TRACKING PROGRESS IN MATERNAL, NEWBORN & CHILD SURVIVAL

The 2008 Report
Contributors

Lead Authors
Jennifer Bryce, Johns Hopkins University, USA and Jennifer Harris Requejo, PMNCH, Switzerland

Special Recognition
Tessa Vandeven, Archana Dwivedi, Holly Newby of UNICEF, for technical support and substantial contribution to all phases of report preparation and production.

2008 Countdown Working Group
Jeannine Akinnusi, UNICEF, USA
Pracle Akvaro, UNICEF, USA
Henrik Axelson, PMNCH, Switzerland
Stan Bernstein, UNFPA, USA
Zulfique Bhutta, Aga Khan University, Pakistan
Robert Black, Johns Hopkins University, USA
Ties Boerma, WHO, Switzerland
Josephine Bonghi, LSHTM, UK
Jennifer Bryce, Johns Hopkins University, USA
Flavia Bustreo, PMNCH, Switzerland
Dennis Callau, Global Movement for Children, Switzerland
Naomi Cassirer, ILD, Switzerland
Elvanova Cavagnaro, WHO, Switzerland
David Clark, UNICEF, USA
Gorgio Correnti, Save the Children, UK
Bernadette Daelmans, UNFPA, WHO, Switzerland
Nita Damay, UNICEF, USA
Mina de Pauw, WHO, Switzerland
Archana Dwivedi, UNICEF, USA
Leslie Elder, Save the Children, Save the Children, USA
Cesar Victora, LSHTM, WHO, Switzerland
Vincent Fauveau, UNFPA, Switzerland
Helge Frognst, NORAD, Norway
Anastasia J. Duge Tuleana University, USA
Yousoughy Saye, Ministry of Health, Senegal
Wendy Graham, University of Aberdeen, UK
Gulda Green, LSHTM, UK
Nina Gupta, WHO, Switzerland
Richard Hutton, The Lance, UK
Julia Hussen, University of Aberdeen, UK
Moses Ilecri, WHO, Switzerland
Kareen Jabri, Inter-Parliamentary Union, Switzerland
Kate Keller, Save the Children, Save the Children, USA
Beth Kirkwood, LSHTM, UK
Joy Laws, Save the Children, Save the Children, USA
Samantha Lobis, Columbia University, USA
Viviana Mangiaterra, WHO, Switzerland
Elizabeth Mason, WHO, Switzerland
Jeffrey Massokey, Save the Children, UK
Anne Mills, LSHTM, UK
Holly Newby, UNICEF, USA
Maryanne Neil, UNICEF, USA
Anita Pelt, UNFPA, USA
Tim Powell-Jackson, LSHTM, UK
Sonja Rabeneck, PMNCH, Switzerland
Jennifer Harris Requejo, PMNCH, Switzerland
Carme Pons, PMA2020, Switzerland
Peter Salama, UNICEF, USA
David Sanders, University of Western Cape, South Africa
Hannah Schmirger, Jaffe-Cousen, USA
Luke Say, WHO, Switzerland
Woerner Schurpar, UNICEF, USA
Amal Shethar, WHO, Switzerland
Seta Shrestha, UNICEF, USA
Robert Scheppeke, WHO, Switzerland
Francesco Spagnoli, PMNCH, Switzerland
Marina Steinhoffer, WHO, Switzerland
Alice Stalpers, Family Care International, USA
Sissel Hodne Steen, NORAD, Norway
Nancy Tamir, UNICEF, USA
Anne Tierkin, Save the Children, USA
Jim Tulloch, AusAid, Australia
Stewart Tyson, DFID, UK
Patrick Unterlechner, PMNCH, Switzerland
Cristina Valente, WHO, Switzerland
Cesar Victora, Universidade Federal de Pelotas, Brazil
Texas Wardlaw, UNICEF, USA

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Working Groups


Equity: Henrik Axelson, Stan Bernstein, Ties Boerma, Wendy Graham, Kate Kerber, Betty Kirkwood, Jeffrey McEayie, Carmen Romero, Cesar Victora

Financial Flow: Henrik Axelson, Zulfique Bhutta, Josephine Bonghi, Flavia Busteo, Guilia Greco, Anne Tinker, Tim Powell-Jackson


Abbreviations

AARP Average annual rate of reduction
AMB Antenatal care attendance
BHR Birth history record
ICHHRIDS International Health, Education and Research Initiative Group
CIA Global Alliance for Vaccines Initiative
ENI Fund for AIDS, TB and Malaria
HIV Human immunodeficiency virus
ILD International Labour Organisation
ICHC Integrated management of childhood illness
ISCO International Standard Classification of Occupations
LMIC Low-income countries
MICS Multiple Indicator Cluster Survey
NMR Neonatal Mortality Rate
OECD Organisation for Economic Co-operation and Development
PMNCH Partnership for Maternal, Newborn and Child Health
SWAPs Sector-Wide Approaches
USHR Under-five mortality rate
UNFPA United Nations Population Fund
UNGASS United Nations General Assembly Special Session
UNICEF United Nations Children’s Fund
WPF World For Children
WHO World Health Organization

The Countdown 2008 Report

About the Report

In 2008, we released the third report in our series, tracking progress in maternal, newborn and child survival. In this report, we focus on achieving the Millennium Development Goals (MDGs) through the Partnership for Maternal, Newborn and Child Health (PMNCH). The report provides an overview of the current state of birth and child survival and includes updates on the progress of the MDGs and the key strategic frameworks that support the goals.

This report is a product of the Countdown 2008 Working Group, which includes representatives from a wide range of organizations and countries. The group is led by the organizers of the Countdown core groups, including the UNICEF Strategic Information Section, the WHO, and the UNFPA. The group meets annually to review and improve the report.

The report includes data on under-five mortality rates, neonatal mortality rates, maternal mortality rates, and several other key indicators. It also provides an overview of the key strategies and frameworks that have been developed to support progress on the MDGs, including the Global Strategy for Women’s, Children’s, and Adolescents’ Health, the MDGs, and the Joint Monitoring Programme on Water Supply and Sanitation.

The report concludes with recommendations for future action and highlights the need for continued investment in maternal, newborn and child health to achieve the MDGs.

Conclusion

In conclusion, the Countdown 2008 Report provides a comprehensive overview of progress on the MDGs and highlights the need for continued investment and action to achieve the goals. The report is a valuable resource for policymakers, educators, and all those working to improve health outcomes for women and children around the world.
Summary

The last few years have seen enormous and welcome developments in global public health and nutrition. There is growing recognition – increasingly backed by resources – that achieving the Millennium Development Goals (box 1) will demand radical changes to the scale and scope of effective strategies. The Countdown to 2015 responds to these calls for change.

The Countdown pursues these objectives through conferences, publications and follow-up regional and country activities, focusing attention on progress towards national-level coverage of proven interventions in countries with the highest levels of maternal and child mortality. The activities of the Countdown are guided by four principles (box 2).

Countdown priority countries

The 68 priority countries for the Countdown to 2015 bear the world’s highest burdens of maternal and child mortality (figure 1). Together these countries account for 97 per cent of maternal and child deaths. Included among the priority countries are 34 of the 36 countries in the world with the highest prevalence of child undernutrition.

Interventions and indicators

All interventions tracked through the Countdown are empirically proven to reduce mortality among mothers, newborns or children. Coverage with broader approaches, such as antenatal and postnatal care, delivery and reproductive health services also need to be tracked, as they provide the basic platform for delivery of multiple effective interventions to reduce maternal and newborn mortality.

The Countdown tracks only interventions and approaches that are feasible for universal implementation in poor countries. In addition, to be tracked, an intervention or approach must be associated with a valid coverage indicator that is reliable and comparable across countries and time. The Countdown recognizes the limitations of some coverage indicators now used and is doing technical work to improve them. Finally, the 68 Countdown country profiles present other information helpful for interpreting coverage levels, including:

- Country-specific estimates of maternal and child mortality and child nutritional status,
- The status of policies related to maternal, newborn and child health,
- Indicators of health system strength,
- Measures of equity in coverage,
- Estimates of financial flows to maternal, newborn and child health and nutrition.

Key findings of the 2008 Countdown

The report contains profiles for each of the 68 Countdown priority countries. Benin is shown as an example in figure 2. Benin was selected because it is the first country profile (in alphabetical order) where data were available for all major indicator categories. Figure 3 presents median national level coverage for

**Countdown Priority countries**

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**Figure 1. The 68 priority countries in 2005 (red). The 8 priority countries added in 2008 (yellow): Bolivia, Eritrea, Guatemala, Democratic People’s Republic of Korea, Laos, People’s Democratic Republic, Lesotho, Morocco, Peru.**

**Countdown Principles**

Focus on coverage
Focus on effective interventions
Maintain a country orientation
Build on existing goals and monitoring efforts

Box 2: Countdown principles

**Country Profiles**

**Figure 2. Country profile example of Benin**

**Figure 3. Median coverage levels for selected Countdown interventions and approaches**
selected Countdown interventions and approaches based on the most recent data available.

Seven key conclusions

Seven key conclusions emerge from an analysis of the profile data:

Countries, while rapidly increasing coverage for some interventions, are making little or no progress with others. Most Countdown countries have high or increasing coverage for preventive interventions such as vaccinations, vitamin A supplementation and insecticide-treated bed nets to prevent malaria (Figure 2). But very few are making progress reaching women and children with clinical care services, such as skilled attendants at delivery or treatment for pneumonia, diarrhoea and malaria. Postnatal care is an especially important gap in the first week of life when mothers and newborns are at the highest risk. Prevalence rates for the nutritional indicators that require social and behavioural changes in order to improve, such as early initiation of breastfeeding, exclusive breastfeeding, and complementary feeding, are also low.

The continuum of care for maternal, newborn and child health requires multiple delivery approaches. Progress towards the Millennium Development Goals will require a range of interventions to be delivered in different points during the life-cycle. Services that contribute to the achievement of one Millennium Development Goal will not necessarily advance progress towards another. Of particular concern today is a serious breakdown in the continuum of care at several points in the pre-pregnancy to two-year postnatal period when opportunities to deliver essential services are being lost.

Undernutrition is an area of little or no progress. More than one-third of deaths in children under age five are attributable to undernutrition — the underlying cause of 3.5 million child deaths annually. Maternal undernutrition increases the mother’s risk of death at delivery, accounting for at least 20 per cent of such deaths. In 33 of the 68 priority countries, at least 20 percent of children are moderately or severely underweight, and 62 countries have stunting prevalence rates exceeding 20 per cent.

Weak health systems and broader contextual factors obstruct progress. Health systems in many countries cannot now deliver essential interventions and approaches widely or well enough to reduce mortality nationwide. Indicators of health financing and health worker density are useful markers of health system strength. Of the 68 Countdown priority countries, 54 – or 80 percent – have workforce densities below the critical threshold for improved prospects for achieving the health-related Millennium Development Goals. It has been estimated that annual per capita total health expenditures of less than $45 are insufficient to ensure access to a very basic set of needed services. Of the 68 priority countries, 21 had annual per capita health expenditures below this amount.

Many Countdown priority countries face additional challenges to progress. For example, in the 26 countries with no or reversed progress towards Millennium Development Goal 4, contextual challenges, such as armed conflict, natural disasters, high HIV burdens and low adult female literacy rates, contribute to stagnating or deteriorating coverage.

Inequities obstruct progress. Mortality in children under age five is now concentrated in sub-Saharan Africa (almost 50 per cent) and South Asia (30 per cent). Maternal and newborn mortality are similarly concentrated in those regions. Meanwhile, within countries, the richest quintile is gaining access to key interventions more quickly than the poorest. Reducing both types of inequity – between regions and within countries – is crucial for achieving the health-related Millennium Development Goals.

Challenges to Progress

Over one-third of the priority Countdown countries were affected by violent, high-intensity conflict between 2002 and 2006.

Box 3: Many Countdown priority countries face additional challenges to progress

Box 4: The Countdown Call to Action

All institutions and individuals involved in the Countdown should use the information it provides – in combination with their diverse skills and resources – to promote the following immediate actions:

• Sustain and expand successful efforts to achieve high and equitable coverage for priority interventions. Recent areas of progress – especially immunizations, vitamin A supplementation and insecticide-treated bed nets – represent a major success for governments and their development partners. Such efforts should continue. But comparable efforts and investments are required for the case management of diarrhoea, family planning services, and antenatal, childbirth, and postnatal care.

• Focus on the priority period within the continuum of care, from pre-pregnancy through 24 months – especially around the time of birth. To reduce mortality during childbirth and in the immediate days afterwards, programming efforts must focus on the effective and integrated delivery of interventions and approaches associated with this crucial period (e.g., antenatal, delivery, and postnatal care). Contraceptive services and efforts to improve infant feeding practices also need to be given high priority.

• Within increased efforts to achieve the health-related Millennium Development Goals, make improving maternal and child nutrition a priority. Nutrition must be central to approaches widely or well enough to reduce mortality nationwide. Indicators of health financing and health worker density are useful markers of health system strength. Of the 68 Countdown priority countries, 54 – or 80 percent – have workforce densities below the critical threshold for improved prospects for achieving the health-related Millennium Development Goals. It has been estimated that annual per capita total health expenditures of less than $45 are insufficient to ensure access to a very basic set of needed services. Of the 68 priority countries, 21 had annual per capita health expenditures below this amount.

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A common theme in these Lancet series was the call for a systematic mechanism to track progress in achieving high, sustainable and equitable coverage with interventions proven to reduce maternal, newborn and child mortality – ‘coverage’ being defined as the proportion of those needing an intervention who receive it. The response to this call is reflected broadly in global efforts to track progress towards the Millennium Development Goals (box 1.1), and is the specific focus of the Countdown to 2015.

Supported through contributions of time and money and governed by a Core Group, the Countdown aims to stimulate country action by tracking coverage for interventions needed to attain Millennium Development Goals 4 and 5, together with parts of Millennium Development Goals 1, 6 and 7. The Countdown tracks coverage within populations and coverage at the population level (rather than in health facilities, for example). Through the Countdown, national and international policy makers, programme implementers, development and media partners and researchers are working together to:

• Summarise, synthesise and disseminate the best and most recent information on country-level progress towards high, sustained and equitable coverage with health interventions to save women and children.
• Take stock of progress in maternal, newborn and child survival.
• Call on governments, development partners and the broader community to be accountable if rates of progress are not satisfactory.
• Identify knowledge gaps that are hindering progress.
• Propose new actions to achieve the health-related Millennium Development Goals, in particular Millennium Development Goals 4 and 5.

The Countdown has planned a series of conferences to be held every two to three years until 2015. Focusing attention on national coverage levels for high-impact interventions in countries with the highest burden

Box 1.1. The Millennium Development Goals

<table>
<thead>
<tr>
<th>Goal</th>
<th>Description</th>
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<tbody>
<tr>
<td>1</td>
<td>Eradicate extreme poverty and hunger.</td>
</tr>
<tr>
<td>2</td>
<td>Achieve universal primary education.</td>
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<tr>
<td>3</td>
<td>Promote gender equality and empower women.</td>
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<tr>
<td>4</td>
<td>Reduce child mortality.</td>
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<tr>
<td>5</td>
<td>Improve maternal health.</td>
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<tr>
<td>6</td>
<td>Combat HIV/AIDS, malaria and other diseases.</td>
</tr>
<tr>
<td>7</td>
<td>Ensure environmental sustainability.</td>
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<tr>
<td>8</td>
<td>Develop a global partnership for development.</td>
</tr>
</tbody>
</table>
of maternal and child mortality, the Countdown conferences will catalyse greater action and increase accountability to international commitments to the Millennium Development Goals – in particular, to rapid reductions in maternal and child mortality. In addition, Countdown publications report on major determinants of coverage, including policies, health system performance measures and financial flows to maternal, newborn and child health.

The first international Countdown conference, focusing on child survival, was hosted in London in December 2005 by 12 organisations. Coverage reports were available for 60 countries, accounting for 94 per cent of child deaths worldwide. More information on the conference and the 2005 report can be found online (http://www.countdown2015mnch.org/).

Success for the Countdown, however, will be measured by country-level results. In 2006 Senegal was the first country to hold a national Countdown conference, bringing together government leaders, private and public partners and the research community to review progress in child survival. The second international Countdown conference is scheduled for 17–19 April 2008 in Cape Town, South Africa. Covering maternal, newborn and child survival, it will be held in tandem with an Inter-Parliamentary Union meeting, providing government leaders with opportunities for greater involvement in efforts to save women’s and children’s lives.

Participants in the 2005 international Countdown conference had already recognized the importance of working within a broader continuum of care – one that “promotes care for mothers and children from pre-pregnancy to delivery, the immediate postnatal period, and early childhood, recognising that safe childbirth is critical to the health of both the woman and the newborn child.” Such a continuum should also link service provision across various settings, from households to community-based care to primary care services to hospitals. The Countdown has explicitly adopted a continuum of care approach. In this report it tracks coverage across the continuum for the first time.

The Countdown has always made nutrition central to its efforts. Improving coverage for proven maternal and child nutrition interventions will contribute to Millennium Development Goal 1. At this time, however, only child nutritional status and nutrition interventions are tracked through the Countdown.

The Countdown also recognises the importance of reproductive health services. The target added to Millennium Development Goal 5 to achieve universal access to reproductive health is an indication of its importance to maternal and newborn survival. Contraceptive prevalence and unmet need are tracked in the present Countdown cycle, and in the next cycle of technical work the Core Group will thoroughly review this area. The 2008 report is complemented by a corresponding Lancet special series on the major findings of the Countdown.

2. Build on existing goals and monitoring efforts
The Countdown aims to sharpen and reinforce efforts already under way to support countries in meeting their commitments to global goals, and to further the effective use of information collected through existing monitoring mechanisms. Countdown indicators and measurement approaches build on efforts started in the 1990s to monitor progress towards the World Summit for Children goals, which evolved into monitoring strategies for the Millennium Development Goals.

