skilled health personnel to help reduce neonatal mortality by 30 per cent.

*Outreach/outpatient services:* Just as community partnerships in health can help expand coverage of essential services while inspiring greater inclusion within health systems, outreach and outpatient services can create bridges

between home and community care and facility-based care. They are vital mechanisms for delivering antenatal and post-natal care, as well as sexual and reproductive health programmes. Antenatal and post-natal check-ups for both newborns and mothers can effectively be conducted as outreach or out-patient services. Key services include recognizing and checking the danger signs for mothers and newborns, guidance on feeding – particularly early and exclusive breastfeeding – and caring for the newborn, referral for treatment of mother or baby if appropriate, and support and counselling on healthy practices.

*Facility-based care:* Health facilities generally provide the broadest range of preventive and curative treatments for maternal and newborn care and potentially the most skilled pool of health-care workers. Medical facilities fall into two main categories: clinics and hospitals. Staff in the clinic, the facility closest to the community, can often cope with uncomplicated births and some of the key complications – for example, manual removal of the placenta or neonatal resuscitation. Given the potential risks associated with labour and childbirth, staff in clinics, as well as those engaged in outreach, need the knowledge to recognize delivery complications or neonatal conditions that are beyond their competence and require referral to a higher level. That next level is likely to be a district hospital where doctors can offer medical diagnosis, treatment, care, counselling and rehabilitation services. In some health systems there may be a referral hospital providing complex clinical care, but in most developing countries the facility-based health needs of mothers and infants are met by clinics or the district hospital, if at all.



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## 4 Strengthening health systems to improve maternal and newborn health

Establishing effective continua of care will involve taking practical steps to strengthen health systems. Given the particular challenges, risks and opportunities associated with pregnancy and childbirth, certain areas require more focused attention. These include deepening the evidence base, expanding and enhancing the health workforce, upgrading and broadening infrastructure and logistics, providing equitable financing solutions, stimulating the demand for care through social mobilization, ensuring the quality of care, and fostering political commitment and leadership through collaboration.

### Step 1: Enhancing data collection and analysis

No single indicator can adequately describe the complex nature of either maternal or newborn health, but a variety of tools – including censuses, questionnaires, household and community surveys, and facility-based data –

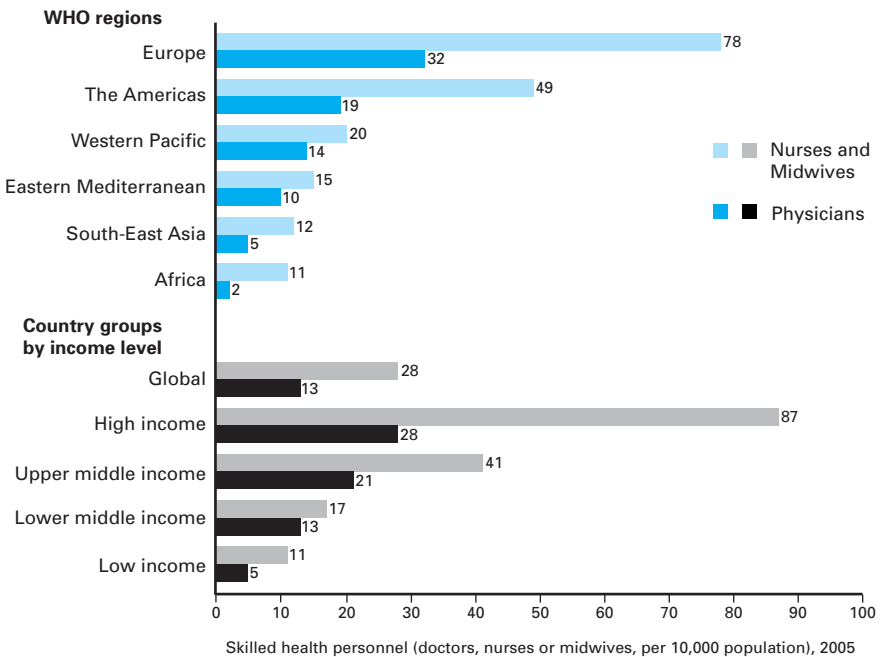
can be used to capture data on a wide array of indicators. Vital information for policies and programmes includes demographics, nutritional status, socio-economic status, health-care provision, care-seeking practices and the application of improved health, hygiene and nutrition practices. Many partners, such as WHO, UNICEF and the Health Metrics Network, are devising guidelines and other aids to help governments and agencies collect health data.

## Step 2: Expanding the primary and maternal/newborn health-care workforce

The World Health Organization defines a skilled birth attendant as “an accredited health professional – such as a midwife, doctor or nurse – who has been educated or trained in management of uncomplicated deliveries and post-natal care and in the identification, management and referral of complications in women and newborns.” It recommends that countries should have

Figure 4.1

### Skilled health workers are in short supply in Africa and South-East Asia in particular



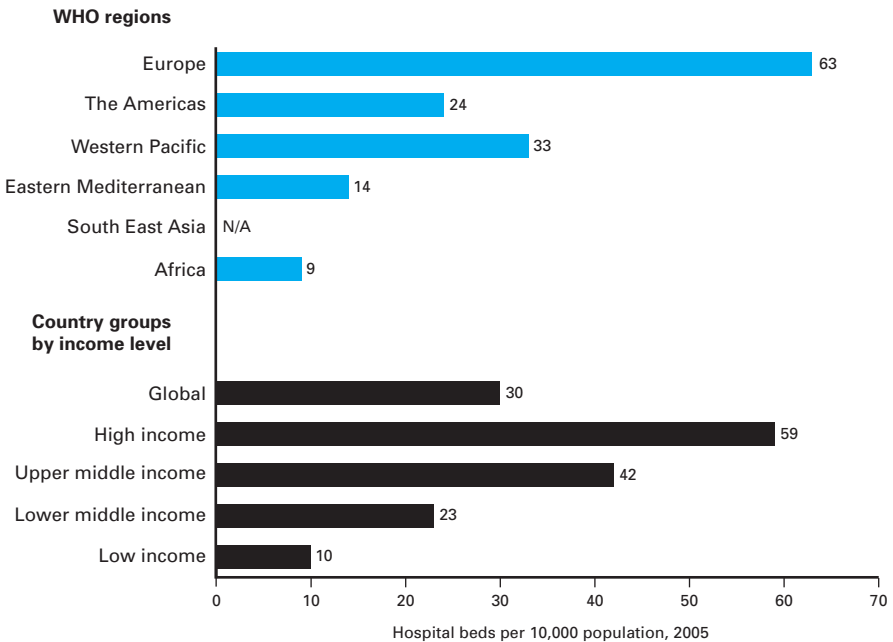
Source: World Health Organization, *World Health Statistics 2008*, WHO, Geneva, 2008, pp. 82–83.

an average of 2.28 health-care professionals per 1,000 population to achieve adequate coverage of skilled health personnel at delivery. Of the 57 countries that fall below this threshold, 36 are in sub-Saharan Africa. The greatest shortage of health workers in absolute terms is in Asia, especially Bangladesh, India and Indonesia, but the largest relative need is in sub-Saharan Africa, where the number of health workers must increase by 140 per cent to reach the requisite density.