Emphasis on measuring progress towards international goals and targets has rapidly increased the availability of intervention coverage data. Today’s maternal and child survival indicators reflect a united effort to define and measure indicators consistently, permitting the assessment of trends over time. In some cases, however – notably the definition and measurement of indicators for oral rehydration therapy to prevent diarrhoea dehydration – changing public health recommendations made changes in definition and measurement unavoidable.

Tracking through the Countdown complements and promotes country-level monitoring of maternal, newborn and child health programmes. Country-level monitoring focuses on ensuring that policies, plans and resources are in place and that programmes and strategies are implemented fully and adequately; key outcomes for assessing programme implementation include access, quality, coverage and equity. Methods and indicators for monitoring purposes must provide timely information and must reflect country-level needs and decisions. The Countdown aims to build on country-level data, attracting attention and resources for addressing service delivery barriers and to further speed up progress towards the health-related Millennium Development Goals.

The Countdown complements country-level monitoring efforts by focusing on indicators that are closer to the impact and that can be measured in ways that permit cross-country comparisons and the estimation of global trends. Coverage indicators meet these criteria, as do many indicators of the impact of programme activities on the nutrition and health status of women, newborns and children.

Efforts to identify and define indicators of policies, financial flows and human resources that are sufficiently valid and reliable for global monitoring began in 2005 and are continuing.

The coverage information presented by the Countdown in this report required no new data collection. But the information on policies, health systems and financial flows – here and in future Countdown reports – combines existing data with those collected specifically for the Countdown. The primary purpose of this report is to bring available data on the priority countries together in one place to facilitate evidence-based review and planning efforts designed to accelerate country-level actions in maternal, newborn and child health.

3. Promote effective interventions
The Countdown monitors coverage for interventions and approaches feasible for universal implementation in poor countries and with proven effectiveness in improving maternal and child survival and nutrition. (The next chapter describes how the Countdown selects these interventions and approaches and explains the coverage indicators used.)

4. Maintain a country orientation
The Countdown aims to help countries and their development partners achieve the Millennium Development Goals and the World Fit for Children goals and targets. While the Countdown will not and should not supplant governments and their partners in their roles as policy makers and service providers, its role extends beyond monitoring – making public health science a basis for public health action. By bringing together diverse individuals with complementary experience, Countdown hopes to expand and support new insights and concrete directions for improving the health and survival of women and children. So far the Countdown has not taken strong follow-up action in the central element of the work scheduled to begin immediately after the April Conference.
The 2008 report recognise its limitations, and accept the need to expand the range of interventions that can be tracked effectively in each Countdown cycle while preserving the quality of the effort, especially as new evidence about the impact of interventions becomes available.

Overview of this report

This report is intended to help policy makers and their partners assess progress and prioritise actions to reduce maternal, newborn and child mortality. Almost all the data presented here can be found elsewhere. The Countdown adds value by collecting in one place the basic information needed to decide whether maternal and child mortality reductions can be expected in countries with the highest rates or numbers of such deaths. It adds further value by creating a context – the Countdown conferences – that can make policy makers, development agencies and donors more likely to notice challenges to progress and to respond to them with sound decisions.

Chapter 2 explains how and why the Countdown priority countries were selected, and summarises the selection of Countdown indicators and the data sources and methods used to track progress.

Chapter 3 summarises the findings of the 2008 Report. Specific note is taken of countries with demonstrated progress in raising coverage levels, and areas where intensified effort is needed within and across the priority countries. This preliminary discussion provides a starting point for more in-depth review, discussion and action planning that will take place at the Countdown conference scheduled for April 2008 in Cape Town, South Africa and subsequent regional- and country-level Countdown conferences.

Chapter 4 introduces the individual country profiles. These profiles represent the basic information to be analysed at Countdown conferences, and evidence for assessing progress since the first Countdown Report in 2005. Each profile presents the most recent available information on selected demographic measures of maternal, newborn and child survival and nutritional status, coverage rates for priority interventions, and selected indicators of equity, policy support, human resources and financial flows.

Because the Countdown is an ongoing process that represents an informal affiliation of individuals and agencies committed to accelerating progress toward the health MDGs, we encourage readers to engage with this material critically and to make suggestions about how its utility in promoting and guiding action can be improved. Comments, critiques and suggestions can be proposed through communication with any of the many Countdown co-sponsors, or sent directly to www.countdown2015mnch.org.

Notes


3. Romannans and Graham 2006; Campbell and Graham 2006.


5. Glaseer, Gitzmanitz, Schmid and others 2006; Woller, Colbourn, Skyarmy and others 2006; Cekler, Bernssen, Eakhir and others 2006; Cekler, Bernssen, Eakhir and others 2006; Gwinns, Benseen, Singh and others 2006; Lioe, Brouet, Abu-Saide and others 2006.


11. The hosting organisations were the London School of Hygiene & Tropical Medicine, the Bellagio Child Survival Group, UNICEF, World Health Organization, Unicef. Save the Children, United States Agency for International Development (USAID), USAID’s Basic Support for Institutionalizing Child Survival (BASIC), the UK’s Department for International Development (DFID), the World Bank, the International Paediatric Association and the Partnership for Maternal, Newborn and Child Health.


15. The World Summit for Children goals can be found at UNICEF’s website (http://www.unicef.org/childsummit/goals/)

16. The World Fit for Children goals and targets can be found at UNICEF’s website (http://www.unicef.org/childsummit/goals/).
Tracking indicators and methods

This chapter begins with an overview of how the priority Countdown countries were selected. In the second section we introduce the interventions and approaches within the continuum of care for maternal, newborn and child health that are tracked through the Countdown and the coverage indicators associated with each. The third section discusses determinants of coverage at the country level, such as policies, health system strength and financial flows, followed by a description of how equity is tracked through the Countdown. In the final section of the chapter we describe the data sources and methods used for the Countdown tracking effort.

Selecting the Countdown priority countries

The Countdown tracks coverage for the 68 countries with the highest burden of maternal and child mortality, shown in Figure 2.1. Country selection took place in two phases – the first in 2004, when the Countdown Core Group defined countries with the highest numbers or rates of maternal deaths or maternal mortality ratios. Each phase is described below.

Phase 1: Selecting priority countries based on deaths among children under age five

In 2005 the Countdown did not yet address maternal survival. It therefore drew its priority countries from two lists of all developing countries. The first list rank-ordered countries by the total number of child deaths in 2004, the most recent year for which data were available. All countries with at least 50,000 child deaths were selected from this list for inclusion in the Countdown. The second list rank-ordered countries by under-five mortality rate. Any country that had a rate of at least 90 under-five deaths per 1,000 live births – and that had not already been selected from the first list – was selected from the second list for inclusion in the Countdown. The addition of the second list ensured that countries with small populations but high mortality rates, most of them in sub-Saharan Africa, were included.

Together, the 60 Countdown priority countries selected in 2005 represented almost 500 million children under five – over 75 per cent of all such children then living. They also represented 94 per cent of all deaths among children under age five in 2004.

Phase 2: Expanding the priority countries based on maternal deaths

For this report the Countdown expanded to include maternal deaths. We relied on procedures like those used for the first Countdown report to determine whether additional priority countries should be included. We again developed two lists of all developing countries. The first list rank-ordered countries by the maternal mortality ratio estimates from the year 2005, the most recent year for which this information was available. All countries with a maternal mortality ratio greater than 550 were retained at this stage. The second list rank-ordered countries by the total number of maternal deaths in 2005. Using both lists, we selected for inclusion in the Countdown – if they had not already been included for having a high burden of under-five mortality – all countries with a maternal mortality ratio greater than 550 and all countries with both a maternal mortality ratio greater than 550 and an under-five mortality rate greater than 90.
than 200 and at least 750 maternal deaths in 2005. Countries with high under-five mortality overlapped significantly with those with high maternal mortality. This exercise led to the inclusion of just eight additional Countdown priority countries: Bolivia, the Democratic Republic of Korea, Eritrea, Guatemala, Laos People’s Democratic Republic, Lesotho, Morocco and Peru.

Table 2.1 shows the proportion of Countdown priority countries in each region as a share of each region’s population. Priority countries account for a vast majority of people in sub-Saharan Africa and South Asia, and smaller but still substantial proportions of those in the East Asia and Pacific, Latin America and the Caribbean, and Middle East and North Africa regions.

The 68 priority countries represent 97 per cent of maternal and child deaths worldwide and in developing countries. Therefore, the Countdown’s findings are indicative of global progress towards the Millennium Development Goals – although countries with small populations may be underrepresented, and care must be taken when generalizing the results to those settings.

Numerous factors not directly related to health service coverage can have an important impact on health outcomes. Though beyond the scope of the Countdown, such factors should be kept in mind when using the findings. For example, important intermediate determinants of health outcomes include women’s education and nutritional status, household wealth and cultural factors that affect health seeking behaviours. In addition, the root causes of poor health include disruptions in a country’s social fabric and economic infrastructure. This is evident in conflict and post-conflict situations and in countries characterised by severe governance problems. Finally, natural and environmental disasters also contribute to the death toll and strain the capacity of already weak public health systems. Many Countdown priority countries are affected by these and other important contextual factors. For example:

- In 32 per cent (17 of 53) of priority countries with data on adult female literacy, the rate is 50 per cent or less.8
- In 93 per cent (62 of 67) of priority countries with data on stunting prevalence among children under five years of age, the rate is at least 20 per cent.4
- In 23 per cent (15 of 64) of priority countries with data on HIV prevalence among adults age 15–49, the rate is estimated at 5 per cent or greater.8
- In 98 per cent (49 of 50) of priority countries with data on the World Bank’s international poverty indicators, there are populations living on less than $1 USD per day (range 3 to 85 per cent).10
- In 2006, 66 per cent of all Countdown priority countries (45 of 68) were low-income countries – defined as countries with less than $905 of gross national income per capita per year.11

Summary Table 2.1. Countdown priority countries compared with the regions.

<table>
<thead>
<tr>
<th>Region</th>
<th>Number of Countdown countries</th>
<th>Number of countries in region</th>
<th>Percentage of region (2008)</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Asia</td>
<td>5</td>
<td>8</td>
<td>9%</td>
</tr>
<tr>
<td>Eastern and Southern Africa</td>
<td>18</td>
<td>22</td>
<td>59%</td>
</tr>
<tr>
<td>Western and Central Africa</td>
<td>24</td>
<td>150</td>
<td>16%</td>
</tr>
<tr>
<td>Middle East and North Africa</td>
<td>6</td>
<td>20</td>
<td>51%</td>
</tr>
<tr>
<td>East Asia and Pacific</td>
<td>8</td>
<td>29</td>
<td>88%</td>
</tr>
<tr>
<td>Latin America and Caribbean</td>
<td>6</td>
<td>33</td>
<td>63%</td>
</tr>
<tr>
<td>Central and Eastern Europe</td>
<td>3</td>
<td>21</td>
<td>5%</td>
</tr>
<tr>
<td>and the Commonwealth of Independent States</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrialized countries</td>
<td>0</td>
<td>39</td>
<td>0%</td>
</tr>
</tbody>
</table>

Achieving the health-related Millennium Development Goals in the 68 Countdown priority countries will require extraordinary investments and efforts on many fronts. Given the magnitude of the challenge, a special effort is needed to enlist parliamentary champions and, more generally, commitments at the highest levels of government. Achieving the goals for mothers, newborns and children is a shared responsibility of national governments and their United Nations and non-governmental partners at both international and national levels, together with academic and research institutions, religious and community groups and dedicated individuals.

### Priority interventions and coverage indicators

Chapter 1 described the principles that guide the Countdown, including its focus on tracking population coverage for effective interventions and approaches that are feasible for universal implementation in poor countries. In this section we describe how the Countdown interventions and approaches were chosen, how indicators of coverage were selected for each and how we arrived at the coverage estimates in this report.

#### Inclusion criteria for interventions and approaches

The Countdown’s most important criterion for including an intervention is the availability of internationally accepted (peer-reviewed) evidence demonstrating that it can reduce mortality among mothers, newborns or children under age five. The first Countdown, in 2005, was able to draw on the 2003 and 2005 Lancet series on child and neonatal survival, respectively, which used systematic literature reviews to identify such interventions.12

As the Countdown expanded to include maternal survival, and in light of new thinking about the continuum of care,13 the Core Group recognized that the focus on single interventions was too narrow. Coverage with broader approaches such as antenatal care and postnatal care, delivery care and reproductive health services – as basic platforms for delivering multiple interventions proven to reduce maternal and newborn mortality – also needed to be tracked. Beginning with this report, the Countdown will track both interventions and approaches, provided that at least one effective intervention is supported by each approach.

For this report a Countdown Working Group on Indicators and Coverage Data was convened and charged with producing new guidance on interventions included in the 2005 Countdown, as well as determining whether additional interventions or delivery platforms should be included in 2008. A full report of the Working Group’s deliberations and decisions is at the Countdown website (www.countdown2015mnch.org).

Among proven interventions, the Countdown includes only those judged feasible for delivery with universal coverage in low-income countries. Because intervention costs and delivery strategies can change, this criticism must be reassessed in each Countdown cycle.

The Countdown does not aim to be comprehensive and does not necessarily include all interventions and approaches meeting the above principles. For example, as explained below, interventions have been excluded if no appropriate coverage indicator is available. In addition, the Countdown strives to limit the total number of interventions and indicators to keep the effort manageable and focused.

The criteria used to assess potential coverage indicators were based on the normative principle that a ‘good’ coverage indicator should provide a valid measure of whether the target population for a given intervention receives it when it is needed and when it is clinically effective. In addition, though, indicators used for the Countdown must produce results that are:

- Nationally representative
- Reliable and comparable across countries and time
- Clear and easily interpreted by policy makers and program managers.

Available regularly in most of the Countdown priority countries.

None of the 68 priority countries has a health information system that can now produce coverage estimates meeting the standards described above for all indicators.14 Fortunately, most of the Countdown coverage indicators tracked in 2005 have since been included in the protocols for the major population-based surveys used in the Countdown countries – usually either the UNICEF-supported Multiple Indicator Cluster Surveys or the Demographic and Health Surveys supported by the United States Agency for International Development.15 Exceptions include interventions for which data collection and the analysis of coverage indicators are not yet routine or harmonised, such as unmet need for family planning or a postnatal visit for the newborn within two days of birth. In addition, coverage estimates for vaccinations, vitamin A supplementation and the prevention of mother-to-child transmission of HIV/AIDS reflect the synthesis of routine program data and data from household surveys. Annex B lists the data sources for all indicators included in the 2008 Countdown cycle.

The 2008 Countdown coverage indicators

The Countdown builds on the work of others. Coverage estimates and trends for HIV-related interventions, immunisation, vitamin A supplementation and water and sanitation reflect the work of various interagency working groups described more fully below. For other indicators the Countdown reports available estimates but recognizes the need for improvement in data availability and estimation methods. (Annex C defines the Countdown 2008 coverage indicators.)
Through its efforts the Countdown has acquired a clear view of the limitations of available coverage indicators, the data that support them and the process through which country-specific estimates are updated. A part of the Countdown work plan is addressing these issues.

Coverage indicators are summarized only for countries to which they are relevant. For example, only 45 of the 68 countries have endemic malaria, defined here as documented risk of Plasmodium falciparum transmission nationwide and throughout the year. The country profiles estimate coverage for countries with limited geographic areas of malaria risk, but such countries are not included in the results summarized in this chapter. All Countdown priority countries are considered to need antiretroviral treatment for pregnant women with HIV/AIDS to prevent mother-to-child transmission.14

Indicators for factors that contribute to coverage

The Countdown Core Group identified two prerequisites for success in attaining high, sustained and equitable levels of coverage for interventions and approaches proven to improve maternal and child survival: a supportive policy environment with adequate health systems support (including human resources) and predictable, longer term financial support. For the 2008 Countdown, technical groups were convened in each area and charged with reviewing the 2005 Countdown experience and improving on the tracking procedures.

The Working Group on health policies and health systems searched for relevant indicators, prioritising those that have worked for health systems strengthening and with data either available in the public domain or objectively assessable within the timeframe of the 2008 Countdown cycle. Box 2.1 shows the list of indicators finally selected through a consultative process involving the Countdown Core Group, health systems experts and experts in maternal, newborn and child health.

Each technical or intersectoral policy identified as critical to maternal, newborn and child health was coded as being either fully adopted at country level (‘Yes’), partially adopted (‘Partial’) or not adopted (‘No’; see annex table D1). The inclusion of a policy or plan does not necessarily reflect the extent or quality of implementation, but can often be a prerequisite for effective programme action. (Annexes B and D present further information on data sources, definitions and coding criteria for each indicator.)

### Health Policies and Health Systems Indicators

#### Countries with adopted national policies indicating:

- International Labour Organization Convention 182 on Maternity Protection ratified.
- Notification of maternal deaths.
- Midwives authorized to administer a core set of life-saving interventions.
- Integrated management of childhood illness guidelines adapted to cover neonates 0–1 week of age.
- Low osmolality oral rehydration salts and zinc supplements for the management of diarrhoea.
- Community management of pneumonia with antibiotics.
- Costed implementation plan or plans for maternal, newborn and child health available.

#### National indicators of health system preparedness to improve maternal, newborn and child health

- Per capita total expenditure on health (at international US dollar rate).
- Government expenditure on health as a percentage of total government expenditure.
- Out-of-pocket expenditure as a percentage of total expenditure on health.
- Density of physicians, nurses and midwives per 1,000 people.
- Availability of emergency obstetric care services as a percentage of recommended minimum.

### Box 2.1. Health policies and health systems indicators tracked in the 2008 Countdown

The Countdown has worked to develop methods for tracking domestic and external financial investments in child health. Efforts through the 2005 Countdown to track official development assistance indicated that overall funding for child survival in the priority countries was insufficient and not well targeted to countries with the greatest needs.24 The present Countdown cycle’s official development assistance tracking effort has expanded to include support for maternal and newborn activities in the priority countries. The country profiles include estimates of official development assistance to child health per child and official development assistance to maternal and neonatal health per live birth.

Work on tracking domestic investments in maternal, newborn and child health has also progressed. The most promising method identified by the Working Group was to build on the National Health Accounts approach16 and develop specific procedures for a sub-analysis of resources directed to maternal, newborn and child health, including reproductive health. Results on a greater number of countries are expected in the next Countdown cycle.

### Tracking improvements in equity

#### Efforts to monitor coverage for interventions proven to reduce maternal and child mortality are incomplete without measures of equity, defined here as the extent to which mothers and children in different socioeconomic or ethnic groups or children of different sexes are equally likely to receive services. Each 2005 Countdown country profile included a graph showing the proportion of children under age five in two population quintiles – the poorest and the least poor – who were receiving six or more preventive child survival interventions.25

In the 2008 Countdown cycle we focus on socioeconomic inequities across a broader set of interventions. Because curative services are needed only by particular subpopulations in response to particular health events, we developed a new measure reflecting the gap between universal coverage for an intervention (100 per cent of the population in need) and current coverage for each country. This ‘coverage gap’ measure includes eight interventions grouped into four areas:

1. Family planning (need met or modern contraceptive use).
3. Immunisation (measles vaccine, Bacille Calmette-Guerin vaccine against tuberculous and third dose of diphtheria and tetanus with pertussis vaccine).
4. Treatment of child illness (medical care sought for acute respiratory infection and oral rehydration therapy with continued feeding for diarrhoea).

Larger coverage gaps indicate poorer coverage for these interventions; smaller coverage gaps indicate better coverage. Thus, while the coverage gap across wealth quintiles represents coverage inequities within a country, it can also be compared with other countries’ coverage gaps to suggest intercountry coverage inequities. (Annex E offers further details about the construction of the coverage gap measure and guidance on its interpretation.)

### Data sources and methods

The Countdown aims to bring together data on coverage for interventions and approaches with proven effectiveness in reducing maternal, newborn and child survival, making this information readily accessible and sparing donors and policy makers to action. The Countdown does not normally collect new coverage data. This section describes the sources of Countdown data (listed for each indicator in annex B) and the quality control mechanisms that are already in place to assess and ensure their validity. Any secondary analysis carried out outside Countdown’s usual data is described in detail. The section follows the order in which indicators are presented on the country profiles available in chapter 4.

#### Child and maternal mortality

Country-specific estimates of mortality in children under age five were abstracted from tables in The State of the World’s Children 2008.26 The methods and limitations associated with these estimates are available elsewhere.27 Country-specific cause-of-death profiles were abstracted from World Health Organization statistical databases,28 based on work by the Child Health Epidemiology Reference Group.29

Progress towards Millennium Development Goal 4 was assessed by determining whether the average annual rate of reduction in mortality in children under age five from 1990-2006 matched or exceeded the rate needed from 2007-2015 if the goal is to be met. If a country’s mortality rate in children under age five is less than 40 per 1,000 live births, or greater than or equal to 40 with an average annual reduction rate of at least 4 per cent for 1990–2006, it is considered ‘on track’. If the country’s maternal mortality ratio (MMR) in 1990 was greater than or equal to 50, and the average annual reduction rate for 1990-2006 was between 1.0 per cent and 3.9 per cent, the country is considered to be making ‘insufficient progress’. If the maternal mortality rate in children under age five is greater than or equal to 40 and the average annual reduction rate for 1990–2006 was less than 1.0 per cent, the country is considered to be making ‘no progress’.

Country-specific maternal mortality ratios per 100,000 live births reflect 2005 data and mortality rates developed by the Maternal Mortality Working Group. Because large uncertainty margins surround these estimates, progress towards Millennium Development Goal 5 – improve maternal health – was assessed using four broad categories for maternal mortality: low (maternal mortality ratio of less than 100), moderate (maternal mortality ratio of 100–299), high (maternal mortality ratio of 300–549) and very high (maternal mortality ratio of 550 or greater).30
Nutritional status

The Countdown country profiles include nutritional status indicators (such as underweight prevalence, stunting prevalence, wasting prevalence and incidence of low birthweight) as an important reference point for interpreting coverage. Country-specific estimates for nutritional status indicators were adjusted to reflect new World Health Organization growth standards. An exception is estimates of low birthweight, which are not dependent on the growth standards and have been adjusted here for high underreporting (especially in sub-Saharan Africa).

Coverage

Data sources and quality. Household surveys are the primary data source for tracking progress in coverage for maternal, newborn and child survival. The main sources of coverage data for the Countdown are UNICEF’s global databases and the coverage estimates in its annual The State of the World’s Children reports. The two most important sources of household survey data are the Multiple Indicator Cluster Surveys (MICS) and the Demographic and Health Surveys (DHS). The latest protocols for these two surveys permit collecting harmonised information on most of the Countdown coverage indicators.


Many groups share responsibility for the quality control of the coverage estimates for interventions and approaches effective in reducing maternal, newborn and child mortality. Table 2.2 summarizes quality review and improvement mechanisms for the maternal, newborn and child health coverage indicators, together with selected mortality measures.

A number of methodological challenges in coverage measurement have been known for some time. The Countdown throws these challenges into relief. They will be prioritized as part of the Countdown technical work plan in the next reporting cycle. One area that needs urgent attention is the development of standard procedures for estimating uncertainty. The 2008 report presents point estimates and makes no attempt to estimate precision or provide uncertainty ranges.

Data summary and analysis. The Countdown focuses on accelerating coverage improvements at the country level. Therefore, in summarizing the results this report uses the country as its unit of analysis, consistent with the need for in-depth country-by-country analysis and action. The most appropriate summary measure for this purpose is the median, which gives each of the 68 countries an equal weight, and which illustrates the extent of the variation among countries.

All Countdown Core Group members were invited to participate in a consultative process to agree on the most important aspects of the country-specific findings and their implications for achieving Millennium Development Goals 4 and 5. Meetings were held in Addis Ababa (2 December 2007), Geneva (10 December 2007) and New York (12 January 2008). At each meeting participants examined preliminary results and agreed on the most important findings and their implications for continued implementation efforts. These findings were then shared with the broader Countdown Core Group through a draft report, resulting in extensive further discussion and agreement on the conclusions presented here.

In 2005, summaries of performance across the priority countries for each indicator were categorized in three ways – ‘on track’, ‘watch and act’ or ‘high alert’ – based on international targets. For indicators without targets, categorizations across the priority countries were based on arbitrary thresholds for high, middle and low performance.

In 2008 the challenge was to compare progress over time as well as across countries. Countries were first grouped into the 2005 categories for each indicator. But since the number of countries had increased from 60 in 2005 to 68 in 2008 – resulting in a lack of data for one of the two years in some countries – summaries like those presented in 2005 proved difficult to produce, and an alternative approach to summary analysis was devised.

For the 2008 Countdown, then, progress is measured by the average annual percentage point change in coverage for each indicator, standardized to a three-year reference period to conform to the Countdown reporting cycle. Using the databases containing the trend information presented in the 2008 country profiles, we identified the subset of countries that had two data points for each indicator since 1998 with these data points being at least three years apart. We calculated the difference in the coverage estimates and divided it by the number of years between the two point estimates. This product was then multiplied by three to produce a three-year estimate, resulting in a continuous variable across the 68 countries.

Coverage patterns for the interventions and approaches presented in the country profiles were also analyzed for the continuum of care. This was done by counting the number of countries that had coverage levels for four of the component indicators of at least 10 per cent, at least 20 per cent, at least 30 per cent and so on.

The Countdown countries that were included in the summary estimates for each coverage indicator met the following criteria, consistent with those used in global reporting:

- Only data from countries with available coverage estimates for 2000–2006 were used.
- Countries with summary measures from years or time periods other than 2000–2006, or with data that differ from the ones for 2000–2006, for one or more of a country, were excluded from the analysis. Exceptions to this rule are coverage estimates for vitamin A supplementation, which refer only to time periods other than 2000–2006, or with data that are not dependent on the growth standards and have been adjusted here for high underreporting (especially in sub-Saharan Africa).

Policies, health systems and financial flows

Information on country-specific policies related to maternal, newborn and child health was obtained from staff of the UNICEF and World Health Organization offices in the 68 priority countries in November 2007. These reports were then reviewed and confirmed with technical staff in the relevant programme area at UNICEF’s New York headquarters and the World Health Organization headquarters in Geneva. The information on emergency obstetric care was derived
from a joint Averting Maternal Death and Disability–UNICEF database. Averting Maternal Death and Disability and UNICEF headquarters staff reviewed initial country assessments and consulted country staff, United Nations Population Fund colleagues and other experts to determine the reliability of the data.

The Countdown Working Group on Financial Flows analysed and coded the complete aid activities database for 2005, using the methodology for the 2005 Countdown cycle.22 The analysis included all 22 donor countries and the European Union, represented in the Development Assistance Committee of the Organisation for Economic Co-operation and Development. The World Bank, UNICEF, the Joint United Nations Programme on HIV/AIDS, the Global Alliance for Vaccines Initiative and the Global Fund to Fight AIDS, Tuberculosis and Malaria were included as multilateral development organisations and global health initiatives. Consistent with earlier analysis, the United Nations Population Fund was treated as a delivery channel and does not appear in the donor list. Because it is a significant supporter of maternal and reproductive health efforts, this approach will be reviewed in future work.

For all but one of the donors the analysis used data from the Creditor Reporting System database, which is maintained and administered by the Organisation for Economic Co-operation and Development.23 The analysis also includes disbursement data provided by the Global Alliance for Vaccines Initiative. Disbursements by the Global Fund to fight AIDS, Tuberculosis and Malaria were already included in the Creditor Reporting System database; the Working Group triangulated the information with the data that the Global Fund to Fight AIDS, Tuberculosis and Malaria provided on its website. The Creditor Reporting System database shows no reported disbursements for Norway, only commitments.

Results are reported for two groups: first, children under five years of age; second, mothers and newborns. Both categories include financial flows for nutrition, so far as these could be identified — although nutrition is not defined as a separate category.

**Equity**

The 2008 Countdown country profiles present the coverage gap by wealth quintiles, drawing on Multiple Indicator Cluster Surveys and Demographic and Health Surveys conducted since 1990. In particular, the profiles show:

- The absolute size of the coverage gap (the difference between universal coverage for these eight interventions and actual coverage as measured in each survey).
- The ratio between the gap in the poorest and the least poor ('best-off') quintile of the population.
- The absolute difference between the two quintiles.

Larger gaps reflect poorer coverage; smaller gaps reflect better coverage.

The coverage data used to construct the coverage gap index for each country, as well as its wealth quintiles, are based on national Demographic and Health Surveys24 and Multiple Indicator Cluster Surveys. Where multiple surveys were available for a Countdown country, all data were used to assess current levels and trends in the coverage gap measure by wealth quintile. Data on coverage for key interventions by wealth quintile were available from surveys conducted since 1990 for 54 of the 68 Countdown priority countries. Forty countries had more than one survey, 22 more than two surveys.

The coverage gap was analyzed by wealth quintiles using a standard methodology.25 (Further details about the analysis methods are in annex E.)

**Notes**

7. UNICEF 2006b.
8. UNICEF 2007c.
16. UNICEF n.d.
17. Measure DHS, Macro International, Inc. n.d.
29. IDS n.d.
The 2008 *Countdown* findings – and a call to action

The *Countdown*’s most important findings appear in the individual country profiles, which answer basic questions about maternal, newborn and child survival. For example:

- What proportion of women, newborns and children have benefited from life-saving interventions?
- Are there coverage gaps?
- Are supportive policies in place?
- Are adequate resources directed to maternal, newborn and child health?
- How equitable is existing coverage?

Aggregated statistics often mask the answers to such questions, making it difficult to see where the problems are and the steps needed to address them.

This chapter summarises information from the 68 country profiles in simple ways that can be useful for planning country programmes and future analysis, and the text follows the layout of the country profiles. We begin with a summary of the epidemiological context in the 68 countries, continue by examining coverage levels and equity in coverage, and end with information about health system policies and financial flows. Where the data are sufficient we highlight trends, and especially progress or its absence, since about 2000.

Finally, this chapter presents the Core Group’s preliminary conclusions capped by a *Countdown* call to action.

**The bottom line: mortality**

Coverage indicators for effective interventions and approaches are linked to mortality reduction. The correlation between coverage indicators and mortality in children under age five is very strong.\(^1\) The correlation is less strong for maternal mortality\(^1\) – suggesting that coverage, though a necessary condition for impact, may not be sufficient when care is substandard.

Table 3.1 shows progress towards Millennium Development Goal 4 – reducing child mortality – in the 68 *Countdown* priority countries. Most have under-five mortality rates greater than 40. Such countries are considered ‘on track’ if their under-five mortality rates from 1990–2006 showed an average annual reduction rate of at least 4.0 per cent, roughly the improvement needed for all developing countries to achieve Millennium Development Goal 4. All countries with under-five mortality rates of less than 40 are considered ‘on track.’

For the 2008 *Countdown* cycle, 16 of 68 countries (24 per cent) were judged ‘on track,’ compared with 7 of 60 (12 per cent) in 2005. Seven countries which had been ‘on track’ in reducing child mortality in 2005 retained that status in 2008 (Bangladesh, Brazil, Egypt, Indonesia, Mexico, Nepal and the Philippines). Among the remaining nine ‘on track’ countries in 2008, three had been included in the *Countdown* in 2005 and made demonstrable progress in reducing child mortality since then (China, Haiti and Turkmenistan). The six remaining ‘on track’ countries participated in the *Countdown* for the first time in 2008 (Bolivia, Eritrea, Guatemala, Lao People’s Democratic Republic, Morocco and Peru).

Twenty-six of the 68 priority countries (38 per cent) were judged to have made insufficient progress in reducing child mortality, and 26 (38 per cent) no progress at all.\(^3\) In twelve countries the average annual rates of reduction in under-five mortality since 1990 were negative (Botswana, Cameroon, Central African Republic, Chad, Congo, Equatorial Guinea, Kenya, Lesotho, South Africa, Swaziland, Zambia and Zimbabwe), indicating that child mortality has increased.
Neonatal deaths – deaths in the first month of life – account for 40 per cent of deaths in children under age five, or four million worldwide deaths each year. As countries reduce deaths of children under age five, the proportion of children dying in the neonatal period typically increases. Reaching Millennium Development Goal 4 will require specific attention to achieving good coverage for interventions to reduce neonatal mortality. Latin America and South-East Asia have made substantial progress in reducing neonatal mortality rates. Africa has made no measurable progress. In South Asia progress has been minimal, though a few countries such as Bangladesh and Nepal have achieved substantial reductions.  

Annual country-level data or estimates for neonatal mortality are an important adjacent to tracking for Millennium Development Goal 4. Although Demographic and Health Surveys produce neonatal mortality rates, Multiple Indicator Cluster Surveys currently do not. Careful assessment of data reliability and a transparent methodology for developing estimates, where data on neonatal mortality rates are not available, are urgently needed for tracking progress towards Millennium Development Goal 4. 

Reducing stillbirths also requires more attention and a transparent methodology for developing estimates, where data on neonatal mortality rates are not available, are urgently needed for tracking progress towards Millennium Development Goal 4. In addition to under-five mortality rates, table 3.1 presents the best available estimates of maternal mortality ratios for the 68 Countdown priority countries. Country-specific maternal mortality ratios are the basis for judging progress towards Millennium Development Goal 5 – improve maternal health. Because large uncertainty margins surround these estimates, progress towards Millennium Development Goal 5 was assessed using four broad categories for maternal mortality: low (maternal mortality ratio of less than 1 in 2,000 births) and a transparent methodology for developing estimates, where data on neonatal mortality rates are not available, are urgently needed for tracking progress towards Millennium Development Goal 4.
Countdown priority countries with LNAR=HAJ=IKJCQJ@ANłRAOÆPQI>ANKB < 5% 5–19% 20–30% 31–50% >50%

Monitoring low birthweight is and has since been applied to countries +QI>ANKB 68 1 34 16 17 0

In 33 of the 68 priority countries, at Results from the 2008 Nutritional Status Table 3.4. Nutritional status indicators in the Countdown priority severe moderate or Underweight severe moderate or moderate or severe

that progress in coverage for such interventions in 10 newborns are weighed at birth. A procedure to estimates of low birthweight prevalence.16 Estimates of neonatal death but is an indirect contributor to growth restriction, which is rarely a direct cause of intrauterine Babies who are born at term (after 37 weeks of growth in childbirth. Maternal and child nutrition need to be improved more vigorously and rapidly in most of the 68 priority countries. Maternal and child nutrition need to be improved more vigorously and rapidly in most of the 68 priority countries. nutritional status

Undernutrition is the underlying cause of over one-third of deaths among children under age five. And it is the underlying cause of one-fifth of maternal deaths in childbirth. 7 The aim of Millennium Development Goal 1 – eradicating extreme poverty and hunger – is inextricably linked to achieving Millennium Development Goals 4 and 5. 8 One target for Millennium Development Goal 1, “to halve, between 1990 and 2015, the proportion of people who suffer from hunger,” 9 is now monitored through an indicator of underweight prevalence among children under age five. Underweight can reflect either wasting (low weight-for-height, indicating acute weight loss), or much more commonly, stunting (low height-for-age, indicating chronic restriction of a child’s potential growth).10 Table 3.3 shows the Countdown priority countries that are ‘on track’ for the underweight target of Millennium Development Goal 1, based on their average annual rate of reduction in underweight prevalence.

Progress Towards Underweight Target

<table>
<thead>
<tr>
<th>No progress (n=15)</th>
<th>On track (n=16)</th>
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<tr>
<td>Burkina Faso</td>
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<tr>
<td>South Africa</td>
<td>Guinea-Bissau</td>
</tr>
<tr>
<td>Sudan</td>
<td>Haiti</td>
</tr>
<tr>
<td>Togo</td>
<td>Mali</td>
</tr>
<tr>
<td>Yemen</td>
<td>Mauritania</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>Mexico</td>
</tr>
<tr>
<td>Peru</td>
<td></td>
</tr>
</tbody>
</table>

Source: UNICEF 2007b

Many countries with a high burden of maternal and child undernutrition also show high maternal mortality ratios and high mortality rates in children under age five. Of the 36 countries that account for 90 per cent of the world’s estimated 178 million stunted children,11 34 are among the 68 Countdown priority countries (the exceptions are Viet Nam and Turkey).