With AIDS, poverty and political insecurity fostering the migration of health workers worldwide, particularly in sub-Saharan Africa, developing countries face the challenge of devising sustainable initiatives for enhancing recruitment, training and retention of skilled health personnel. Midwives or other mid-level providers who have been trained for shorter periods and require lower entry education qualifications can form one cadre within a spectrum of health workers who can undertake different roles, distribute workloads, and build a referral system for women and

**Figure 4.2**

### Low-income countries have only 10 hospital beds per 10,000 people



Source: World Health Organization, *World Health Statistics 2008*, WHO, Geneva, 2008, pp. 82–83.

newborns. In Mozambique, for example, midwives and nurse midwives have helped obstetricians provide cost-effective quality emergency obstetric care functions in under-serviced areas, while in Peru, community health workers pay monthly visits to high-risk households that include children under one year old, pregnant women and women of childbearing age. Several countries, such as Mali and Pakistan, have begun to broaden retention strategies, including such material incentives as accommodation, equipment and transportation in exchange for service in rural areas, and such non-financial benefits as short-term rotations and psychosocial support groups.

### **Step 3: Mobilizing societies**

Supply-side measures for improving maternal and newborn health will only be partly successful unless complemented by stronger demand for quality health care from households and communities. Social inclusion should be a priority in health-systems development, with an emphasis on including individual families, women and communities as partners in health-care provision.

One of the most important interventions to improve maternal and neonatal health is the recognition of preventable risks. Entrenched cultural attitudes and beliefs often surround pregnancy and childbirth, and women may be blamed for their own ill health and disease, as well as the mortality and morbidity of newborns. Where stillbirths and newborn deaths are common, they may not be seen as preventable. Communities can become partners in the promotion of their own health and well-being and that of their mothers and children. Health systems can enlist communities through inclusion rather than coercion. Policymakers in Ecuador have taken such an approach by legally integrating intercultural approaches in reproductive and sexual health, with the aim of encouraging greater participation of indigenous women in sustainable health development.

Just as health education is central to fostering better practices and behaviours and greater knowledge for care seeking, partnerships that directly involve key stakeholders in health provision are also important. In Burundi, for example, traditional birth attendants have been included in institutional deliveries as assistants to formal health-care workers and new mothers, who share food and other gifts rather than paying the attendants money. Fostering greater unity requires engaging all family members. In many societies where extended kin live in close proximity, in-laws and other older relatives have influence in health-care decision-making. Male partners, too, have important roles to play in improving maternal and newborn health.

## Step 4: Establishing practical, equitable and sustainable financing

Financing quality health care is a global challenge for industrialized and developing countries alike. Although there are no internationally agreed thresholds on minimum spending, the Countdown to 2015 initiative has estimated that per capita spending of less than US\$45 is insufficient to provide quality basic health-care services. Among the 68 priority countries for maternal, newborn and child health identified by the initiative, 21 have spending of less than US\$45 per capita.

No blanket policy is likely to address the needs of each country. Careful analysis of the country-specific situation, alternative financing options, and delivery strategies and barriers to access is required to support decisions on the most appropriate course of action. Many governments, even in low-resource areas, are exploring different strategies for helping families manage the costs of routine and emergency health care.

Removing direct user charges has the potential to markedly improve access to health services, especially for the poor. Several countries, from Burundi to Ghana to selected districts of Nepal, have already abolished or are in the process of eliminating some or all direct charges. The experiences of South Africa and Uganda suggest that fee removal needs to be part of a broader package of reforms that includes increasing budgets to offset lost revenue, maintaining quality and responding to increased demand. National health insurance schemes such as Bolivia's social insurance for maternal and child health-care services can increase access for the poorest women but may be hard to expand in low-resource countries. Cash transfers have also provided incentives for poorer pregnant women in such countries as Honduras, India and Mexico, but continued monitoring and evaluation of these innovations are needed.

The private sector has become an important health-care provider, particularly in Asia, but the evidence base to measure its effectiveness is still limited. The private sector is heterogeneous in nature and encompasses a variety of providers, including traditional healers and birth attendants, church-based hospitals and corporate global entities. In many low-income countries, private providers work in environments where formal regulatory controls are weak. Attention to the emerging public-private mix in health systems is urgently required because inequitable financing profiles and the unregulated nature of the private sector can affect government commitments to health care, public confidence and socio-economic disparities. Governments face the challenge of improving the regulation of private health-care providers, using international guidelines to develop national policies that mandate minimum standards of care.

## **Step 5: Investing in infrastructure, logistics, facilities and management capacity**

Strengthening health systems to support maternal and newborn care requires investing in sectors that support essential maternity and basic health-care services. In addition to enhancing information systems, it is also imperative to expand human resources, foster social mobilization and establish equitable financing, and develop infrastructure, supplies, logistics, transportation and the referral process. Greater investment in expanding and upgrading health-care facilities is urgently needed, particularly in low-income countries: The latest WHO estimates indicate there are just 10 hospital beds per 10,000 population in low-income countries, compared with almost six times that number for higher-income countries. Many developing countries also face the challenge of improving referral systems that assess population needs and health-system capabilities, encourage active collaboration between referral levels and across sectors, ensure accountability for provider performance and develop indicators to monitor effectiveness.

## **Step 6: Enhancing the quality of maternal, newborn and child care**

Quality maternity care provides a minimum level of essential interventions to all pregnant and intrapartum women and neonates, while maintaining the capacity to attend to those requiring emergency or more specialized services. Such care should strive to obtain the best possible medical outcome; satisfy providers, patients and families; maintain sound managerial and financial performance; and develop existing services in order to raise the standards of care provided to all women. While existing health systems in industrialized and middle-income countries may require reform to improve access and quality, emerging health systems can incorporate quality-of-care mechanisms into new programmes. In Côte d'Ivoire, for example, a national programme to integrate prevention of mother-to-child transmission of HIV into existing maternal health services has been shown to improve the quality of care, including active management of the third stage of labour.





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## 5 Working together for maternal and newborn health

For the six preceding steps to succeed, they need to be complemented by the seventh: the concerted support and commitment of health administrators and the national leaders and international partners involved in improving maternal and newborn health.

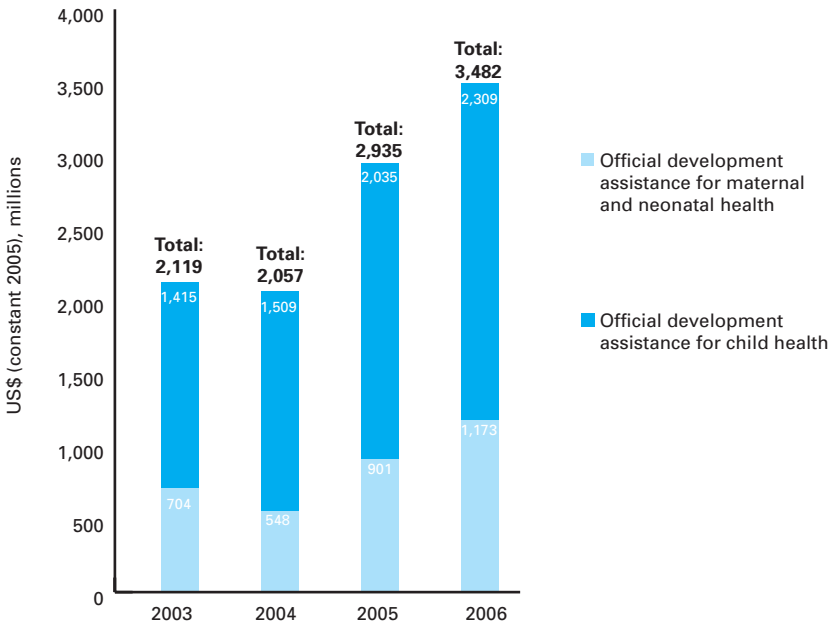
Encouraging recent advances in collaboration, aid effectiveness and resources for maternal and newborn health offer the hope of stronger improvement during the coming years. International assistance for maternal, newborn and child health increased by 64 per cent between 2003 and 2006; the work of the global health partnerships is becoming increasingly collaborative through such mechanisms as the Health Eight forum; and there is a growing consensus on the frameworks for action. Recent developments – such as the Accra Agenda for Action on aid effectiveness, and the joint declaration by WHO, UNICEF, the United Nations Population Fund and the World Bank of their intent to intensify and harmonize efforts towards achieving MDG 5 – reflect a renewed urgency towards improving maternal and newborn health.

Political commitment to maternal and newborn health is also growing at the highest levels. At the 2008 G8 summit meeting, the issue of maternal mortality was discussed, and the Partnership for Maternal, Newborn & Child Health asked leaders to increase their spending on maternal and child health and family planning by US\$10.2 billion a year. Collaborative efforts across the world are resulting in stronger commitments by regional forums such as the African Union, greater public-private cooperation, and increased alignment and harmonization of resources, competencies and actions.

The challenge is to sustain and deepen this commitment to mothers and newborns. A focus on evidence and results must drive efforts. There is no need to wait for a scientific breakthrough or a new paradigm to illuminate the best way forward. The knowledge that can save millions of newborn and maternal lives is available; data and analysis are improving rapidly; the framework for action – the Millennium Development Goals – is set. Concrete advances have been achieved in reducing the number of deaths of

**Figure 5.1**

### Official development assistance for maternal and neonatal health has risen rapidly since 2004



**Source:** Greco, Giulia, et al., 'Countdown to 2015: Assessment of donor assistance to maternal, newborn, and child health between 2003 and 2006', *The Lancet*, vol. 371, 12 April 2008, p. 1269.

children during the post-neonatal period (between 29 days and five years of age) in many developing countries. Mothers and newborns require the same attention. Efforts now must focus on ensuring that the human and financial resources, the political will, and the commitment and collaboration increasingly evident nationally and internationally all remain dedicated to the task of improving the health and survival of mothers and newborns.

# SUB-SAHARAN AFRICA

INDICATOR	REGION	WORLD
<b>Demographic indicators</b>		
Total population (2007)	767,218,000	6,655,406,000
Population under 18 (2007)	383,988,000	2,213,456,000
Population under 5 (2007)	127,624,000	629,106,000
<b>Survival</b>		
Life expectancy at birth (2007)	50	68
Neonatal mortality rate (under 28 days), per 1,000 live births (2004)	41	28
Infant mortality rate (under 1), per 1,000 live births (2007)	89	47
Under-5 mortality rate, per 1,000 live births (2007)	148	68
Under-5 mortality rate, average annual rate of reduction (1990–2007)	1.3	1.8
Maternal mortality ratio, per 100,000 live births (2005, adjusted)	920	400
<b>Health and nutrition</b>		
Percentage of infants with low birthweight (2000–2007*)	15	14
Percentage of under-5s who are moderately or severely underweight <sup>1</sup> (2000–2007*)	24	23
Percentage of population using improved drinking-water sources (2006)	58	87
Urban	81	96
Rural	45	78
Percentage of population using improved sanitation facilities (2006)	30	62
Percentage of 1-year-old children immunized (2007) against:		
Tuberculosis (BCG)	83	89
Diphtheria/pertussis/tetanus (DPT3)	73	81
Polio (polio3)	74	82
Measles	73	82
Hepatitis B (hepB3)	67	65
<i>Haemophilus influenzae</i> type b (Hib3)	34	26
Percentage of under-5s with suspected pneumonia taken to an appropriate health-care provider (2000–2007*)	40	57 **
<b>Education</b>		
Survival rate to the last grade of primary school (administrative data; 2000–2007*)	61	76 **
Net primary school attendance ratio (2000–2007*)		
Male	64	80 **
Female	61	77 **
Net secondary school attendance ratio (2000–2007*)		
Male	26	48 **
Female	22	44 **
Adult literacy rate (2000–2007*)	62	81

INDICATOR	REGION	WORLD
<b>Economic indicators</b>		
GNI per capita (US\$, 2007)	965	7,952
Percentage of population living on less than \$1.25 a day (2005)	51	–
Percentage share of central government expenditure (1997–2006*) allocated to:		
Health	–	11
Education	–	14
Defence	–	6
Percentage share of household income (1995–2005*):		
Lowest 40 per cent	13	19
Highest 20 per cent	54	42
<b>HIV/AIDS</b>		
Adult prevalence rate (15–49 years, 2007)	5.0	0.8
Estimated number of people (all ages) living with HIV (2007)	22,000,000	33,000,000
Estimated number of children (0–14 years) living with HIV (2007)	1,800,000	2,000,000
Estimated number of children (0–17 years) orphaned by AIDS (2007)	11,600,000	15,000,000
<b>Child protection</b>		
Birth registration (2000–2007*)	37	–
Urban	52	–
Rural	30	–
Child marriage (1998–2007*)	40	–
Urban	25	–
Rural	48	–
Child labour (5–14 years, 1999–2007*)	35 n	–
Male	36 n	–
Female	34 n	–
<b>Women</b>		
Adult literacy parity rate (females as a percentage of males, 2000–2007*)	75	88
Antenatal care coverage (percentage, 2000–2007*)		
At least once	72	77
At least four times	42	47 **
Skilled attendant at birth (percentage, 2000–2007*)	45	62
Lifetime risk of maternal death (2005)	1 in: 22	92

**NOTES:**

\* Data refer to the most recent year available during the period specified.

\*\* Excludes China.

– Data not available.

† Data based on new 'WHO Child Growth Standards'.

n Excludes Nigeria.