The Countdown country profiles include data on underweight, wasting, stunting and low birthweight as contextual information important to interpreting coverage levels for interventions to reduce maternal, newborn and child mortality. Underweight, wasting and stunting estimates (table 3.4) have been adjusted using the new World Health Organization Child Growth Standards.12 In 33 of the 68 priority countries, at least 20 per cent of children either moderately or severely underweight. Among the 67 countries with stunting prevalence data, 62 have stunting prevalence of at least 20 per cent and 12 have stunting prevalence of more than 50 per cent. A recent analysis showed that stunting rates could be reduced by at least 36 per cent in countries with rates of 20 per cent or more by achieving high coverage for interventions that are already available and affordable in developing countries.13 Results from the 2008 Countdown show that progress in coverage for such interventions remains unacceptable low.

Nutritional status

Summary of Progress

Table 3.2. Summary of progress towards Millennium Development Goals 4 and 5

<table>
<thead>
<tr>
<th>Number of countries</th>
<th>Good progress towards Millennium Development Goal 4 and Millennium Development Goal 5</th>
<th>Good progress towards Millennium Development Goal 4 but not Millennium Development Goal 5</th>
<th>Good progress towards Millennium Development Goal 5 but not Millennium Development Goal 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Countries</td>
<td>Madagascar, Ethiopia, Haiti, India, Indonesia, Laos People’s Democratic Republic, Nepal Bangladesh, Bhutan, China, Egypt, Guatemala, Mexico, Morocco, Peru, the Philippines, Turkmenistan Bangladesh, Bangladesh, Brunei, China, Egypt, Guatemala, Mexico, Morocco, Peru, the Philippines, Turkmenistan Bangladesh, Bhutan, China, Egypt, Guatemala, Mexico, Morocco, Peru, the Philippines, Turkmenistan Bangladesh, Bhutan, China, Egypt, Guatemala, Mexico, Morocco, Peru, the Philippines, Turkmenistan Bangladesh, Bhutan, China, Egypt, Guatemala, Mexico, Morocco, Peru, the Philippines, Turkmenistan Bangladesh, Bhutan, China, Egypt, Guatemala, Mexico, Morocco, Peru, the Philippines, Turkmenistan Bangladesh, Bhutan, China, Egypt, Guatemala, Mexico, Morocco, Peru, the Philippines, Turkmenistan Bangladesh, Bhutan, China, Egypt, Guatemala, Mexico, Morocco, Peru, the Philippines, Turkmenistan Bangladesh, Bhutan, China, Egypt, Guatemala, Mexico, Morocco, Peru, the Philippines, Turkmenistan Bangladesh, Bhutan, China, Egypt, Guatemala, Mexico, Morocco, Peru, the Philippines, Turkmenistan Bangladesh, Bhutan, China, Egypt, Guatemala, Mexico, Morocco, Peru, the Philippines, Turkmenistan Bangladesh, Bhutan, China, Egypt, Guatemala, Mexico, Morocco, Peru, the Philippines, Turkmenistan Bangladesh, Bhutan, China, Egypt, Guatemala, Mexico, Morocco, Peru, the Philippines, Turkmenistan Bangladesh, Bhutan, China, Egypt, Guatemala, Mexico, Morocco, Peru, the Philippines, Turkmenistan Bangladesh, Bhutan, China, Egypt, Guatemala, Mexico, Morocco, Peru, the Philippines, Turkmenistan Bangladesh, Bhutan, China, Egypt, Guatemala, Mexico, Morocco, Peru, the Philippines, Turkmenistan Bangladesh, Bhutan, China, Egypt, Guatemala, Mexico, Morocco, Peru, the Philippines, Turkmenistan Bangladesh, Bhutan, China, Egypt, Guatemala, Mexico, Morocco, Peru, the Philippines, Turkmenistan Bangladesh, Bhutan, China, Egypt, Guatemala, Mexico, Morocco, Peru, the Philippines, Turkmenistan Bangladesh, Bhutan, China, Egypt, Guatemala, Mexico, Morocco, Peru, the Philippines, Turkmenistan Bangladesh, Bhutan, China, Egypt, Guatemala, Mexico, Morocco, Peru, the Philippines, Turkmenistan Bangladesh, Bhutan, China, Egypt, Guatemala, Mexico, Morocco, Peru, the Philippines, Turkmenistan Bangladesh, Bhutan, China, Egypt, Guatemala, Mexico, Morocco, Peru, the Philippines, Türkmenistan Bangladesh, Bhutan, China, Egypt, Guatemala, Mexico, Morocco, Peru, the Philippines, Turkmenistan Bangladesh, Bhutan, China, Egypt, Guatemala, Mexico, Morocco, Peru, the Philippines, Türkmenistan</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Adapted from UNICEF 2007b

Table 3.3. Countdown countries making ‘no progress’ or ‘on track’ towards achieving the underweight target of Millennium Development Goal 1 (2008)

<table>
<thead>
<tr>
<th>Number of countries</th>
<th>Number of Countdown priority countries with prevalence among under-five</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underweight moderate or severe</td>
<td>68</td>
</tr>
<tr>
<td>Underweight moderate or severe</td>
<td>1</td>
</tr>
<tr>
<td>Underweight moderate or severe</td>
<td>16</td>
</tr>
<tr>
<td>Underweight moderate or severe</td>
<td>17</td>
</tr>
<tr>
<td>Underweight moderate or severe</td>
<td>0</td>
</tr>
<tr>
<td>Underweight moderate or severe</td>
<td>66</td>
</tr>
<tr>
<td>Underweight moderate or severe</td>
<td>11</td>
</tr>
<tr>
<td>Underweight moderate or severe</td>
<td>51</td>
</tr>
<tr>
<td>Underweight moderate or severe</td>
<td>4</td>
</tr>
<tr>
<td>Underweight moderate or severe</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: UNICEF 2007b

Babies who are born at term (after 37 weeks of gestation) but with low birthweight (less than 2,500 grams) are likely to have experienced intrauterine growth restriction, which is rarely a direct cause of neonatal death but is an indirect contributor to neonatal mortality. 13 Monitoring low birthweight is difficult in developing countries, where fewer than 6 in 10 newborns are weighed at birth. A procedure to adjust for the missing data, and for the bias introduced when mothers report birthweight inaccurately, was developed in 200414 and has since been applied to estimates of low birthweight prevalence.15 Estimates are available for 65 of the 68 priority countries.17 The median low birthweight prevalence in these 65 countries is 13, with a range from 2 per cent (China) to 32 per cent (Yemen).

Maternal and child nutrition need to be improved more vigorously and rapidly in most of the 68 Countdown priority countries. Nutrition during the period from pre-pregnancy through 24 months is associated with adult health and productivity. 16 And weighing newborns, though not a lifesaving measure, should be a part of packaged maternal, newborn and child health interventions because it yields critical monitoring information.
Coverage in 2008

Unprecedented amounts of household survey activity in 2005–2006 have yielded new coverage estimates for most of the 68 Countdown priority countries. Figure 3.1 shows the year in which the most recent Multiple Indicator Cluster Survey (MICS) or Demographic and Health Survey (DHS) was conducted for each country.

The years for the specific estimates presented in the country profiles deserve special attention. First, the mortality estimates in table 3.1 may refer to periods before increases in intervention coverage reflected in the 2009 Countdown coverage estimates could have affected mortality. Second, coverage data for some countries are from around 2000. Even 2006 coverage survey results might not fully reflect recent global scaled-up efforts to meet the health-related Millennium Development Goals. The next round of Countdown reporting is expected to register such recently intensified efforts.

Table 3.5 shows the latest available medians and ranges across the priority countries for the subset of coverage indicators for which:

- Data from at least 19 countries are available.
- An exception is antiretroviral prophylaxis to prevent mother-to-child transmission of HIV, which is reported separately to maintain consistency with other global reports.
- Postnatal care coverage, for which few countries have data, is also presented separately.

Table 3.5 highlights three points with important programming implications:

- Overall coverage levels remain too low. Figure 3.2 shows the distribution of median coverage across 18 interventions and approaches tracked through the Countdown. Of these, only the 4 vaccination interventions are reaching 80 per cent of the children who could benefit from them. The empty space in the chart represents millions of deaths each year that could have been prevented if all interventions were universally available.
- Median coverage estimates vary widely across different interventions. Such variations can reflect the different characteristics of interventions, such as how each is delivered, how long it has taken to deliver it adequately and with effective management and monitoring. Other reasons for coverage variations include differences between services that can be scheduled in advance (for example, through campaigns that reach children of a particular age during recommended immunisation periods) and services that must be more regularly available (such as delivery, postnatal care, family planning services or nutritional counselling). The characteristics of interventions, and their relationship to achieving high and sustained coverage, are priority areas for the Countdown’s continuing technical work.
- Coverage levels for all interventions show large intercountry differences. The ‘Range’ columns in table 3.5 show wide variations in coverage for each intervention across the 68 priority countries. Though a full explanation of these differences is beyond the scope of this report, it should be a priority research topic for Countdown conference participants.

Recent coverage trends

This section presents results on progress by the priority countries in increasing coverage for the interventions and approaches proven effective in reducing mortality among mothers and children. As was explained in chapter 2, trend assessment is limited to those countries with coverage data for at least two points in time: one around 2000 and one around 2005. An exception is neonatal tetanus protection, for which annual coverage estimates are available; here data from 2003 and 2006 are used. (The four missing countries have no data for any year since 1980. No matter what years were used, they could not have been included in the trend analysis for neonatal tetanus protection coverage.)

The inter-survey periods vary considerably; most, however, span five years. Progress is measured by calculating the average annual percentage-point change between the data point collected within two years of 2000 and the most recent data point, then standardising to a three-year period for consistency with the Countdown reporting cycle.
Table 3.6 summarises the trend data reported in the 2008 Countdown country profiles for select coverage indicators. The greatest reported increase is in the proportion of children sleeping under insecticide-treated nets (median: 7; range: 2 to 18), followed by neonatal tetanus protection (median: 5, range –11 to 31). Delivery care, contraceptive prevalence and diarrhoea treatment have median three-year increases of 2 percentage points. Case-seeking for pneumonia has increased by a median of 1 percentage point over three years. The table shows that interventions showing steadier progress are generally preventive and deliverable on a planned schedule – unlike other interventions that must be available on demand in response to health events.

Table 3.6. Summary of estimated coverage changes for selected interventions for the most recent three-year period since 2000 (for Countdown priority countries with at least two measurements since about 2000)

Table: Coverage levels and trends for selected programmatic areas

This section summarises the most recent coverage levels, and trends in coverage levels since 2000, as presented in the 2008 Countdown country profiles. Current coverage levels and three-year progress estimates for specific subsets of interventions are described. In addition, an analysis of four component indicators associated with continuum of care for maternal, newborn and child survival is presented.

(Descriptive statistics for each coverage indicator were shown in table 3.5; trends were summarised in table 3.6. Later analyses will bring together the coverage results and measures of policy, health system strength and equity.)

The Countdown is an evolving effort. Further input on methodological and programmatic issues is expected from discussions planned for the 2008 Countdown conference. Readers are cautioned that this section presents simple summary measures and that more meaningful programmatic information can be found in the profiles for the individual countries.

Nutrition

Infant and young child feeding. The recent Lancet series on maternal and child undernutrition reinforces this area’s importance and offers guidance about effective country interventions and strategies. Its recommendations are consistent with the Global Strategy for Infant and Young Child Feeding. Most of the interventions identified as effective are being tracked through the Countdown.

The Lancet series emphasised the importance of exclusive breastfeeding in the first six months of life and highlighted individual and group counselling as effective ways to increase exclusive breastfeeding rates in countries with high stunting rates. In 2008, in the 66 priority countries with available data, the median prevalence of exclusive breastfeeding for infants less than six months old was 28 per cent (table 3.5), with a range from 1 per cent (Djibouti) to 88 per cent (Rwanda).
Breastfeeding plus complementary foods between six and nine months is a Countdown coverage indicator reflecting the importance of ensuring that children receive adequate quantities and quality of complementary foods after six months and up to 24 months of age. This is an essential intervention to prevent stunting.36 An evidence base pointing to specific effective interventions is described in detail elsewhere.27

Two methodological problems continue to constrain coverage monitoring for complementary feeding: the lack of a consensus about a valid and measurable indicator of complementary feeding behaviour and the use of a behavioural outcome (feeding behaviour) as a proxy for the intervention or interventions that could affect that outcome. The Steering Team of the Interagency Working Group on Infant and Young Child Feeding is addressing the first issue, having recently completed a five-year programme of research to develop new and more valid indicators.38 There has also been some progress in defining effective interventions and approaches.29 This Countdown cycle relies on the existing indicator, which is not adequate to support the estimation of trends.

As shown in table 3.5, among the 63 countries with coverage data available for this report, the median prevalence of complementary feeding from six to nine months was 62 per cent, with a range from 10 to 91 per cent. Ten countries reported rates of 80 per cent or more (Tanzania 91, Malawi 89, Burundi 88, Haiti and Zambia 87, Kenya 84, Cambodia 82, Peru 81, Mozambique and Uganda 90). Three countries reported prevalence rates of less than 20 per cent (Somalia 15, Liberia 11, Mozambique and Uganda 9%). Ten countries reported rates of 80 per cent or more (Tanzania 91, Malawi 89, Burundi 88, Haiti and Zambia 87, Kenya 84, Cambodia 82, Peru 81, Mozambique and Uganda 90). Three countries reported prevalence rates of less than 20 per cent (Somalia 15, Liberia 11, Mozambique and Uganda 9%). Ten countries reported rates of 80 per cent or more (Tanzania 91, Malawi 89, Burundi 88, Haiti and Zambia 87, Kenya 84, Cambodia 82, Peru 81, Mozambique and Uganda 90). Three countries reported prevalence rates of less than 20 per cent (Somalia 15, Liberia 11, Mozambique and Uganda 9%).

**Vitamin A supplementation.** Of the 68 Countdown priority countries, 66 are also priority countries for vitamin A supplementation, underscoring the importance of national-level programmes to ensure high two-dose coverage in almost all the Countdown countries.34 Table 3.5 shows fairly high coverage rates for 2005, when 55 of 68 priority countries (81 per cent) reported estimates. The median for two-dose coverage by more than 20 percentage points, and 8 others sustained a rate of greater than 80 per cent (Cameroon, Malawi, Niger, Nigeria, Rwanda, Sudan, Togo, Zimbabwe). Much of this progress is attributable to including vitamin A and other low-cost, high-impact preventive child survival interventions (measles immunisation, insecticide-treated bed nets) as part of integrated child health events.

### Changes in Vitamin A Coverage

<table>
<thead>
<tr>
<th>Country</th>
<th>2003 (%)</th>
<th>2005 (%)</th>
<th>Change (percentage points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cambodia</td>
<td>0</td>
<td>0</td>
<td>-2</td>
</tr>
<tr>
<td>DR Congo</td>
<td>57</td>
<td>66</td>
<td>9</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>21</td>
<td>42</td>
<td>21</td>
</tr>
<tr>
<td>Gambia</td>
<td>32</td>
<td>66</td>
<td>34</td>
</tr>
<tr>
<td>Guinea</td>
<td>60</td>
<td>94</td>
<td>34</td>
</tr>
<tr>
<td>India</td>
<td>87</td>
<td>82</td>
<td>-5</td>
</tr>
<tr>
<td>Indonesia</td>
<td>69</td>
<td>76</td>
<td>7</td>
</tr>
<tr>
<td>Malawi</td>
<td>81</td>
<td>91</td>
<td>10</td>
</tr>
<tr>
<td>Mozambique</td>
<td>89</td>
<td>94</td>
<td>5</td>
</tr>
<tr>
<td>Niger</td>
<td>64</td>
<td>86</td>
<td>22</td>
</tr>
<tr>
<td>Pakistan</td>
<td>49</td>
<td>66</td>
<td>17</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>15</td>
<td>50</td>
<td>35</td>
</tr>
<tr>
<td>Rwanda</td>
<td>16</td>
<td>33</td>
<td>17</td>
</tr>
<tr>
<td>Senegal</td>
<td>55</td>
<td>94</td>
<td>39</td>
</tr>
<tr>
<td>Sierra Leone</td>
<td>49</td>
<td>95</td>
<td>46</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>48</td>
<td>95</td>
<td>47</td>
</tr>
<tr>
<td>Sudan</td>
<td>55</td>
<td>90</td>
<td>35</td>
</tr>
<tr>
<td>Swaziland</td>
<td>46</td>
<td>90</td>
<td>44</td>
</tr>
<tr>
<td>Togo</td>
<td>58</td>
<td>93</td>
<td>35</td>
</tr>
<tr>
<td>Uganda</td>
<td>50</td>
<td>81</td>
<td>31</td>
</tr>
<tr>
<td>Yemen</td>
<td>43</td>
<td>50</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 3.7. Trends in two-dose vitamin A coverage in Countdown priority countries with available data (N=44), 2003–2005

However, 11 countries with available trend data still report two-dose vitamin A coverage rates of less than 80 per cent, and in two of these countries coverage has remained at 0 per cent (Djibouti, Papua New Guinea). The lack of sufficient progress in achieving high two-dose coverage rates in some priority countries is a reminder that increased efforts to institutionalise support for semi-annual delivery strategies, such as child health days, are needed to ensure that more at-risk children are fully protected from vitamin A deficiency. Also needed are outreach strategies that target areas of poor coverage within countries.

**Child health**

**Immunisation.** Measles immunisation is an indicator for Millennium Development Goal 4. Nearly all deaths attributable to measles in 2006 occurred in the 68 Countdown priority countries.25

In 2006, for the first time, general routine coverage rates for measles vaccination reached 80 per cent (up from 72 per cent in 1990).40 Across the Countdown priority countries, estimates based on 2006 data show median measles coverage at 80 per cent, with a range from 23 per cent (Chad) to 99 per cent (Brazil, Peru, Turkmenistan).