# EASTERN AND SOUTHERN AFRICA

INDICATOR	REGION	WORLD
<b>Demographic indicators</b>		
Total population (2007)	378,926,000	6,655,406,000
Population under 18 (2007)	186,875,000	2,213,456,000
Population under 5 (2007)	61,296,000	629,106,000
<b>Survival</b>		
Life expectancy at birth (2007)	50	68
Neonatal mortality rate (under 28 days), per 1,000 live births (2004)	36	28
Infant mortality rate (under 1), per 1,000 live births (2007)	80	47
Under-5 mortality rate, per 1,000 live births (2007)	123	68
Under-5 mortality rate, average annual rate of reduction (1990–2007)	1.7	1.8
Maternal mortality ratio, per 100,000 live births (2005, adjusted)	760	400
<b>Health and nutrition</b>		
Percentage of infants with low birthweight (2000–2007*)	14	14
Percentage of under-5s who are moderately or severely underweight <sup>1</sup> (2000–2007*)	23	23
Percentage of population using improved drinking-water sources (2006)	59	87
Urban	88	96
Rural	48	78
Percentage of population using improved sanitation facilities (2006)	34	62
Percentage of 1-year-old children immunized (2007) against:		
Tuberculosis (BCG)	86	89
Diphtheria/pertussis/tetanus (DPT3)	78	81
Polio (polio3)	77	82
Measles	77	82
Hepatitis B (hepB3)	77	65
<i>Haemophilus influenzae</i> type b (Hib3)	55	26
Percentage of under-5s with suspected pneumonia taken to an appropriate health-care provider (2000–2007*)	45	57 **
<b>Education</b>		
Survival rate to the last grade of primary school (administrative data; 2000–2007*)	60	76 **
Net primary school attendance ratio (2000–2007*)		
Male	66	80 **
Female	66	77 **
Net secondary school attendance ratio (2000–2007*)		
Male	20	48 **
Female	18	44 **
Adult literacy rate (2000–2007*)	65	81

INDICATOR	REGION	WORLD
<b>Economic indicators</b>		
GNI per capita (US\$, 2007)	1,245	7,952
Percentage of population living on less than \$1.25 a day (2005)	49	–
Percentage share of central government expenditure (1997–2006*) allocated to:		
Health	–	11
Education	–	14
Defence	–	6
Percentage share of household income (1995–2005*):		
Lowest 40 per cent	12	19
Highest 20 per cent	58	42
<b>HIV/AIDS</b>		
Adult prevalence rate (15–49 years, 2007)	7.8	0.8
Estimated number of people (all ages) living with HIV (2007)	16,400,000	33,000,000
Estimated number of children (0–14 years) living with HIV (2007)	1,300,000	2,000,000
Estimated number of children (0–17 years) orphaned by AIDS (2007)	8,700,000	15,000,000
<b>Child protection</b>		
Birth registration (2000–2007*)	32	–
Urban	41	–
Rural	24	–
Child marriage (1998–2007*)	36	–
Urban	20	–
Rural	43	–
Child labour (5–14 years, 1999–2007*)	36	–
Male	38	–
Female	33	–
<b>Women</b>		
Adult literacy parity rate (females as a percentage of males, 2000–2007*)	79	88
Antenatal care coverage (percentage, 2000–2007*)		
At least once	72	77
At least four times	40	47 **
Skilled attendant at birth (percentage, 2000–2007*)	40	62
Lifetime risk of maternal death (2005)	1 in: 29	92

**NOTES:**

\* Data refer to the most recent year available during the period specified.

\*\* Excludes China.

– Data not available.

† Data based on new 'WHO Child Growth Standards'.

# WEST AND CENTRAL AFRICA

INDICATOR	REGION	WORLD
<b>Demographic indicators</b>		
Total population (2007)	388,292,000	6,655,406,000
Population under 18 (2007)	197,113,000	2,213,456,000
Population under 5 (2007)	66,328,000	629,106,000
<b>Survival</b>		
Life expectancy at birth (2007)	50	68
Neonatal mortality rate (under 28 days), per 1,000 live births (2004)	45	28
Infant mortality rate (under 1), per 1,000 live births (2007)	97	47
Under-5 mortality rate, per 1,000 live births (2007)	169	68
Under-5 mortality rate, average annual rate of reduction (1990–2007)	1.2	1.8
Maternal mortality ratio, per 100,000 live births (2005, adjusted)	1,100	400
<b>Health and nutrition</b>		
Percentage of infants with low birthweight (2000–2007*)	15	14
Percentage of under-5s who are moderately or severely underweight <sup>1</sup> (2000–2007*)	24	23
Percentage of population using improved drinking-water sources (2006)	56	87
Urban	77	96
Rural	41	78
Percentage of population using improved sanitation facilities (2006)	27	62
Percentage of 1-year-old children immunized (2007) against:		
Tuberculosis (BCG)	80	89
Diphtheria/pertussis/tetanus (DPT3)	69	81
Polio (polio3)	71	82
Measles	69	82
Hepatitis B (hepB3)	58	65
<i>Haemophilus influenzae</i> type b (Hib3)	16	26
Percentage of under-5s with suspected pneumonia taken to an appropriate health-care provider (2000–2007*)	37	57 **
<b>Education</b>		
Survival rate to the last grade of primary school (administrative data; 2000–2007*)	62	76 **
Net primary school attendance ratio (2000–2007*)		
Male	63	80 **
Female	56	77 **
Net secondary school attendance ratio (2000–2007*)		
Male	31	48 **
Female	26	44 **
Adult literacy rate (2000–2007*)	60	81



INDICATOR	REGION	WORLD
<b>Economic indicators</b>		
GNI per capita (US\$, 2007)	698	7,952
Percentage of population living on less than \$1.25 a day (2005)	53	–
Percentage share of central government expenditure (1997–2006*) allocated to:		
Health	–	11
Education	–	14
Defence	–	6
Percentage share of household income (1995–2005*):		
Lowest 40 per cent	16	19
Highest 20 per cent	48	42
<b>HIV/AIDS</b>		
Adult prevalence rate (15–49 years, 2007)	2.6	0.8
Estimated number of people (all ages) living with HIV (2007)	5,600,000	33,000,000
Estimated number of children (0–14 years) living with HIV (2007)	480,000	2,000,000
Estimated number of children (0–17 years) orphaned by AIDS (2007)	3,000,000	15,000,000
<b>Child protection</b>		
Birth registration (2000–2007*)	41	–
Urban	57	–
Rural	35	–
Child marriage (1998–2007*)	44	–
Urban	28	–
Rural	55	–
Child labour (5–14 years, 1999–2007*)	35 n	–
Male	34 n	–
Female	35 n	–
<b>Women</b>		
Adult literacy parity rate (females as a percentage of males, 2000–2007*)	72	88
Antenatal care coverage (percentage, 2000–2007*)		
At least once	71	77
At least four times	44	47 **
Skilled attendant at birth (percentage, 2000–2007*)	49	62
Lifetime risk of maternal death (2005)	1 in: 17	92

**NOTES:**

\* Data refer to the most recent year available during the period specified.

\*\* Excludes China.

– Data not available.

† Data based on new 'WHO Child Growth Standards'.

n Excludes Nigeria.