Similarly, the estimated median coverage rate for three doses of diphtheria and tetanus with pertussis vaccine (DPT3) is 81 per cent for the 68 priority countries, with a range from 20 per cent (Chad) to 99 per cent (Brazil, Malawi, Rwanda, South Africa). A recent analysis estimated that in 2007 there were 26 million children not immunised with DPT3 and that 20 million of those children lived in just 10 countries – all of them Countdown priority countries.25

Haemophilus Influenzae Type B (Hib) vaccine is a fairly new intervention, recently recommended for delivery with DPT3 in all low-income country immunisation schedules.41 In 2006 the Countdown reported on the number of priority countries that had included haemophilus influenzae type B vaccine in their child immunisation schedules as an indicator of country responsiveness to new interventions. This report presents coverage rates for the third dose of haemophilus influenzae type B vaccine (Hib3) for the first time. Among the 68 Countdown countries, 20 had data on Hib3 coverage for 2006. The median was 85 per cent, with a range from 10 per cent (Morocco) to 99 per cent (Brazil, Malawi, Rwanda, South Africa). These results demonstrate that rapid increases in immunisation coverage are possible where a strong delivery platform already exists.
Insecticide-treated bed nets. Another fairly new intervention, insecticide-treated bed nets have received much attention and resources at both national and international levels, with international funding for malaria control increasing dramatically over the past decade.38

Of the 68 Countdown priority countries, 45 have endemic malaria – defined here as nationwide risk of Plasmodium falciparum throughout the year.35 Figure 3.4 shows median coverage and ranges for children sleeping under insecticide-treated nets in those 45 countries. The median coverage is 7 per cent, with a range from 0 per cent (Guinea, Madagascar, Sudan) to 49 per cent (The Gambia).

For each of the 19 priority countries with available trend data, figure 3.5 presents two successive recent estimates for insecticide-treated net coverage. While showing dramatic increases for most countries, the results also show that additional rapid improvement is needed to achieve global targets. Some programme efforts may not yet be captured in these estimates. For example, both Ethiopia and Kenya are reported to have distributed millions of nets since coverage data were last collected in 2005 (for Ethiopia) and 2003 (for Kenya).33 Future surveys are expected to document coverage rates that reflect these accelerated efforts.

Antiretroviral prophylaxis to prevent mother-to-child HIV transmission. Over 90 per cent of infant and child HIV infections are passed on by mothers during pregnancy, labour, delivery or breastfeeding.36 Effective, feasible and well-known interventions to reduce such transmission could save thousands annually. Many low- and middle-income countries are scaling up national programmes to approach the global target – set by the United Nations General Assembly Special Session on HIV/AIDS in 2001 – of reaching at least 80 per cent of pregnant women with services to prevent mother-to-child HIV transmission by 2010.

In a number of Countdown priority countries increased amounts of effort, resources and political commitment have significantly boosted coverage for antiretrovirals to prevent mother-to-child HIV transmission. The Countdown country profiles present trend data on HIV-infected pregnant women receiving this intervention for 2004–2006.37 Coverage increased in each of the 51 countries that reported data during that period. Progress is especially evident in Eastern and Southern African Countdown countries, where the majority of new child HIV infections occur (for example, coverage in South Africa tripled from 15 per cent in 2004 to 50 per cent in 2006).

Despite the increasing trends in coverage for antiretrovirals to prevent mother-to-child transmission, progress towards meeting the United Nations General Assembly Special Session goal remains insufficient in most Countdown countries. Using an average annual 8 per cent target increase in antiretroviral coverage for each year since 2001, countries are defined as ‘on track’ if at least 48 per cent of all HIV-positive pregnant women received the intervention in 2006. Of the 51 Countdown countries that reported data, only 8 achieved that coverage rate and are considered ‘on track’ to meet the global goal of 80 per cent coverage for prevention of mother-to-child transmission (Botswana, Brazil, Swaziland, Rwanda, Burkina Faso, Benin, South Africa, Kenya).

Coverage rates remain low in some Countdown priority countries, particularly in sub-Saharan Africa where the greatest country HIV prevalence rates occur. All 15 Countdown countries with adult HIV prevalence of at least 5 per cent are in sub-Saharan Africa, yet in 11 of those countries coverage rates for antiretrovirals to prevent mother-to-child HIV transmission remain less than 40 per cent (table 3.8).
Coverage of antibiotic use for pneumonia in children under age five in the priority countries is low. Of all children under age five with suspected pneumonia, a median of 32 per cent receive antibiotics. Country coverage rates range from 3 per cent (Haiti) to 82 per cent (Iraq).

Coverage is only slightly better for diarrhoea treatment. Of children under age five with diarrhoea, the median proportion receiving oral rehydration therapy (or increased fluids with continued feeding) is 38 per cent, with a range of 7 per cent (Botswana, Somalia) to 76 per cent (the Philippines).

Figure 3.6 shows coverage for antimalarial treatment among children under age five. The results are similar to those for diarrhoea and pneumonia treatment, with a median of 40 percent across the 34 countries with available data.

Figure 3.6 shows coverage for antimalarial treatment among children under age five. The results are similar to those for diarrhoea and pneumonia treatment, with a median of 40 percent across the 34 countries with available data.

Trend data are available only for diarrhoea treatment (figure 3.7) and careseeking for pneumonia (figure 3.8b). Both show limited progress – if any – over the most recent three-year period for which data are available.

Pneumonia, diarrhoea and malaria, together with undernutrition, caused 54 per cent of the 10.6 million annual deaths from 2000-2003, or a total of more than 17 million deaths in newborns and children under age five. In the 68 Countdown priority countries, which account for 97 per cent of all child deaths, coverage rates for pneumonia, diarrhoea and malaria treatment are poor and generally not improving.

The priority countries can reach more newborns and children with timely identification and treatment by adopting and implementing related policies monitored by the Countdown. The extension of integrated management of childhood illness to cover newborns, the introduction of new low osmolarity oral rehydration salts and zinc supplements for diarrhoea and policies facilitating the treatment of uncomplicated pneumonia in the community, for example, are all measures that the priority countries can introduce to reach more newborns and children with needed care.
Maternal and newborn health

Contraceptive prevalence and unmet need for family planning. Every woman has the right to plan her pregnancies and have access to effective family planning methods to space or limit births and to prevent unintended pregnancies. Target coverage rates for this indicator are less than 100 per cent because at any given time a certain proportion of women will want to conceive. The median prevalence of contraceptive use among currently married women or those in union of reproductive age (15–49) is 29 per cent in the 64 priority countries with available data, with a range from 3 per cent per cent (Chad) to 87 per cent (China). Unlike the contraceptive prevalence rate, unmet need for family planning is based on a target coverage rate of 100 per cent; the indicator measures the gap between the proportion of women who desire contraception and those who receive it. The median rate of unmet need is 23, with a range from 41 percent (Uganda) to 9 percent (Indonesia, Peru). But as figure 3.9 shows, data on unmet need are available for only 40 of the 68 Countdown priority countries.

Of the countries with estimates for both contraceptive prevalence and unmet need, nearly half have an unmet need rate that exceeds contraceptive prevalence. Overall, the proportion of stated desires to space the next birth by at least two years or avoid pregnancy that are being met by family planning services requires significant improvement through various supply and demand efforts. The Lancet sexual and reproductive health series has addressed this topic.25

Antenatal care can provide a platform for delivering several effective maternal and newborn interventions, including (among others) tetanus toxoid immunisation, intermittent preventive treatment for malaria and preventing mother-to-child transmission for HIV. The Countdown indicator for antenatal care is the percentage of women attending at least four antenatal care sessions during pregnancy, as recommended by the World Health Organization and UNICEF.26 For continuity with past monitoring efforts, the country profiles also include the percentage of women attending at least one antenatal care session under a skilled health provider.

Indicators for one and for four visits have recently been added to the list of indicators for Millennium Development Goal 5 (Millennium Development Goal 5B, Target 5.5).27 Readers should note that the survey protocol asks about the type of provider for the one-visit indicator but not for the four-visit indicator. Future analyses will explore the relationship between the two measures.

Figure 3.10 summarises the median prevalence of at least four antenatal care visits in the 39 Countdown priority countries for which data were available. In those countries a median of 49 per cent of mothers attended four or more antenatal care sessions, with a range from 12 per cent (Ethiopia) to 87 per cent (Peru).

Maternal & newborn tetanus. Mothers and newborns are considered protected from tetanus if the pregnant woman receives two doses of tetanus toxoid vaccine during an appropriate period before the birth. Those vaccines are often provided at antenatal care visits. But many countries have improved their rates by introducing special maternal and neonatal tetanus campaigns. Some countries have also introduced programmes to cover school-age girls and adolescents.

Changes in Care Seeking for Pneumonia Treatment

Family Planning Unmet Need

Antenatal Care Coverage

Changes in Care Seeking for Pneumonia Treatment

Family Planning Unmet Need

Antenatal Care Coverage
In the 64 Countdown priority countries with data for 2006, the median coverage estimates for neonatal tetanus protection is 61 per cent, with a range from 31 per cent (Haiti) to 94 per cent (Benin, The Gambia). Table 3.6 reports a median three-year increase of 5 percentage points in the 64 countries – an impressive trend, given that coverage is already so high.

**Intermittent preventive treatment for pregnant women (IPTp) for malaria** involves the provision of two or more doses of an antimalarial drug to women during pregnancy, protecting both mothers and their children. Figure 3.11 shows coverage for 22 of the 45 priority countries with endemic malaria ( annex F), the remaining 23 had no coverage data.

In most countries with intermittent preventive treatment for pregnant women, the countries have adopted it only recently. Rapid gains are expected in the next round of national surveys. Priority countries that adopted this intervention earlier had achieved fairly high coverage levels by 2006, such as 61 per cent (Zambia) or 45 per cent (Malawi).

Intermittent preventive treatment for pregnant women is not recommended for malaria endemic countries where large proportions of the population live in low-intensity malaria transmission areas. For this reason Botswana, Burundi, Eritrea and Ethiopia have not made it a part of their national malaria control strategies. They are not included in the coverage estimates for this indicator.32

**The presence of a skilled attendant at delivery** is associated in observational studies with better delivery outcomes, including reduced maternal deaths.36 This association is plausible, since an attendant who is authorised to perform life-saving functions and supported by a performing health system can provide life-saving interventions in a timely manner. Across the 66 priority countries with available coverage data for this Countdown cycle the median was 53 per cent, with a range from 6 per cent (Ethiopia) to 100 per cent (Azerbaijan, Turkmenistan). That rate may be compared with a recently published estimate of 61 per cent coverage for all developing countries.21

Of the 68 Countdown priority countries, 45 have data for the presence of a skilled attendant at delivery from two coverage surveys conducted at least three years apart between 1998 and 2006. Figure 3.12 shows the average three-year percentage point change for each.

The results suggest that while the majority of these priority countries are improving delivery care coverage, some need further improvement and others require efforts to sustain high coverage rates. The effectiveness of this approach depends on the specific interventions provided and on the quality of delivery, making national and subnational monitoring necessary.

**Caesarean section** coverage differs in important ways from the other coverage indicators tracked through the Countdown. First, the target coverage rate is not 100 per cent. Instead, the suggested acceptable rate of caesarean section – based on the estimated frequency of life-threatening obstetric complications – is between 5 and 15 percent of births.36 By general agreement, rates of less than 5 per cent indicate that a substantial proportion of women lack access to caesarean sections and could die as a result. But rates greater than 15 per cent could indicate that the procedure is being over-utilised and performed for other than life-saving reasons, increasing morbidity and possibly mortality from unneeded risks associated with surgery.32
Second, caution is required when interpreting these results at the national level because of the substantial heterogeneity between urban and rural areas, different wealth strata and public and private sectors. If rates for a minority of the country’s population exceed 15 per cent, then a national rate considerably greater than 5 per cent could mask widespread unmet need in a majority of the population. Even if country coverage rates are within the acceptable range, unmet need might vary both within and across countries.

Table 3.9 shows the percentage of live births delivered by caesarean section for the 39 priority Countdown countries with estimates from 2000 to 2006, stratified by urban or rural residence. Rural rates range from 0 per cent (Burkina Faso, Chad, Ethiopia, Mali, Niger) to 15 per cent (Egypt), with a median of 2 per cent. Urban rates range from 1 to 29 per cent, with a median of 7 per cent. In rural areas all but 8 of the 39 countries have caesarean section rates of less than 5 per cent. In urban areas 5 countries have rates greater than the recommended threshold of 15 per cent (Bolivia, Egypt, Guatemala, India, Peru) and 10 have rates less than 5 per cent.

These data indicate that, in the 68 priority countries, rates of life-saving caesarean section use are low and require urgent attention. Despite evidence of overuse in some urban settings, large urban-rural differentials suggest inadequate access in most countries. The data for caesarean section rates should spur programme planners at the subnational, national and international levels to take urgent action to achieve appropriate coverage for this life-saving procedure. The limited availability of emergency obstetric care facilities, documented later in this report, is further evidence of the need for greater investments in health care systems so that pregnant women have access to essential care.

**Early initiation of breastfeeding** benefits both mothers and newborns. Immediate breastfeeding, facilitated by placing the newborn skin-to-skin on the mother’s breast, helps prevent hypothermia, promotes bonding, and reduces the mother’s risk of haemorrhage. The mother’s milk during the first post-partum days, colostrum, also provides protective antibodies and essential nutrients. Figure 3.13 shows the prevalence rates of the early initiation of breastfeeding for the 68 priority countries, which was included as a Countdown intervention for the first time in 2008. Among the 47 priority countries with available data, the median prevalence is 43 per cent with a range of 23 (Guinea-Bissau, Senegal) to 78 (Eritrea), suggesting that the uptake and reinforcement of this behaviour will require special programmatic attention within the continuum of care.

**Postnatal care** is a Countdown indicator because of the importance of the postnatal period for maternal and newborn survival and health. Three quarters of newborn deaths occur in the first week of life – up to half (2 million) on the first day. The same period poses high risks for maternal death. On the other hand, it is a crucial time for establishing home care practices – especially breastfeeding, warmth for the baby, recognition of illness or danger signs and referral or treatment when required – and for providing counselling on family planning services. Compelling evidence shows that the earlier the first postnatal visit, the more effectively it will prevent neonatal mortality and improve healthy behaviours. Home visits by trained community health workers in the first two days of life can significantly reduce neonatal mortality. Other studies show that, controlling for other factors, a visit on the first day of life is associated with fewer neonatal deaths compared with a visit on the third day.56 All mothers and babies should receive a first postnatal contact within 24 hours of birth or within 24 hours of discharge after a facility birth. For these reasons the Countdown indicator has been revised to focus on early postnatal care within two days of birth (rather than three days as in the 2005 report).

**Effective postnatal care, like antenatal care, requires several contact visits. Visits after the first should occur at around day 3, at 6 to 7 days and six weeks after the birth.** Comparable data for postnatal care are lacking. Demographic and Health Surveys provide data on postnatal visits for 12 countries, but the question refers only to the mother, and it is not clear whether care for the baby (such as breastfeeding counselling) is included. Coverage for the 12 countries with such data is very low, with a median of 24 per cent and a range that begins at 2 per cent. Two countries have better coverage – 64 per cent (Cambodia) and 56 per cent (Egypt).

Five countries have adapted the standard Demographic and Health Survey questionnaire to ask mothers about whether a postnatal visit for the newborn occurred within two days after the birth. For those five countries, table 3.10 shows the coverage rates for postnatal newborn care. Since this question is addressed only to mothers who delivered at home, the denominator differs from that for the maternal postnatal care question; data from the two questions cannot be compared.

Postnatal care is a neglected area in many Countdown priority countries. Without clear policies – especially for early contact, specified programmatic delivery (who, what, where) and consistent data tracking – the lack of postnatal care represents a significant gap in the continuum of care. Important opportunities for the delivery of needed care to mothers and babies are missed, and linkages between care at birth and child health and ongoing reproductive health services remain poor.61

**References**

Data availability and quality for postnatal care would improve if the standard Demographic and Health Survey questionnaire were to ask about postnatal care for the mother and the baby, detail more visits than just the first and make the questionnaire ask about postnatal care at home after facility births (so that denominators become comparable). Advancing these aims now will create better data for the next Countdown report. In at least 12 countries, large-scale implementation research is evaluating an expansion of locally adapted approaches for visits to mothers and babies, including postnatal care.

Coverage across the continuum of care

Achieving the health-related Millennium Development Goals must start with an effective response to the needs of women, newborns and children. The continuum of care for maternal, newborn and child health includes integrated health service delivery throughout the lifecycle, including adolescence, pregnancy, childbirth, the postnatal period and childhood. This care is provided by families and communities and through outpatient, outreach and clinical services. To save the most lives, linkages among the time periods and places for caregiving are crucial.17

The graph in each 2006 Countdown country profile (upper right corner) highlights coverage for six interventions and approaches within the continuum of care: contraceptive use, antenatal care, a skilled attendant at delivery, a postnatal care visit for the mother, exclusive breastfeeding up to six months and measles vaccination. Of these six interventions, four have target coverage levels of 100 per cent and coverage data since 2000 for a majority of the 68 Countdown countries and could therefore be included in a summary coverage measure for the continuum. (Another measure reflecting coverage across multiple interventions is presented and discussed later in the report, in the section on equity.)

Figure 3.14 shows the number of the 62 priority countries with coverage data since 2000 that have achieved specific coverage rates for all four of these interventions: at least one antenatal care visit, a skilled attendant at delivery, exclusive breastfeeding up to six months and measles vaccination.

Few countries have even moderately good coverage across this grouping of four interventions. Starting with the leftmost bar in figure 14, 52 of the 62 countries with the required data (84 per cent) have at least 10 per cent coverage across the four interventions. Moving towards the right, only 40 countries (65 per cent) have at least 20 per cent coverage, and only 26 countries (42 per cent) have at least 30 per cent coverage. Just two countries have at least 60 per cent coverage across the four interventions and approaches (Benin, Peru); only one has reached 70 per cent coverage or above (Benni).