# MIDDLE EAST AND NORTH AFRICA

INDICATOR	REGION	WORLD
<b>Demographic indicators</b>		
Total population (2007)	389,176,000	6,655,406,000
Population under 18 (2007)	153,178,000	2,213,456,000
Population under 5 (2007)	44,789,000	629,106,000
<b>Survival</b>		
Life expectancy at birth (2007)	69	68
Neonatal mortality rate (under 28 days), per 1,000 live births (2004)	25	28
Infant mortality rate (under 1), per 1,000 live births (2007)	36	47
Under-5 mortality rate, per 1,000 live births (2007)	46	68
Under-5 mortality rate, average annual rate of reduction (1990–2007)	3.2	1.8
Maternal mortality ratio, per 100,000 live births (2005, adjusted)	210	400
<b>Health and nutrition</b>		
Percentage of infants with low birthweight (2000–2007*)	12	14
Percentage of under-5s who are moderately or severely underweight <sup>1</sup> (2000–2007*)	11	23
Percentage of population using improved drinking-water sources (2006)	87	87
Urban	94	96
Rural	78	78
Percentage of population using improved sanitation facilities (2006)	73	62
Percentage of 1-year-old children immunized (2007) against:		
Tuberculosis (BCG)	92	89
Diphtheria/pertussis/tetanus (DPT3)	91	81
Polio (polio3)	92	82
Measles	89	82
Hepatitis B (hepB3)	89	65
<i>Haemophilus influenzae</i> type b (Hib3)	32	26
Percentage of under-5s with suspected pneumonia taken to an appropriate health-care provider (2000–2007*)	68	57 **
<b>Education</b>		
Survival rate to the last grade of primary school (administrative data; 2000–2007*)	83	76 **
Net primary school attendance ratio (2000–2007*)		
Male	88	80 **
Female	85	77 **
Net secondary school attendance ratio (2000–2007*)		
Male	54	48 **
Female	52	44 **
Adult literacy rate (2000–2007*)	75	81

INDICATOR	REGION	WORLD
<b>Economic indicators</b>		
GNI per capita (US\$, 2007)	3,666	7,952
Percentage of population living on less than \$1.25 a day (2005)	4	–
Percentage share of central government expenditure (1997–2006*) allocated to:		
Health	15	11
Education	5	14
Defence	14	6
Percentage share of household income (1995–2005*):		
Lowest 40 per cent	18	19
Highest 20 per cent	45	42
<b>HIV/AIDS</b>		
Adult prevalence rate (15–49 years, 2007)	0.3	0.8
Estimated number of people (all ages) living with HIV (2007)	480,000	33,000,000
Estimated number of children (0–14 years) living with HIV (2007)	28,000	2,000,000
Estimated number of children (0–17 years) orphaned by AIDS (2007)	–	15,000,000
<b>Child protection</b>		
Birth registration (2000–2007*)	75	–
Urban	86	–
Rural	67	–
Child marriage (1998–2007*)	18	–
Urban	12	–
Rural	23	–
Child labour (5–14 years, 1999–2007*)	9	–
Male	10	–
Female	8	–
<b>Women</b>		
Adult literacy parity rate (females as a percentage of males, 2000–2007*)	78	88
Antenatal care coverage (percentage, 2000–2007*)		
At least once	72	77
At least four times	–	47 **
Skilled attendant at birth (percentage, 2000–2007*)	81	62
Lifetime risk of maternal death (2005)	1 in: 140	92

**NOTES:**

\* Data refer to the most recent year available during the period specified.

\*\* Excludes China.

– Data not available.

† Data based on new 'WHO Child Growth Standards'.

# SOUTH ASIA

INDICATOR	REGION	WORLD
<b>Demographic indicators</b>		
Total population (2007)	1,567,187,000	6,655,406,000
Population under 18 (2007)	614,747,000	2,213,456,000
Population under 5 (2007)	175,250,000	629,106,000
<b>Survival</b>		
Life expectancy at birth (2007)	64	68
Neonatal mortality rate (under 28 days), per 1,000 live births (2004)	41	28
Infant mortality rate (under 1), per 1,000 live births (2007)	59	47
Under-5 mortality rate, per 1,000 live births (2007)	78	68
Under-5 mortality rate, average annual rate of reduction (1990–2007)	2.8	1.8
Maternal mortality ratio, per 100,000 live births (2005, adjusted)	500	400
<b>Health and nutrition</b>		
Percentage of infants with low birthweight (2000–2007*)	27	14
Percentage of under-5s who are moderately or severely underweight <sup>1</sup> (2000–2007*)	41	23
Percentage of population using improved drinking-water sources (2006)	87	87
Urban	94	96
Rural	84	78
Percentage of population using improved sanitation facilities (2006)	33	62
Percentage of 1-year-old children immunized (2007) against:		
Tuberculosis (BCG)	87	89
Diphtheria/pertussis/tetanus (DPT3)	69	81
Polio (polio3)	69	82
Measles	71	82
Hepatitis B (hepB3)	29	65
<i>Haemophilus influenzae</i> type b (Hib3)	–	26
Percentage of under-5s with suspected pneumonia taken to an appropriate health-care provider (2000–2007*)	63	57 **
<b>Education</b>		
Survival rate to the last grade of primary school (administrative data; 2000–2007*)	72	76 **
Net primary school attendance ratio (2000–2007*)		
Male	81	80 **
Female	77	77 **
Net secondary school attendance ratio (2000–2007*)		
Male	51	48 **
Female	43	44 **
Adult literacy rate (2000–2007*)	63	81

INDICATOR	REGION	WORLD
<b>Economic indicators</b>		
GNI per capita (US\$, 2007)	889	7,952
Percentage of population living on less than \$1.25 a day (2005)	40	–
Percentage share of central government expenditure (1997–2006*) allocated to:		
Health	14	11
Education	2	14
Defence	5	6
Percentage share of household income (1995–2005*):		
Lowest 40 per cent	19	19
Highest 20 per cent	46	42
<b>HIV/AIDS</b>		
Adult prevalence rate (15–49 years, 2007)	0.3	0.8
Estimated number of people (all ages) living with HIV (2007)	2,600,000	33,000,000
Estimated number of children (0–14 years) living with HIV (2007)	110,000	2,000,000
Estimated number of children (0–17 years) orphaned by AIDS (2007)	–	15,000,000
<b>Child protection</b>		
Birth registration (2000–2007*)	36	–
Urban	52	–
Rural	30	–
Child marriage (1998–2007*)	49	–
Urban	32	–
Rural	58	–
Child labour (5–14 years, 1999–2007*)	13	–
Male	13	–
Female	12	–
<b>Women</b>		
Adult literacy parity rate (females as a percentage of males, 2000–2007*)	71	88
Antenatal care coverage (percentage, 2000–2007*)		
At least once	68	77
At least four times	34	47 **
Skilled attendant at birth (percentage, 2000–2007*)	41	62
Lifetime risk of maternal death (2005)	1 in: 59	92

**NOTES:**

\* Data refer to the most recent year available during the period specified.

\*\* Excludes China.

– Data not available.

† Data based on new 'WHO Child Growth Standards'.

# EAST ASIA AND PACIFIC

INDICATOR	REGION	WORLD
<b>Demographic indicators</b>		
Total population (2007)	1,984,273,000	6,655,406,000
Population under 18 (2007)	559,872,000	2,213,456,000
Population under 5 (2007)	144,441,000	629,106,000
<b>Survival</b>		
Life expectancy at birth (2007)	72	68
Neonatal mortality rate (under 28 days), per 1,000 live births (2004)	18	28
Infant mortality rate (under 1), per 1,000 live births (2007)	22	47
Under-5 mortality rate, per 1,000 live births (2007)	27	68
Under-5 mortality rate, average annual rate of reduction (1990–2007)	4.3	1.8
Maternal mortality ratio, per 100,000 live births (2005, adjusted)	150	400
<b>Health and nutrition</b>		
Percentage of infants with low birthweight (2000–2007*)	6	14
Percentage of under-5s who are moderately or severely underweight <sup>1</sup> (2000–2007*)	11	23
Percentage of population using improved drinking-water sources (2006)	88	87
Urban	96	96
Rural	81	78
Percentage of population using improved sanitation facilities (2006)	66	62
Percentage of 1-year-old children immunized (2007) against:		
Tuberculosis (BCG)	93	89
Diphtheria/pertussis/tetanus (DPT3)	89	81
Polio (polio3)	91	82
Measles	90	82
Hepatitis B (hepB3)	87	65
<i>Haemophilus influenzae</i> type b (Hib3)	2	26
Percentage of under-5s with suspected pneumonia taken to an appropriate health-care provider (2000–2007*)	65**	57**
<b>Education</b>		
Survival rate to the last grade of primary school (administrative data; 2000–2007*)	80**	76**
Net primary school attendance ratio (2000–2007*)		
Male	92**	80**
Female	92**	77**
Net secondary school attendance ratio (2000–2007*)		
Male	60**	48**
Female	63**	44**
Adult literacy rate (2000–2007*)	93	81

INDICATOR	REGION	WORLD
<b>Economic indicators</b>		
GNI per capita (US\$, 2007)	2,742	7,952
Percentage of population living on less than \$1.25 a day (2005)	17	–
Percentage share of central government expenditure (1997–2006*) allocated to:		
Health	11	11
Education	1	14
Defence	7	6
Percentage share of household income (1995–2005*):		
Lowest 40 per cent	16	19
Highest 20 per cent	46	42
<b>HIV/AIDS</b>		
Adult prevalence rate (15–49 years, 2007)	0.2	0.8
Estimated number of people (all ages) living with HIV (2007)	2,400,000	33,000,000
Estimated number of children (0–14 years) living with HIV (2007)	41,000	2,000,000
Estimated number of children (0–17 years) orphaned by AIDS (2007)	–	15,000,000
<b>Child protection</b>		
Birth registration (2000–2007*)	72**	–
Urban	81**	–
Rural	67**	–
Child marriage (1998–2007*)	19**	–
Urban	12**	–
Rural	25**	–
Child labour (5–14 years, 1999–2007*)	10**	–
Male	11**	–
Female	10**	–
<b>Women</b>		
Adult literacy parity rate (females as a percentage of males, 2000–2007*)	93	88
Antenatal care coverage (percentage, 2000–2007*)		
At least once	89	77
At least four times	66**	47**
Skilled attendant at birth (percentage, 2000–2007*)	87	62
Lifetime risk of maternal death (2005)	1 in: 350	92

**NOTES:**

\* Data refer to the most recent year available during the period specified.

\*\* Excludes China.

– Data not available.

† Data based on new 'WHO Child Growth Standards'.

# LATIN AMERICA AND CARIBBEAN

INDICATOR	REGION	WORLD
<b>Demographic indicators</b>		
Total population (2007)	566,646,000	6,655,406,000
Population under 18 (2007)	197,226,000	2,213,456,000
Population under 5 (2007)	55,622,000	629,106,000
<b>Survival</b>		
Life expectancy at birth (2007)	73	68
Neonatal mortality rate (under 28 days), per 1,000 live births (2004)	13	28
Infant mortality rate (under 1), per 1,000 live births (2007)	22	47
Under-5 mortality rate, per 1,000 live births (2007)	26	68
Under-5 mortality rate, average annual rate of reduction (1990–2007)	4.4	1.8
Maternal mortality ratio, per 100,000 live births (2005, adjusted)	130	400
<b>Health and nutrition</b>		
Percentage of infants with low birthweight (2000–2007*)	9	14
Percentage of under-5s who are moderately or severely underweight <sup>1</sup> (2000–2007*)	5	23
Percentage of population using improved drinking-water sources (2006)	92	87
Urban	97	96
Rural	73	78
Percentage of population using improved sanitation facilities (2006)	79	62
Percentage of 1-year-old children immunized (2007) against:		
Tuberculosis (BCG)	96	89
Diphtheria/pertussis/tetanus (DPT3)	92	81
Polio (polio3)	93	82
Measles	93	82
Hepatitis B (hepB3)	89	65
<i>Haemophilus influenzae</i> type b (Hib3)	90	26
Percentage of under-5s with suspected pneumonia taken to an appropriate health-care provider (2000–2007*)	–	57 **
<b>Education</b>		
Survival rate to the last grade of primary school (administrative data; 2000–2007*)	84	76 **
Net primary school attendance ratio (2000–2007*)		
Male	90	80 **
Female	91	77 **
Net secondary school attendance ratio (2000–2007*)		
Male	–	48 **
Female	–	44 **
Adult literacy rate (2000–2007*)	91	81



INDICATOR	REGION	WORLD
<b>Economic indicators</b>		
GNI per capita (US\$, 2007)	5,628	7,952
Percentage of population living on less than \$1.25 a day (2005)	8	–
Percentage share of central government expenditure (1997–2006*) allocated to:		
Health	4	11
Education	7	14
Defence	14	6
Percentage share of household income (1995–2005*):		
Lowest 40 per cent	11	19
Highest 20 per cent	56	42
<b>HIV/AIDS</b>		
Adult prevalence rate (15–49 years, 2007)	0.6	0.8
Estimated number of people (all ages) living with HIV (2007)	1,900,000	33,000,000
Estimated number of children (0–14 years) living with HIV (2007)	55,000	2,000,000
Estimated number of children (0–17 years) orphaned by AIDS (2007)	–	15,000,000
<b>Child protection</b>		
Birth registration (2000–2007*)	89	–
Urban	92	–
Rural	82	–
Child marriage (1998–2007*)	–	–
Urban	–	–
Rural	–	–
Child labour (5–14 years, 1999–2007*)	11	–
Male	11	–
Female	10	–
<b>Women</b>		
Adult literacy parity rate (females as a percentage of males, 2000–2007*)	99	88
Antenatal care coverage (percentage, 2000–2007*)		
At least once	94	77
At least four times	83	47 **
Skilled attendant at birth (percentage, 2000–2007*)	85	62
Lifetime risk of maternal death (2005)	1 in: 280	92

**NOTES:**

\* Data refer to the most recent year available during the period specified.

\*\* Excludes China.

– Data not available.

† Data based on new 'WHO Child Growth Standards'.