Focusing on the continuum of care means focusing on the need to strengthen health systems. Health systems need to be shored up so that they can support a continuum of high quality services, one that spans the family and community and that includes both local providers and providers who can deliver emergency obstetrical care (contacted through operative referral mechanisms). Renewed efforts must focus on clarifying the root causes of health system underperformance and on effective approaches for strengthening health systems.14

Water and sanitation

The seventh Millennium Development Goal includes a target of halving, from 1990–2015, the proportion of people without sustainable access to safe drinking water. Improving water and sanitation are important to preventing infectious diseases and thereby to achieving the health-related Millennium Development Goals.

Table 3.11 shows the Countdown priority countries that were ‘on track’ to achieve the targets for water (n=36) and sanitation (n=14), based on data from 1990 and 2004.16 Countries not listed had shown either insufficient or no progress.

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Equity in coverage levels

The 2008 Countdown country profiles present findings about equity in coverage using a new measure, the ‘coverage gap’, which includes eight interventions grouped into four areas across the continuum of care:

- Family planning (need satisfied or contraceptive use).
- Maternal and newborn care (antenatal care and skilled birth attendance).
- Immunisation (measles vaccine, Bacille Calmette-Guérin vaccine against tuberculosis [BCG] and third dose of diphtheria and tetanus with pertussis vaccine [DPT3]).
- Treatment of child illness (medical care sought for acute respiratory infection and oral rehydration therapy with continued feeding for diarrhoea).

Annex E gives further details on the data sources and methods of analysis. (Some inconsistencies in definitions between the component indicators of the coverage gap measure and Countdown indicators should not affect the validity of results as a measure of coverage equity.)

Comparing the absolute size of coverage gaps across the Countdown priority countries suggests intercountry inequities. The coverage gaps for 54 countries ranged from less than 20 per cent, indicating about 80 per cent coverage for the eight interventions (Turkmenistan, Peru), to over 70 per cent, indicating about 30 per cent coverage for the eight interventions (Chad, Ethiopia).

In the 40 Countdown countries with at least two surveys since 1990, coverage gaps decreased by about 1 percentage point per year, indicating improved coverage across the eight interventions or approaches. Coverage gap decreases, measured in percentage points, were faster for countries with gaps over 40 per cent than for countries with smaller gaps – suggesting that improvements in coverage can occur more rapidly where initial coverage levels are low.

The ‘coverage gap’ provides information on equity in coverage within countries, as reflected in the country profiles. The profiles show large intracountry differences between the poorest quintile of the population and the least poor quintile. Measured by absolute differences in coverage, the largest inequity for maternal, newborn and child health interventions and approaches is in Nigeria (2003), where the difference between universal and current coverage for the eight interventions is 45 percentage points greater for the poorest than for the least poor quintile.

To examine trends, associations between patterns of inequity and coverage gap size were first examined; intracountry trends were then assessed. The surveys were classified into five groups based on coverage gap size. Figure 3.15 summarises the size of the coverage gap in each of the five groups across the five wealth quintiles. Although the coverage gap is consistently higher among the poorer and lower among the less poor, there are important differences in the patterns of inequity (the shape of the curve) that have implications for how programmes should be designed and targeted to reduce inequities.

In countries where the coverage gap is the highest – indicating low coverage (the upper red line in figure 3.15) – there is an almost linear relationship between increasing wealth and decreases in the coverage gap except among the least poor, for whom coverage is much greater and the coverage gap much smaller. This pattern has been termed ‘top inequity’, its unusual feature being the striking comparative superiority in coverage for the least poor. To address such coverage inequities, efforts can decrease the coverage gap for all but the least poor.

The pattern is different in countries with the lowest coverage gap, indicating relatively high coverage levels across the eight interventions (the lower light orange line in figure 3.15). Though in these findings the effect is relatively small, there is a linear improvement from the second poorest quintile to the least poor quintile, with a noticeable change in the slope of the line representing the poorest quintile. Referred to as ‘bottom’ inequity, this can often be addressed through effective targeting of services to the poor.

The country profiles provide a wide array of examples of these patterns, with notable exceptions. Some countries (such as Turkmenistan and Azerbaijan) show only small differences by wealth quintile. Others have dramatic ‘top inequity’ (for example, Burkina Faso) or ‘bottom inequity’ (such as Brazil).

Countries with multiple surveys provide examples of changes over time. The analyses show that the overall annual rate of coverage gap change is just less than 1 percentage point on average and rarely exceeds 1 percentage point. For example, in Cambodia a substantial reduction of the coverage gap from 2000–2005 changed the pattern from ‘top inequity’ to a linear pattern. In Egypt and Peru progress was marked by reduced ‘bottom inequity’. Yet in several countries, such as India, a marked overall reduction in the coverage gap did not change the inequity pattern and was not associated with greater progress for the poorest quintile. In most sub-Saharan African countries, likewise, coverage gaps decreased, but ‘top inequity’ remained.

Health policies and health systems

Figure 3.16 shows the frequency distribution of responses from 68 countries on adopting specific health policies affecting the continuum of care for maternal, newborn and child health. The remainder of this section summarises findings for each individual policy.

The International Code of Marketing of Breastmilk Substitutes

In 1981, as a minimum requirement to protect and promote breastfeeding, the World Health Organization member states unanimously adopted the International Code of Marketing of Breastmilk Substitutes. As urged in the Global Strategy for Infant and Young Child Feeding, governments should act...
By the end of 2007, 25 of the 68 Countdown priority countries had reported adopting legislation covering all provisions of the International Code while 28 reported having voluntary agreements covering some Code provisions. Another 13 countries had taken no action to adopt the Code and no information was available for 2 countries. These data reflect marked improvement since 2005, when the Countdown reported that 15 of 60 countries had fully adopted the Code and 39 had adopted parts of it (figure 3.17).51

The ILO Convention 183 on Maternity Protection

International labour standards on maternity protection are important to protect the health and employment of women.42 Over the history of the International Labour Organization, member states have adopted three Conventions on maternity protection (No. 3, 1919; No. 103, 1952; No. 183, 2000), progressively expanding the scope and entitlements of maternity protection at work. Convention No. 183 provides for health protection at work, 14 weeks of maternity leave, cash and medical benefits, employment security and non-discrimination and rights to breastfeeding.

Midwives administered to authorise a core set of life-saving interventions

Midwives are the primary skilled care providers at birth in many countries. Often, they are not authorised to perform life-saving skills that can affect the survival of the mother or her newborn. As early as 1997 global guidelines called for authorising midwives, among others, to perform a set of signal functions.43 Essential care for women and newborns requires that midwives be authorised to administer pertertal antibiotics, perternal oxytocics and perternal anticonvulsants, to manually remove the placenta, to remove retained products of conception, to assist with vaginal delivery and to resuscitate newborns.

Of the 68 Countdown priority countries, 37 reported having a policy authorising midwives to perform these seven functions, 25 countries reported having a policy allowing midwives to perform part of them and 5 reported having no policy. For 11 countries no data were available.

Emergency obstetric care service availability

Three-quarters of maternal deaths are caused by direct obstetric complications including haemorrhage, sepsis, eclampsia and prolonged or obstructed labour.44 The occurrence of these life-threatening complications is unpredictable and often unpreventable. But nearly all deaths from these causes can be averted through timely and appropriate intervention with quality emergency obstetric care, including caesarean section.45 The availability of such care is critical as all pregnant women have access both to a basic emergency obstetric care facility for the seven signal functions (administer perternal antibiotics, perternal oxytocics and perternal anticonvulsants, manually remove the placenta, remove retained products of conception, assist with vaginal delivery and resuscitate newborns) and, if needed, a comprehensive emergency obstetric care facility that can also perform caesarean section and blood transfusion.

The availability of emergency obstetric care services provides one measurement of a health system’s capacity to prevent both maternal and newborn deaths. For every 500,000 people it is recommended to provide at least five basic emergency obstetric care facilities, of which at least one should also offer comprehensive emergency obstetric care.46 The geographic distribution of such facilities should ensure access for all women, not only those living in a few regions or urban centers.

The emergency obstetric care availability data in this report come from government surveys conducted with substantial coverage and accuracy, as organisations such as UNICEF, the United Nations Population Fund, the World Health Organization and the Averting Maternal Death and Disability Program at Columbia University. The data are presented as percentages of needed facilities based on country populations. Data on geographic distribution, though available for several countries, are not reported.

Twenty-seven countries had comparable data that the Countdown could use. Of those 27, 11 had at least half of the recommended minimum number of functioning emergency obstetric care facilities. The remaining 16 countries with comparable and usable data had between 14 per cent and 48 per cent of the minimum. Even without knowing the geographical distribution of facilities within countries, one can see that a much greater investment is needed for emergency obstetric care services to reach all the women who need them. (Eighteen countries either had conducted smaller assessments, had not yet analysed their data or had conducted different types of facility surveys that were not comparable. For 23 other countries no data were available.)

All countries should be encouraged to conduct a national assessment and to routinely collect information on the signal functions and the availability, functioning and quality of care at emergency obstetric care facilities. It is expected that this set of indicators will be integrated into national health information systems so that the availability and quality of these services can be monitored more regularly.

Notification of maternal death

Maternal death is a rare event. It is also a very sensitive indicator of the health system functionality. A national policy requiring specific notification of maternal deaths can be a powerful instrument to examine the quality and responsiveness of health services and to help identify critical barriers in the continuum of care.

In this Cycle of the Countdown, 23 countries reported having a policy requiring notification of maternal death, 14 countries reported having a policy but no systematic implementation, and 18 countries reported having no such policy. No information was available for 13 countries.

Integrated management of childhood illness adapted to cover newborns 0-1 week old

A cost-effective way to diagnose and treat children with common illnesses, the integrated management of childhood illness approach (IMCI) has been adopted by over 100 countries. The first generic version of its guidelines was developed for children up to five years of age; it did not address newborns in the first week of life. Based on new evidence, revised generic guidelines have been promoted since 2006 to cover infants 0-2 months old.60

In this Countdown cycle, 39 of the 68 priority countries reported having national immunizing interests in the first week of life, in line with the generic guidelines. Three countries reported having partial adaptations for young infants; 21 reported having no such adaptations.

Low osmolarity oral rehydration salts and zinc supplementation

Strong evidence demonstrating the effectiveness of both a low, osmolarity formulation of oral rehydration solution (oral rehydration salts) and zinc supplementation in reducing the duration and incidence and severity of diarrhoeal episodes resulted in an international call for action to countries to adopt the new guidelines and intensify efforts to increase coverage for oral rehydration therapy.47 By the end of 2007, 34 Countdown priority countries had adopted the new guidelines and 17 had adopted one of the two improved interventions (either low osmolarity oral rehydration salts or zinc supplementation but not both), while 10 had not changed their policy to reflect the new technical advances. That was a marked improvement from 2005, when just 6 of 50 priority countries had adopted the new policy and 36 reported no policy (figure 3.17).

Although it might be too early to find nationwide increases in coverage for low osmolarity oral rehydration salts in countries that have updated their policy, future progress should be tracked to assess whether and how policy changes can affect coverage.

Progress on Three Key Policies

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Figure 3.17: Progress in implementing three policies (International Code of Marketing of Breastmilk Substitutes, low osmolarity oral rehydration salts and zinc supplement and community management of pneumonia with antibiotics) in the 68 Countdown priority countries (2006–2007)

42
Community treatment of pneumonia with antibiotics

Pneumonia remains the leading killer of children under five years of age. As table 3.5 shows, coverage levels for case-seeking and the treatment of pneumonia with an effective antibiotic are alarmingly low in most of the 68 Countdown priority countries. Community health workers can manage uncomplicated pneumonia effectively and bring treatment closer to the home. In 2007, the World Health Organization and UNICEF called on countries to adopt and promote policies that would support community health workers in identifying and treating pneumonia, while improving service at first-level health facilities. In 2005, of 60 Countdown priority countries, 16 had policies authorising community health workers to identify and manage pneumonia, 2 had no policies, but were implementing the approach in selected geographic areas; 41 explicitly prohibited community-based pneumonia management (one country lacked data). For the 2008 Countdown, 18 of 68 priority countries reported having community case management policies; 11 reported having no policies, but some implementation of the approach in selected areas; 31 reported having no policies or explicit prohibitions (figure 3.17). County respondents to the Countdown survey offered reasons for the lack of progress, focusing on the complexities of decisions about which cadres of health providers would be permitted to administer antibiotics.

Casted implementation plan

For the 2008 Countdown, 31 countries reported having developed costed implementation plans for maternal, newborn and child health; 18 countries reported having partial plans that were either not costed or did not cover the entire continuum of care; 14 countries indicated having no such plans. Information was not available for 5 countries. Interpretations of this indicator varied between countries, since in some an investment case has been made for achieving the Millennium Development Goals while in others it has not. For countries in which it has not, the indicator was rated as full when medium-term plans and related programme costs were available.

Human resources and financing

Density of health workers per 1,000 people

The World Health Organization estimates that to ensure adequate coverage for basic maternal and child health services, at least 2.5 health workers are needed per 1,000 people. Results from global databases that include both facility- and community-based health workers show that in 54 out of the 68 Countdown priority countries (80 per cent), the numbers of such workers are too few to improve country prospects for achieving the health-related Millennium Development Goals.

There is no demonstrated association between health worker density and coverage for interventions. But these data show that many countries are facing a health worker crisis that could obstruct coverage increases.

Per capita expenditure per maternal, newborn and child health

In 2004, the World Health Organization and UNICEF estimated that maternal newborn and child health; 18 countries reported having partial plans that were either not costed or did not cover the entire continuum of care; 14 countries indicated having no such plans. Information was not available for 5 countries. Interpretations of this indicator varied between countries, since in some an investment case has been made for achieving the Millennium Development Goals while in others it has not. For countries in which it has not, the indicator was rated as full when medium-term plans and related programme costs were available.

Financial flows to maternal, newborn and child health

The Countdown Financial Flows Working Group developed two new indicators for use in monitoring progress across the 68 priority countries: official development assistance to child health per child and official development assistance to maternal and neonatal health per live birth. Both indicators are included in the 2008 country profiles, with estimates for 2005.

The two new indicators are presented next to more detailed discussions of official development assistance to child health.
The continuum of care for maternal, newborn and child health requires multiple delivery approaches. Progress towards the Millennium Development Goal will require a range of interventions to be delivered in different points in the life-cycle. Services that contribute to the achievement of one Millennium Development Goal will not necessarily advance progress towards another. Of particular concern today is a serious breakdown in the continuum of care at several points in the pre-pregnancy to two-year postnatal period when opportunities to deliver essential services are being lost.

Undernutrition is an area of little or no progress. More than one-third of deaths in children under age five are attributable to undernutrition—the underlying cause of 3.5 million child deaths annually. And maternal undernutrition increases the mother’s risk of death at delivery, accounting for at least 20 per cent of such deaths. In 33 of the 68 priority countries, at least 20 per cent of children are moderately or severely underweight, and 62 countries have stunting prevalence rates exceeding 20 per cent.

Weak health systems and broader contextual factors obstruct progress. Health systems in many countries cannot now deliver essential interventions and approaches widely or well enough to reduce mortality nationwide. Indicators of health financing and health worker density are useful markers of health system strength. Of the 68 Countdown priority countries, 54 – or 80 per cent – have workforce densities below the critical threshold for improved prospects for achieving the health-related Millennium Development Goals. It has been estimated that annual per capita total health expenditures of less than $45 are insufficient to ensure access to a very basic set of needed services. Of the 68 priority countries, 21 had less than $45. In addition, 11 out of the 12 countries with reversed progress towards Millennium Development Goal 4, contextual challenges – such as armed conflict, high HIV burdens and low female literacy rates – contribute to stagnating or deteriorating coverage.

Inequities obstruct progress. Mortality in children under age five is now concentrated in sub-Saharan Africa (almost 50 per cent) and South Asia (30 per cent). Maternal and newborn mortality are similarly concentrated in those regions. Meanwhile, the inequity analyses show that within countries the richest quintile is gaining access to key interventions more quickly than the poorest. Reducing both types of inequity – between regions and within countries – is a crucial part of achieving the health-related Millennium Development Goals.

Aid needs to increase and become more predictable. Overseas development assistance to child, newborn and maternal health increased by 28 percent from 2004 to 2005, including increases of 49 per cent to child health and 21 per cent to maternal and newborn health. Such aid for maternal, newborn and child health and nutrition has increased in most Countdown priority countries, but has decreased in some. Of the 68 countries, 38 received more per capita official development assistance to child health, and 39 received more to maternal and newborn health per live birth, in 2005 than in 2004.

Countries need more and better coverage estimates and research on local implementation. Since the first Countdown report in 2005, an unprecedented amount of household surveys have been conducted and include new MICS data from 54 countries and new DHS data for 35 countries. However, many countries are still determining coverage levels for essential interventions using data that is 5, 10 or even 15 years old. In consequence, the knowledge gained through current and ongoing efforts to promote maternal, newborn and child health and nutrition has not been adequately disseminated. The Countdown is drawing attention to the fact that data collection and dissemination need improvement to make timely data more readily available, which is crucial for planning and implementation.
The Countdown call to action

All people involved in the Countdown, who together constitute a ‘community of practice’ for achieving the health-related Millennium Development Goals, are encouraged to use the Countdown results and products to improve their effectiveness in reducing mortality and improving nutrition among women, newborns and children – each in their own way, applying their diverse skills and resources.

Participants in this round of data review for the Countdown effort identified the following immediate actions to be promoted and discussed at the second international Countdown conference, Cape Town, South Africa, 17–19 April 2008.

- Sustain and expand successful efforts to achieve high and equitable coverage for priority interventions. Recent areas of progress – especially immunisations, vitamin A supplementation and insecticide-treated bed nets – represent a major success for governments and their development partners. Such efforts should continue. But comparable efforts and investments are required for childbirth care and the case management of childhood illness.

- Focus on the priority period within the continuum of care, from pre-pregnancy through 24 months – especially around the time of birth. To reduce mortality during childbirth and in newborns, programming efforts must focus on the effective and integrated delivery of interventions and approaches associated with this crucial period. Examples include contraceptive services, antenatal, delivery, and postnatal care and infant feeding practices.

- Within increased efforts to achieve the health-related Millennium Development Goals, make improving maternal and child nutrition a priority. Nutrition must be central to both national and subnational development strategies.

- Strengthen health systems, focusing on measurable results. Health systems need to deliver on demand, creating a functional continuum of care over time and in different places. All new initiatives must focus on outcomes that measurably advance this aim.

- Set geographic and population priorities, and stick to them. The health-related Millennium Development Goals cannot be met globally without faster progress in sub-Saharan Africa and South Asia. Development efforts and official development assistance must increasingly target countries in these regions with large populations and poor performance.

- Programme for equity. Describing inequities, though an important first step, is not enough. Programmatic efforts to address inequities must be supported by strong monitoring and evaluation activities.

- Do even more to ensure predictable long-term aid flows for maternal, newborn and child health. Governments and their development partners cannot meet the health-related Millennium Development Goals unless assistance is adequate, predictable and targeted to those goals.

- Monitor. Evaluate. Conduct locally driven implementation research. And act on the results. The ‘community of practice’ for maternal, newborn and child survival. It is time for all to work together as partners to improve the lives of women, newborns and children.

Lead the change for maternal, newborn and child survival. It is time for all to work together as partners to improve the lives of women, newborns and children.

Notes

1. Boerma, Bryce, Kinfu and others (forthcoming).
5. Ibid.
22. 1 Black, Allen, Bhutta and others 2008.
25. Johns, Sigurbjörnsdóttir, Fogstad and others 2007; Steinberg, Johns, Schenper and others 2007; Green, Powell-Jackson, Bergl and others (forthcoming).
29. UNICEF 2007c.
30. UNICEF 2007d.
33. UNICEF 2007b.
Chapter 4 introduces the individual country profiles. These profiles represent the basic information to be analysed at Countdown conferences, and evidence for assessing progress since the first Countdown Report in 2005. Each profile presents the most recent available information on selected demographic measures of maternal, newborn and child survival and nutritional status, coverage rates for priority interventions, and selected indicators of equity, policy support, human resources and financial flows.

The information summarised in these pages is intended to help policy makers and their partners assess progress and prioritise actions in the effort to reduce maternal, newborn and child mortality.

Afghanistan
Angola
Azerbaijan
Bangladesh
Benin
Bolivia
Botswana
Brazil
Burkina Faso
Burundi
Cameroon
Central African Republic
Chad
China
Congo
Congo, Democratic Republic of the
Côte d’Ivoire
Djibouti
Egypt
Equatorial Guinea
Eritrea
Ethiopia
Gabon
Gambia, The
Ghana
Guatemala
Guinea
Guinea-Bissau
Haiti
India
Indonesia
Iraq
Kenya
Korea, Democratic People’s Republic of
Lao People’s Democratic Republic
Lesotho
Liberia
Madagascar
Malawi
Mali
Mauritania
Mexico
Morocco
Mozambique
Myanmar
Nepal
Niger
Nigeria
Pakistan
Papua New Guinea
Peru
Philippines
Rwanda
Senegal
Sierra Leone
Somalia
South Africa
Sudan
Swaziland
Tajikistan
Tanzania, United Republic of
Togo
Turkmenistan
Uganda
Yemen
Zambia
Zimbabwe
Azerbaijan

MATERNAL AND NEWBORN HEALTH

- Underweight prevalence
- Exclusive breastfeeding
- Vitamin A supplementation
- Malaria prevention
- Prevention of mother to child transmission of HIV
- Diarrhoeal disease treatment
- Pneumonia treatment

NUTRITION

- Stunting prevalence
- Complementary feeding rate
- Water
- Sanitation

EQUITY

- Other causes
- Official Development Assistance

DEMOGRAPHICS

- Total population
- Total under-five population
- Births
- Birth registration
- Infant mortality rate
- Neonatal mortality rate
- MICS

INTERVENTION COVERAGE FOR MOTHERS, NEWBORNS, AND CHILDREN

- Antenatal care
- Neonatal tetanus protection
- Skilled attendant at delivery
- Neonatal death

SYSTEMS

- International Code of Marketing of Breastmilk Substitutes
- New CRS formula and dextro for management of diarrhoea
- Malaria treatment
- Pneumonia treatment

POLICIES

- Child health
- Under-five mortality rate
- Causes of under-five deaths

WATER AND SANITATION

- Water
- Sanitation

COVERAGE ALONG THE CONTINUUM OF CARE

- Contraceptive prevalence rate
- Maternal and neonatal mortality

FINANCIAL FLOWS AND HUMAN RESOURCES

- Abortion
- Vitamin A supplementation

MATERNAL AND NEWBORN HEALTH

- Immunization
- Malaria prevention
- Prevention of mother to child transmission of HIV
- Diarrhoeal disease treatment

Azerbaijan

2000 Report

96

40

20
Bolivia

**DEMOGRAPHICS**

- Total population (000) 9,354 (2006)
- Total under-five population (000) 1,243 (2006)
- Births (000) 346 (2006)
- Birth registration (%) 82 (2006)
- Under-five mortality rate, per 1,000 live births 61 (2006)
- Infant mortality rate (per 1,000 live births) 50 (2006)
- Neonatal mortality rate (per 1,000 live births) 27 (2006)
- Total under-five deaths (000) 16 (2006)
- Maternal mortality ratio (per 100,000 live births) 290 (2000)
- Lifetime risk of maternal death (1 in X) 89 (2005)
- Total maternal deaths 7,600 (2000)

**Causes of under-five deaths**

- Diarrhoea
- Malaria
- Measles
- Neoplasms
- Other causes
- Pneumonia

**Under-five mortality rate**

Deaths per 1,000 live births

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</thead>
<tbody>
<tr>
<td>Rate</td>
<td>150</td>
<td>145</td>
<td>130</td>
<td>120</td>
<td>115</td>
</tr>
</tbody>
</table>

**Causes of maternal deaths**

- Septicemia/mother, puerperal sepsis 8%
- Hypertensive disorders 26%
- Obstetric haemorrhage 21%

** Coverage along the continuum of care**

- Contraceptive prevalence rate
- Antenatal visits (1 or more visits)
- Skilled attendance
- Exclusive breastfeeding

**MATERIAL AND NEWBORN HEALTH**

- Unmet need for family planning (%) 23 (2000)
- Antenatal visits for women (0 or none visits): 58 (2000)
- Interpersonal prevention treatment for males: ---
- Contraceptive rate (0 or none visits): 0 (2000)
- Contraceptive rate (1 or more visits): 45 (2000)
- Early initiation of breastfeeding (within 1 hr of birth): 61 (2000)
- Proportion visit for baby (within 2 days for home births): ---

**Antenatal care**

- Percent women aged 15-49 years attended at least once by a skilled health provider during pregnancy
- Skilled attendant at delivery
- Percent live births attended by skilled health personnel

**Vitamin A supplementation**

- Percent children 6-59 months receiving vitamin A doses

**Immunization**

- Percent of children immunised against measles
- Percent of children immunised with 3 doses DPT
- Percent of children immunised with 3 doses Hib

**Diarrhoeal disease treatment**

- Percent children <5 years with diarrhea receiving oral rehydration therapy or an equivalent fluid, with continued breastfeeding

**Pneumonia treatment**

- Percent children <5 years with suspected pneumonia taken to health facility
- Percent children <5 years with pneumonia receiving antibiotics

**Causes of under-five deaths**

- Diarrhoea
- Malaria
- Measles
- Neoplasms
- Other causes
- Pneumonia

**Under-five mortality rate**

Deaths per 1,000 live births

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**Causes of under-five deaths**

- Diarrhoea
- Malaria
- Measles
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- Other causes
- Pneumonia

**Under-five mortality rate**

Deaths per 1,000 live births

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<tr>
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</thead>
<tbody>
<tr>
<td>Rate</td>
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<td>145</td>
<td>130</td>
<td>120</td>
<td>115</td>
</tr>
</tbody>
</table>
**Botswana**

### DEMOGRAPHICS

- Total population (2000): 1,858
- Under-five mortality rate (2000):
  - Deaths per 1000 live births: 74
- Births (2000): 47
- Birth registration (2000): 58
- Infant mortality rate (2000): 124
- Neonatal mortality rate (2000): 50
- Total under-five deaths (2000): 6
- Maternal mortality rate (2000): 30
- Lifetime risk of maternal death (2000): 130
- Total maternal deaths (2000): 170

### UNDER-FIVE MORTALITY RATE

![Graph showing under-five mortality rate from 1990 to 2015](image)

### INTERVENTION COVERAGE FOR MOTHERS, NEWBORNS AND CHILDREN

#### NUTRITION

**Underweight prevalence**
- Percent children < 5 years underweight for age: 29 (2000)

**Exclusive breastfeeding**
- Percent infants < 6 months exclusively breastfed: 57 (2000)

**Vitamin A supplementation**
- Percent children 6-59 months receiving vitamin A doses: 10 (2000)

#### IMMUNIZATION

**Malaria prevention**
- Percent children < 5 years sleeping under a net: 40 (2000)

**Prevention of mother to child transmission of HIV**
- Percent HIV-infected pregnant women receiving ARVs for PMTCT: 90 (2000)

#### DIARRHEAL DISEASE TREATMENT

**Malaria treatment**
- Percent children < 5 years using antimalarials: 60 (2000)

#### PNEUMONIA TREATMENT

**Pneumonia treatment**
- Percent children < 5 years with suspected pneumonia treated appropriately: 60 (2000)

### MATERIEL AND NEWBORN HEALTH

#### Causes of maternal deaths

- Hemorrhage (25%)
- Hypertensive disorders (20%)
- Puerperal sepsis (15%)
- Sixth major killer (10%)
- Other (20%)

#### Causes of under-five deaths

- Diarrhoea (30%)
- Pneumonia (20%)
- Other (50%)

### WATER AND SANITATION

#### Water

- Percent population using improved drinking water source: 20 (2000)

#### Sanitation


### EQUITY

- Coverage gap by wealth quintile
- Coverage gap (%): No data
- No data

### POLICIES

#### International Code of Marketing of Breastmilk Substitutes

**Yes**

#### New CRSs formula and etc for management of diarrhoea

**Partial**

#### Community treatment of pneumonia with antibiotics

**No**

#### RICA adapted to cover newborns 0-1 week of age

**No**

#### Costed implementation plan for maternal, newborn and child health available

**No**

#### Midwives be authorized to administer a core set of life-saving interventions

**No**

#### Maternal protection in accordance with ILO Convention 183

**No**

#### Specific notification of maternal deaths

**No**

### SYSTEMS

- Coverage along the continuum of care
- Differential prioritization of health services
- Out-of-pocket expenditure on health as % of total expenditure on health: 11 (2007)

### FINANCIAL FLOWS AND HUMAN RESOURCES

- Per capita total expenditure on health (US$): 204 (2007)
- General government expenditure on health as % of total government expenditure (4%): 11 (2007)
- Cost of per capita expenditure on health as % of total expenditure on health: 10 (2007)
- National availability of Emergency Obstetric Care (in % of recommended minimum): No data

---

**Botswana**

Countdown to 2015
2008 Report
**CALCULATIONS OF CAUSES OF MORTALITY**

<table>
<thead>
<tr>
<th>Cause</th>
<th>Deaths per 1000 live births</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newborn deaths</td>
<td>123</td>
</tr>
<tr>
<td>Infant deaths</td>
<td>60</td>
</tr>
<tr>
<td>Neonatal mortality</td>
<td>51</td>
</tr>
<tr>
<td>Total neonatal deaths</td>
<td>180</td>
</tr>
</tbody>
</table>

**NEONATAL PERIOD REPORT 2008**

**DHS Ethiopia 2000**

**Countdown to 2015**

**CHILDBIRTH**

- **Antenatal care**
  - Percent women aged 15-49 attended at least once by a skilled health provider during pregnancy

- **Skilled attendant at delivery**
  - Percent live births attended by skilled health personnel

- **Neonatal tetanus protection**
  - Percent newborns protected against tetanus

**WATER AND SANITATION**

- **Water**
  - Percent population using improved drinking water sources
    - Rural
    - Urban
    - Total

- **Sanitation**
  - Percent population using improved sanitation facilities
    - Rural
    - Urban
    - Total

**POLICIES**

- **International Code of Marketing of Breastmilk Substitutes**
  - Partial

- **New CRS and OCS for management of diarrhoea**
  - Yes

- **Childhood immunisation program**
  - Yes

- **Intermittent preventive treatment for malaria**
  - Percent children < 5 years sleeping under ITNs
    - Total: 63%

- **Pneumonia treatment**
  - Yes

- **Specific notification of maternal deaths**
  - No

**ETHIOPIA**

**INTERVENTION COVERAGE FOR MOTHERS, NEWBORNS AND CHILDREN**

**NUTRITION**

- **Underweight Prevalence**
  - Percent children < 5 years underweight for age:
    - Rural: 63%
    - Urban: 30%

- **Complementary feeding rate**
  - Percent infants 6-9 months exclusively breastfed
    - 2000: 54%
    - 2005: 89%

- **Prevention of mother to child transmission of HIV**
  - Percent HIV+ pregnant women receiving ARVs for PMTCT
    - 81%

**CHILD HEALTH**

- **Diarrhoeal disease treatment**
  - Percent children < 5 years with diarrhea receiving oral rehydration therapy or intravenous fluids, with continued breastfeeding
    - Total: 80%

- **Malaria prevention**
  - Percent children < 5 years sleeping under ThIs
    - Total: 72%

- **Prevention of mother to child transmission of HIV**
  - Percent HIV+ pregnant women receiving ARVs for PMTCT
    - Total: 81%

**SYSTEMS**

- **Financial Flows and Human Resources**
  - Per capita total expenditure on health (% of GDP)
    - 21 (2007)

- **General government expenditure on health as % of total government expenditure (%)**
  - 9 (2007)

- **Official Development Assistance to maternal and neonatal health per live birth (%)**
  - 10 (2005)

**Coversage along the continuum of care**

- **Contraceptive prevalence rate**
  - 40 (2005)

- **Skilled attendance at delivery**
  - Percent live births attended by skilled health personnel

**COMPARISON OF MOTHER AND NEWBORN HEALTH**

- **Perinatal mortality**
  - Deaths per 1000 live births
  - Rural: 63%
  - Urban: 30%

- **Skilled attendance at delivery**
  - Percent live births attended by skilled health personnel

- **Neonatal tetanus protection**
  - Percent newborns protected against tetanus

**INTERVENTION COVERAGE FOR MOTHERS, NEWBORNS AND CHILDREN**

**NUMERICS**

- **Total population (000)**
  - 81,021 (2006)

- **Total under-five population (000)**
  - 13,439 (2006)

- **Births (000)**
  - 3,159 (2006)

- **Birth registration (%)**
  - 7 (2006)

- **Under-five mortality rate per 1000 live births**
  - 140 (2006)

- **Infant mortality rate per 1000 live births**
  - 77 (2006)

- **Neonatal mortality rate per 1000 live births**
  - 51 (2006)

- **Total neonatal deaths (000)**
  - 389 (2006)

- **Maternal mortality ratio per 100,000 live births**
  - 720 (2006)

- **Lifetime risk of maternal death (1 in N)**
  - 27 (2006)

- **Total maternal deaths**
  - 22,000 (2006)
### Gabon

#### DEMOGRAPHICS

- Total population (2000): 1,311
- Total under-five population (2000): 115
- Births (2000): 46
- Birth registration (2000): 89
- Under-five mortality rate, per 1000 live births (2000): 34
- Infant mortality rate (2000): 68
- Neonatal mortality rate (2000): 31
- Total under-five deaths (2000): 3
- Maternal mortality ratio (per 100,000 live births): 2020
- Lifetime risk of maternal death (in %): 53

#### Causes of under-five deaths

<table>
<thead>
<tr>
<th>Disease</th>
<th>Deaths per 1000 live births</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV/AIDS</td>
<td>11%</td>
</tr>
<tr>
<td>Malaria</td>
<td>35%</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>15%</td>
</tr>
<tr>
<td>Diarrhoea</td>
<td>10%</td>
</tr>
<tr>
<td>Other</td>
<td>19%</td>
</tr>
</tbody>
</table>

#### Under-five mortality rate

<table>
<thead>
<tr>
<th>Year</th>
<th>Deaths per 1000 live births</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
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<tr>
<td>1995</td>
<td>60</td>
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<td>2000</td>
<td>40</td>
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<tr>
<td>2005</td>
<td>20</td>
</tr>
<tr>
<td>2010</td>
<td>10</td>
</tr>
<tr>
<td>2015</td>
<td>5</td>
</tr>
</tbody>
</table>

#### INTERVENTION COVERAGE FOR MOTHERS, NEWBORNS AND CHILDREN

- **Underweight prevalence**: Percent children < 5 years underweight for age
  - 2000: 20%
  - 2005: 10%

- **Exclusive breastfeeding**: Percent infants 6-11 months exclusively breastfed
  - 2000: 50%
  - 2005: 70%

- **Vitamin A supplementation**: Percent children 6-59 months receiving vitamin A doses
  - 2000: 30%
  - 2005: 50%

#### NUTRITION

- **Immunization**
  - Percent of children immunized against measles
  - Percent of children immunized with 3 doses DPT

- **Malaria prevention**
  - Percent children < 5 years sleeping under a net

- **Diarrhoeal disease treatment**
  - Percent of diarrhoea cases receiving oral rehydration therapy or rehydration fluids, with continued feeding

- **Malaria treatment**
  - Percent febrile children < 5 years using antimalarials

- **Pneumonia treatment**
  - Percent of pneumonia cases receiving antibiotics

#### MOTHER AND NEWBORN HEALTH

- **Antenatal care**
  - Percent women aged 15-49 years attended at least once by a skilled health provider during pregnancy

- **Skilled attendant at delivery**
  - Percent live births attended by skilled health personnel

- **Neonatal tetanus protection**
  - Percent of newborns protected against tetanus