# CENTRAL AND EASTERN EUROPE/ COMMONWEALTH OF INDEPENDENT STATES

INDICATOR	REGION	WORLD
<b>Demographic indicators</b>		
Total population (2007)	405,992,000	6,655,406,000
Population under 18 (2007)	100,110,000	2,213,456,000
Population under 5 (2007)	26,458,000	629,106,000
<b>Survival</b>		
Life expectancy at birth (2007)	68	68
Neonatal mortality rate (under 28 days), per 1,000 live births (2004)	16	28
Infant mortality rate (under 1), per 1,000 live births (2007)	22	47
Under-5 mortality rate, per 1,000 live births (2007)	25	68
Under-5 mortality rate, average annual rate of reduction (1990–2007)	4.4	1.8
Maternal mortality ratio, per 100,000 live births (2005, adjusted)	46	400
<b>Health and nutrition</b>		
Percentage of infants with low birthweight (2000–2007*)	6	14
Percentage of under-5s who are moderately or severely underweight <sup>1</sup> (2000–2007*)	–	23
Percentage of population using improved drinking-water sources (2006)	94	87
Urban	99	96
Rural	86	78
Percentage of population using improved sanitation facilities (2006)	89	62
Percentage of 1-year-old children immunized (2007) against:		
Tuberculosis (BCG)	96	89
Diphtheria/pertussis/tetanus (DPT3)	96	81
Polio (polio3)	97	82
Measles	97	82
Hepatitis B (hepB3)	96	65
<i>Haemophilus influenzae</i> type b (Hib3)	23	26
Percentage of under-5s with suspected pneumonia taken to an appropriate health-care provider (2000–2007*)	57	57 **
<b>Education</b>		
Survival rate to the last grade of primary school (administrative data; 2000–2007*)	96	76 **
Net primary school attendance ratio (2000–2007*)		
Male	93	80 **
Female	91	77 **
Net secondary school attendance ratio (2000–2007*)		
Male	79	48 **
Female	76	44 **
Adult literacy rate (2000–2007*)	97	81

INDICATOR	REGION	WORLD
<b>Economic indicators</b>		
GNI per capita (US\$, 2007)	5,686	7,952
Percentage of population living on less than \$1.25 a day (2005)	4	–
Percentage share of central government expenditure (1997–2006*) allocated to:		
Health	9	11
Education	7	14
Defence	6	6
Percentage share of household income (1995–2005*):		
Lowest 40 per cent	20	19
Highest 20 per cent	42	42
<b>HIV/AIDS</b>		
Adult prevalence rate (15–49 years, 2007)	0.8	0.8
Estimated number of people (all ages) living with HIV (2007)	1,500,000	33,000,000
Estimated number of children (0–14 years) living with HIV (2007)	11,000	2,000,000
Estimated number of children (0–17 years) orphaned by AIDS (2007)	–	15,000,000
<b>Child protection</b>		
Birth registration (2000–2007*)	92	–
Urban	93	–
Rural	92	–
Child marriage (1998–2007*)	11	–
Urban	11	–
Rural	13	–
Child labour (5–14 years, 1999–2007*)	5	–
Male	5	–
Female	5	–
<b>Women</b>		
Adult literacy parity rate (females as a percentage of males, 2000–2007*)	97	88
Antenatal care coverage (percentage, 2000–2007*)		
At least once	90	77
At least four times	–	47 **
Skilled attendant at birth (percentage, 2000–2007*)	94	62
Lifetime risk of maternal death (2005)	1 in: 1,300	92

**NOTES:**

\* Data refer to the most recent year available during the period specified.

\*\* Excludes China.

– Data not available.

† Data based on new 'WHO Child Growth Standards'.

# INDUSTRIALIZED COUNTRIES

INDICATOR	REGION	WORLD
<b>Demographic indicators</b>		
Total population (2007)	974,913,000	6,655,406,000
Population under 18 (2007)	204,334,000	2,213,456,000
Population under 5 (2007)	54,922,000	629,106,000
<b>Survival</b>		
Life expectancy at birth (2007)	79	68
Neonatal mortality rate (under 28 days), per 1,000 live births (2004)	3	28
Infant mortality rate (under 1), per 1,000 live births (2007)	5	47
Under-5 mortality rate, per 1,000 live births (2007)	6	68
Under-5 mortality rate, average annual rate of reduction (1990–2007)	3.0	1.8
Maternal mortality ratio, per 100,000 live births (2005, adjusted)	8	400
<b>Health and nutrition</b>		
Percentage of infants with low birthweight (2000–2007*)	7	14
Percentage of under-5s who are moderately or severely underweight <sup>1</sup> (2000–2007*)	–	23
Percentage of population using improved drinking-water sources (2006)	100	87
Urban	100	96
Rural	98	78
Percentage of population using improved sanitation facilities (2006)	100	62
Percentage of 1-year-old children immunized (2007) against:		
Tuberculosis (BCG)	–	89
Diphtheria/pertussis/tetanus (DPT3)	96	81
Polio (polio3)	94	82
Measles	93	82
Hepatitis B (hepB3)	65	65
<i>Haemophilus influenzae</i> type b (Hib3)	84	26
Percentage of under-5s with suspected pneumonia taken to an appropriate health-care provider (2000–2007*)	–	57 **
<b>Education</b>		
Survival rate to the last grade of primary school (administrative data; 2000–2007*)	97	76 **
Net primary school attendance ratio (2000–2007*)		
Male	–	80 **
Female	–	77 **
Net secondary school attendance ratio (2000–2007*)		
Male	–	48 **
Female	–	44 **
Adult literacy rate (2000–2007*)	–	81

INDICATOR	REGION	WORLD
<b>Economic indicators</b>		
GNI per capita (US\$, 2007)	38,579	7,952
Percentage of population living on less than \$1.25 a day (2005)	–	–
Percentage share of central government expenditure (1997–2006*) allocated to:		
Health	12	11
Education	18	14
Defence	4	6
Percentage share of household income (1995–2005*):		
Lowest 40 per cent	20	19
Highest 20 per cent	40	42
<b>HIV/AIDS</b>		
Adult prevalence rate (15–49 years, 2007)	0.3	0.8
Estimated number of people (all ages) living with HIV (2007)	2,000,000	33,000,000
Estimated number of children (0–14 years) living with HIV (2007)	5,800	2,000,000
Estimated number of children (0–17 years) orphaned by AIDS (2007)	–	15,000,000
<b>Child protection</b>		
Birth registration (2000–2007*)	–	–
Urban	–	–
Rural	–	–
Child marriage (1998–2007*)	–	–
Urban	–	–
Rural	–	–
Child labour (5–14 years, 1999–2007*)	–	–
Male	–	–
Female	–	–
<b>Women</b>		
Adult literacy parity rate (females as a percentage of males, 2000–2007*)	–	88
Antenatal care coverage (percentage, 2000–2007*)		
At least once	–	77
At least four times	–	47 **
Skilled attendant at birth (percentage, 2000–2007*)	–	62
Lifetime risk of maternal death (2005)	1 in: 8,000	92

**NOTES:**

\* Data refer to the most recent year available during the period specified.

\*\* Excludes China.

– Data not available.

† Data based on new 'WHO Child Growth Standards'.

# DEVELOPING COUNTRIES

INDICATOR	REGION	WORLD
<b>Demographic indicators</b>		
Total population (2007)	5,432,837,000	6,655,406,000
Population under 18 (2007)	1,962,419,000	2,213,456,000
Population under 5 (2007)	562,128,000	629,106,000
<b>Survival</b>		
Life expectancy at birth (2007)	67	68
Neonatal mortality rate (under 28 days), per 1,000 live births (2004)	31	28
Infant mortality rate (under 1), per 1,000 live births (2007)	51	47
Under-5 mortality rate, per 1,000 live births (2007)	74	68
Under-5 mortality rate, average annual rate of reduction (1990–2007)	1.9	1.8
Maternal mortality ratio, per 100,000 live births (2005, adjusted)	450	400
<b>Health and nutrition</b>		
Percentage of infants with low birthweight (2000–2007*)	15	14
Percentage of under-5s who are moderately or severely underweight <sup>1</sup> (2000–2007*)	24	23
Percentage of population using improved drinking-water sources (2006)	84	87
Urban	94	96
Rural	76	78
Percentage of population using improved sanitation facilities (2006)	53	62
Percentage of 1-year-old children immunized (2007) against:		
Tuberculosis (BCG)	89	89
Diphtheria/pertussis/tetanus (DPT3)	80	81
Polio (polio3)	81	82
Measles	81	82
Hepatitis B (hepB3)	65	65
<i>Haemophilus influenzae</i> type b (Hib3)	21	26
Percentage of under-5s with suspected pneumonia taken to an appropriate health-care provider (2000–2007*)	57**	57**
<b>Education</b>		
Survival rate to the last grade of primary school (administrative data; 2000–2007*)	74**	76**
Net primary school attendance ratio (2000–2007*)		
Male	80**	80**
Female	77**	77**
Net secondary school attendance ratio (2000–2007*)		
Male	48**	48**
Female	43**	44**
Adult literacy rate (2000–2007*)	79	81

INDICATOR	REGION	WORLD
<b>Economic indicators</b>		
GNI per capita (US\$, 2007)	2,405	7,952
Percentage of population living on less than \$1.25 a day (2005)	25	–
Percentage share of central government expenditure (1997–2006*) allocated to:		
Health	10	11
Education	3	14
Defence	9	6
Percentage share of household income (1995–2005*):		
Lowest 40 per cent	15	19
Highest 20 per cent	50	42
<b>HIV/AIDS</b>		
Adult prevalence rate (15–49 years, 2007)	0.9	0.8
Estimated number of people (all ages) living with HIV (2007)	29,500,000	33,000,000
Estimated number of children (0–14 years) living with HIV (2007)	2,000,000	2,000,000
Estimated number of children (0–17 years) orphaned by AIDS (2007)	–	15,000,000
<b>Child protection</b>		
Birth registration (2000–2007*)	50**	–
Urban	65**	–
Rural	39**	–
Child marriage (1998–2007*)	36**	–
Urban	22**	–
Rural	46**	–
Child labour (5–14 years, 1999–2007*)	16***	–
Male	17***	–
Female	15***	–
<b>Women</b>		
Adult literacy parity rate (females as a percentage of males, 2000–2007*)	86	88
Antenatal care coverage (percentage, 2000–2007*)		
At least once	77	77
At least four times	46**	47**
Skilled attendant at birth (percentage, 2000–2007*)	61	62
Lifetime risk of maternal death (2005)	1 in: 76	92

**NOTES:**

\* Data refer to the most recent year available during the period specified.

\*\* Excludes China.

\*\*\* Excludes China and Nigeria.

– Data not available.

† Data based on new 'WHO Child Growth Standards'.

# LEAST DEVELOPED COUNTRIES

INDICATOR	REGION	WORLD
<b>Demographic indicators</b>		
Total population (2007)	804,450,000	6,655,406,000
Population under 18 (2007)	383,853,000	2,213,456,000
Population under 5 (2007)	124,237,000	629,106,000
<b>Survival</b>		
Life expectancy at birth (2007)	55	68
Neonatal mortality rate (under 28 days), per 1,000 live births (2004)	40	28
Infant mortality rate (under 1), per 1,000 live births (2007)	84	47
Under-5 mortality rate, per 1,000 live births (2007)	130	68
Under-5 mortality rate, average annual rate of reduction (1990–2007)	1.9	1.8
Maternal mortality ratio, per 100,000 live births (2005, adjusted)	870	400
<b>Health and nutrition</b>		
Percentage of infants with low birthweight (2000–2007*)	17	14
Percentage of under-5s who are moderately or severely underweight <sup>1</sup> (2000–2007*)	30	23
Percentage of population using improved drinking-water sources (2006)	62	87
Urban	81	96
Rural	55	78
Percentage of population using improved sanitation facilities (2006)	33	62
Percentage of 1-year-old children immunized (2007) against:		
Tuberculosis (BCG)	85	89
Diphtheria/pertussis/tetanus (DPT3)	79	81
Polio (polio3)	79	82
Measles	76	82
Hepatitis B (hepB3)	75	65
<i>Haemophilus influenzae</i> type b (Hib3)	28	26
Percentage of under-5s with suspected pneumonia taken to an appropriate health-care provider (2000–2007*)	42	57 **
<b>Education</b>		
Survival rate to the last grade of primary school (administrative data; 2000–2007*)	60	76 **
Net primary school attendance ratio (2000–2007*)		
Male	65	80 **
Female	63	77 **
Net secondary school attendance ratio (2000–2007*)		
Male	26	48 **
Female	24	44 **
Adult literacy rate (2000–2007*)	57	81



INDICATOR	REGION	WORLD
<b>Economic indicators</b>		
GNI per capita (US\$, 2007)	491	7,952
Percentage of population living on less than \$1.25 a day (2005)	54	–
Percentage share of central government expenditure (1997–2006*) allocated to:		
Health	14	11
Education	5	14
Defence	14	6
Percentage share of household income (1995–2005*):		
Lowest 40 per cent	15	19
Highest 20 per cent	50	42
<b>HIV/AIDS</b>		
Adult prevalence rate (15–49 years, 2007)	2.2	0.8
Estimated number of people (all ages) living with HIV (2007)	10,000,000	33,000,000
Estimated number of children (0–14 years) living with HIV (2007)	900,000	2,000,000
Estimated number of children (0–17 years) orphaned by AIDS (2007)	–	15,000,000
<b>Child protection</b>		
Birth registration (2000–2007*)	29	–
Urban	42	–
Rural	25	–
Child marriage (1998–2007*)	49	–
Urban	37	–
Rural	55	–
Child labour (5–14 years, 1999–2007*)	30	–
Male	31	–
Female	28	–
<b>Women</b>		
Adult literacy parity rate (females as a percentage of males, 2000–2007*)	72	88
Antenatal care coverage (percentage, 2000–2007*)		
At least once	64	77
At least four times	32	47 **
Skilled attendant at birth (percentage, 2000–2007*)	39	62
Lifetime risk of maternal death (2005)	1 in: 24	92

**NOTES:**

\* Data refer to the most recent year available during the period specified.

\*\* Excludes China.

– Data not available.

† Data based on new 'WHO Child Growth Standards'.





*The State of the World's Children 2009* examines critical issues in maternal and newborn health, underscoring the need to establish comprehensive continua of care for mothers, newborns and children. The report outlines key paradigms in health programming and policies for mothers and newborns, and examines partnerships and collaborative initiatives aimed at improving maternal and neonatal health. Africa and Asia are a key focus for this report, which complements the previous year's issue on child survival.



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