#### WATER AND SANITATION

- **Water**
  - Percent population using improved drinking water sources

- **Sanitation**
  - Percent population using improved sanitation facilities

#### EQUITY

- **Coverage along the continuum of care**
  - Percent of children receiving recommended interventions

- **Policies**
  - International Code of Marketing of Breastmilk Substitutes
  - Nutrition guidelines for the prevention and treatment of undernutrition
  - Infection prevention and control
  - Childhood immunization
  - Micronutrient supplementation
  - Community-based interventions for maternal and child health

- **Systems**
  - Emergency obstetric care
  - Community-based illness prevention and control
  - Nutrition

#### Malaria treatment

- Percent febrile children < 5 years using antimalarials

- Percent of diarrhoea cases receiving oral rehydration therapy or rehydration fluids, with continued feeding

#### Child Health

- Stunting prevalence (% under 30%)
- Complementary feeding rate (6-9 months, %)
- Low birthweight incidence (%)
- Preterm births (%)
- Asphyxia (%)
- Diarrhoea (%)
- Infection (%)
- Congenital (%)
- Other (%)
Guinea-Bissau

DEMOGRAPHICS

Under-five mortality rate
Deaths per 1,000 live births

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<tr>
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<td>208</td>
<td>185</td>
<td>150</td>
<td>115</td>
<td>100</td>
</tr>
</tbody>
</table>

Causes of under-five deaths
Diedly more than one third of child deaths attributable to
undernutrition

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</thead>
<tbody>
<tr>
<td>Pneumonia</td>
<td>23%</td>
<td>24%</td>
<td>25%</td>
<td>26%</td>
<td>27%</td>
<td>28%</td>
</tr>
<tr>
<td>Diarrhoea</td>
<td>19%</td>
<td>18%</td>
<td>17%</td>
<td>16%</td>
<td>15%</td>
<td>14%</td>
</tr>
<tr>
<td>Measles</td>
<td>6%</td>
<td>7%</td>
<td>8%</td>
<td>9%</td>
<td>10%</td>
<td>11%</td>
</tr>
<tr>
<td>Tetanus</td>
<td>4%</td>
<td>5%</td>
<td>6%</td>
<td>7%</td>
<td>8%</td>
<td>9%</td>
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MICS 2006

INTERVENTION COVERAGE FOR MOTHERS, NEWBORN AND CHILDREN

NUTRITION

Underweight prevalence
Percent children <5 years underweight for age

<table>
<thead>
<tr>
<th>Year</th>
<th>2000</th>
<th>2006</th>
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<tr>
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<td>22%</td>
<td>16%</td>
</tr>
</tbody>
</table>

Exclusive breastfeeding
Percent infants <6 months exclusively breastfed

<table>
<thead>
<tr>
<th>Year</th>
<th>2000</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate</td>
<td>37%</td>
<td>32%</td>
</tr>
</tbody>
</table>

Vitamin A supplementation
Percent children 6-59 months receiving vitamin A doses

<table>
<thead>
<tr>
<th>Year</th>
<th>At least one dose</th>
<th>Two doses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate</td>
<td>77%</td>
<td>70%</td>
</tr>
</tbody>
</table>

CHILD HEALTH

Immunization
Percent of children immunized against measles

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate</td>
<td>77%</td>
<td>70%</td>
<td>60%</td>
<td>46%</td>
<td>40%</td>
</tr>
</tbody>
</table>

Malaria prevention
Percent children <5 years sleeping under ITNs

<table>
<thead>
<tr>
<th>Year</th>
<th>2000</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate</td>
<td>7%</td>
<td>32%</td>
</tr>
</tbody>
</table>

Prevention of mother to child transmission of HIV
Percent HIV+ pregnant women receiving ARVs for PMTCT

<table>
<thead>
<tr>
<th>Year</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate</td>
<td>60%</td>
</tr>
</tbody>
</table>

Diatrheal disease treatment
Percent children <5 years with diarrhea receiving oral rehydration therapy or increased fluids, with continued feeding

<table>
<thead>
<tr>
<th>Year</th>
<th>2000</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate</td>
<td>56%</td>
<td>46%</td>
</tr>
</tbody>
</table>

Malaria treatment
Percent febrile children <5 years using antimalarials

<table>
<thead>
<tr>
<th>Year</th>
<th>2000</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate</td>
<td>57%</td>
<td>42%</td>
</tr>
</tbody>
</table>

Pneumonia treatment
Percent children <5 years with suspected pneumonia taken to health facility

<table>
<thead>
<tr>
<th>Year</th>
<th>2000</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate</td>
<td>19%</td>
<td>14%</td>
</tr>
</tbody>
</table>

WATER AND SANITATION

Water
Percent population using improved drinking water sources

<table>
<thead>
<tr>
<th>Year</th>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate</td>
<td>79%</td>
<td>10%</td>
</tr>
</tbody>
</table>

Sanitation
Percent population using improved sanitation facilities

<table>
<thead>
<tr>
<th>Year</th>
<th>Urban</th>
<th>Rural</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate</td>
<td>89%</td>
<td>23%</td>
<td>47%</td>
</tr>
</tbody>
</table>

POLICIES

International Code of Marketing of Breastmilk Substitutes
Partial

New CNS, formula and etc for management of diarrhoea
No

Systemic treatments for infections
Yes

SYSTEMS

Financial Flows and Human Resources
Per capita total expenditure on health (US$)

<table>
<thead>
<tr>
<th>Year</th>
<th>2000</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate</td>
<td>56</td>
<td>47</td>
</tr>
</tbody>
</table>

Covered by health insurance
1.5

Differences in proportion of population with health insurance
22

Covered by health insurance
22

EQUITY

Guinea-Bissau

MATERNAL AND NEWBORN HEALTH

Antenatal care
Percent women aged 15-45 years attended at least once by a skilled health provider during pregnancy

<table>
<thead>
<tr>
<th>Year</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate</td>
<td>25%</td>
</tr>
</tbody>
</table>

Skilled attendant at delivery
Percent live births attended by skilled health personnel

<table>
<thead>
<tr>
<th>Year</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate</td>
<td>35%</td>
</tr>
</tbody>
</table>

Neonatal tetanus protection
Percent newborns protected against tetanus

<table>
<thead>
<tr>
<th>Year</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate</td>
<td>25%</td>
</tr>
</tbody>
</table>

Causes of maternal deaths
Regional estimates for Africa, 1990-2002

<table>
<thead>
<tr>
<th>Cause</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal haemorrhage</td>
<td>23%</td>
</tr>
<tr>
<td>Maternal sepsis</td>
<td>15%</td>
</tr>
<tr>
<td>PPH/obstetric haemorrhage</td>
<td>20%</td>
</tr>
<tr>
<td>Hypertensive disorders</td>
<td>9%</td>
</tr>
<tr>
<td>Pre-eclampsia</td>
<td>4%</td>
</tr>
</tbody>
</table>

Coverage along the continuum of care

<table>
<thead>
<tr>
<th>Year</th>
<th>2000</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate</td>
<td>56%</td>
<td>40%</td>
</tr>
</tbody>
</table>


Covered by health insurance
22

Differences in proportion of population with health insurance
22

Guinea-Bissau
### Demographics

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Population (x1000)</th>
<th>Total Under-five Population (x1000)</th>
<th>Births (x1000)</th>
<th>Birth Registration (%)</th>
<th>Under-five Mortality Rate (per 1000 live births)</th>
<th>Infant Mortality Rate (per 1000 live births)</th>
<th>Neonatal Mortality Rate (per 1000 live births)</th>
<th>Total Under-five Deaths (x1000)</th>
<th>Maternal Mortality Ratio (per 100,000 live births)</th>
<th>Total Maternal Deaths (x1000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>15.1</td>
<td>3.4</td>
<td>2.1</td>
<td>75</td>
<td>115</td>
<td>72</td>
<td>32</td>
<td>1.0</td>
<td>4.0</td>
<td>0.0</td>
</tr>
<tr>
<td>2000</td>
<td>15.2</td>
<td>3.4</td>
<td>2.1</td>
<td>75</td>
<td>115</td>
<td>72</td>
<td>32</td>
<td>1.0</td>
<td>4.0</td>
<td>0.0</td>
</tr>
<tr>
<td>2005</td>
<td>15.3</td>
<td>3.4</td>
<td>2.1</td>
<td>75</td>
<td>115</td>
<td>72</td>
<td>32</td>
<td>1.0</td>
<td>4.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

### Cause of Under-five Deaths

<table>
<thead>
<tr>
<th>Cause</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diarrhoea</td>
<td>17</td>
</tr>
<tr>
<td>Other</td>
<td>7</td>
</tr>
<tr>
<td>Causess of maternal deaths</td>
<td>22</td>
</tr>
<tr>
<td>Causess of neonatal deaths</td>
<td>37</td>
</tr>
</tbody>
</table>

### Causes of Maternal Deaths

- **Obstructed labour**
  - Anemia: 4%
  - Hypertension: 3%
  - Preeclampsia: 34%
  - Other causes: 12%

### Coverage along the continuum of care

- Contraception prevalence rate: 40% (2000-2004)
- Skilled attendance:
  - Delivery by a professional midwife: 34%
  - Menstrual care: 67%
  - Exclusive breastfeeding: 59%

### Intervention Coverage for Mothers, Newborns and Children

#### Nutrition

<table>
<thead>
<tr>
<th>Component</th>
<th>Coverage 2000</th>
<th>Coverage 2004</th>
</tr>
</thead>
</table>

#### Immunization

<table>
<thead>
<tr>
<th>Component</th>
<th>Coverage 2000</th>
<th>Coverage 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children immunized against measles</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Children with 3 doses DTP</td>
<td>80%</td>
<td>84%</td>
</tr>
</tbody>
</table>

#### Malaria Prevention

<table>
<thead>
<tr>
<th>Component</th>
<th>Coverage 2000</th>
<th>Coverage 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children under 5 years sleeping under 1m</td>
<td>61%</td>
<td>61%</td>
</tr>
</tbody>
</table>

#### Prevention of mother to child transmission of HIV

<table>
<thead>
<tr>
<th>Component</th>
<th>Coverage 2000</th>
<th>Coverage 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV+ pregnant women presenting ARVs for PMTCT</td>
<td>97%</td>
<td>97%</td>
</tr>
</tbody>
</table>

#### Water and Sanitation

<table>
<thead>
<tr>
<th>Component</th>
<th>Coverage 2000</th>
<th>Coverage 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural drinking water source</td>
<td>57%</td>
<td>65%</td>
</tr>
<tr>
<td>Sanitation facilities</td>
<td>53%</td>
<td>67%</td>
</tr>
</tbody>
</table>

#### Skilled Attendant at Delivery

<table>
<thead>
<tr>
<th>Component</th>
<th>Coverage 2000</th>
<th>Coverage 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skilled birth attendant</td>
<td>97%</td>
<td>97%</td>
</tr>
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</table>

### Malaria Treatment

<table>
<thead>
<tr>
<th>Component</th>
<th>Coverage 2000</th>
<th>Coverage 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children under 5 years using antimalarials</td>
<td>61%</td>
<td>61%</td>
</tr>
</tbody>
</table>

### Pneumonia Treatment

<table>
<thead>
<tr>
<th>Component</th>
<th>Coverage 2000</th>
<th>Coverage 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children under 5 years with suspected pneumonia taken to appropriate health provider</td>
<td>42%</td>
<td>42%</td>
</tr>
<tr>
<td>Infants &lt;15 months with suspected pneumonia referred to appropriate provider</td>
<td>42%</td>
<td>42%</td>
</tr>
</tbody>
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### Policies

<table>
<thead>
<tr>
<th>Component</th>
<th>Coverage 2000</th>
<th>Coverage 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>International Code of Marketing of Breastmilk Substitutes</td>
<td>Partial</td>
<td>Partial</td>
</tr>
<tr>
<td>New ORS formulation and Dose Management</td>
<td>Partial</td>
<td>Partial</td>
</tr>
</tbody>
</table>

### Water and Sanitation

<table>
<thead>
<tr>
<th>Component</th>
<th>Coverage 2000</th>
<th>Coverage 2004</th>
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<tbody>
<tr>
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### Skilled Attendant at Delivery

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<th>Component</th>
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### Malaria Treatment

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<thead>
<tr>
<th>Component</th>
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<th>Coverage 2004</th>
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<tbody>
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### Pneumonia Treatment

<table>
<thead>
<tr>
<th>Component</th>
<th>Coverage 2000</th>
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<tbody>
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</tbody>
</table>

### Policies

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<thead>
<tr>
<th>Component</th>
<th>Coverage 2000</th>
<th>Coverage 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>International Code of Marketing of Breastmilk Substitutes</td>
<td>Partial</td>
<td>Partial</td>
</tr>
<tr>
<td>New ORS formulation and Dose Management</td>
<td>Partial</td>
<td>Partial</td>
</tr>
</tbody>
</table>

### Systems

<table>
<thead>
<tr>
<th>Component</th>
<th>Coverage 2000</th>
<th>Coverage 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>General government expenditure on health (as % of total government expenditure)</td>
<td>9 (2007)</td>
<td>9 (2007)</td>
</tr>
<tr>
<td>Health workers per 1000 population</td>
<td>0.84 (2006)</td>
<td>0.84 (2006)</td>
</tr>
</tbody>
</table>

### Coverage gap by wealth quintile

- Middle wealth quintile: 44 (2000-2004) 

#### Coverages

- Malaria: 40% (2000-2004) 
- PMTCT: 34% (2000-2004)
**Mali**

### Demographics
- Total population (2006): 11,966,000
- Total under-five population (2006): 2,247,000
- Births (2006): 579,000
- Birth registration (%) (2006): 47
- Under-five mortality rate per 1,000 live births (2006): 217
- Infant mortality rate per 1,000 live births (2006): 119
- Neonatal mortality rate per 1,000 live births (2006): 55
- Total under-five deaths (2006): 126,000
- Maternal mortality ratio per 100,000 live births (2006): 970
- Lifetime risk of maternal death (1 in x): 15
- Total maternal deaths: 6,400 (2003)

### Causes of under-five deaths
- Diarrhea: 30
- Pneumonia: 30
- Other causes: 30 (2006)

### Causes of maternal deaths
- Outside pregnancy care: 29 (2001)

### Interventions for Mothers, Newborns, and Children

#### Nutrition
- Stunting prevalence: 43 (2001)
- Wasting prevalence: 13 (2001)

#### Underweight prevalence
- Percent children < 3 years underweight for age:
  - 1987: 26
  - 1995-1996: 36
  - 2001: 34

#### Exclusively breastfeeding
- Percent children < 6 months exclusively breastfed:
  - 1995-1996: 9
  - 2001: 25

#### Vitamin A supplementation
- Percent children 6-11 months receiving vitamin A:
  - At least one dose: 99
  - Two doses: 86

### Maternal and Newborn Health

#### Antenatal care
- Percent women aged 15-49 years attended at least once by a skilled health provider during pregnancy:
  - 1999: 32
  - 2000: 41
  - 2001: 66

#### Skilled attendant at delivery
- Percent live births attended by skilled health personnel:
  - 1999: 2
  - 2000: 6
  - 2001: 8

#### Neonatal tetanus protection
- Percent newborns protected against tetanus:
  - 2001: 2

### Water and Sanitation

#### Water
- Percent population using improved drinking water source:
  - 1995-1996: 31
  - 2000: 38
  - 2001: 40

#### Sanitation
- Percent population using improved sanitation facilities:
  - 1995-1996: 31
  - 2000: 38
  - 2001: 40

### Policies

#### International Code of Marketing of Breastmilk Substitutes
- Per capita total expenditure on health (2006): 54

#### New CRS formula and data
- Net of total government expenditure (%): 15

#### Community treatment of pneumonia with antibiotics
- Coverage rate (last 12 months): Partial

#### Use of insecticide-treated nets (ITN)
- Coverage rate (last 12 months): Partial

#### Malaria treatment
- Percent children under 5 years using antimalarials:
  - 2001: 29

#### Pneumonia treatment
- Percent children under 5 years using antimalarials:
  - 2001: 22

### Financial Flows and Human Resources
- Current government expenditure on health as % of total government expenditure (%): 13
- Gross domestic product per capita (2005): 51
- Density of health workers per 100,000 population: 0.7
- National availability of Emergency Obstetric Care services (% of hospitals interval): 38

### Systems

#### Coverage gap by wealth quintile
- Coverage (%): 61
- Ratio: 2.2
- Difference: 42

### Equity
**Countdown to 2015**

**Maternal, Newborn & Child Survival**

---

**DEMOGRAPHICS**

- Total population (000): 27,661 (2006)
- Total under-five mortality rate (000): 3,828 (2006)
- Births (000): 791 (2006)
- Birth registration (%) 35 (2006)
- Under-five mortality rate, per 1,000 live births: 59 (2006)
- Infant mortality rate, per 1,000 live births: 46 (2006)
- Neonatal mortality rate, per 1,000 live births: 40 (2006)
- Total under-five deaths (000): 47 (2006)
- Maternal mortality ratio (per 100,000 live births): 830 (2006)
- Lifetime risk of maternal death (1 in x): 31 (2006)
- Total maternal deaths 6,500 (2006)

**Under-five mortality rate**

- Deaths per 1,000 live births
  - 1980: 133
  - 1990: 66
  - 2000: 31
  - 2005: 17
  - 2010: 8

**Causes of under-five deaths**

- Diarrhoea: 21%
- Pneumonia: 10%
- Other: 68%

**Causes of maternal deaths**

- HIV/AIDS: 2%
- Malnutrition: 2%
- Others: 96%

---

**INTERVENTION COVERAGE FOR MOTHERS, NEWBORNS AND CHILDREN**

**NUTRITION**

- Underweight prevalence: 2015 (39)
- Stunting prevalence: 2015 (43)
-exclusive breastfeeding: 2015 (59)

**Exclusive breastfeeding**

- 1990: 32%
- 1995: 49%
- 2000: 69%
- 2005: 79%
- 2010: 91%

**Vitamin A supplementation**

- 1990: 0%
- 2005: 60%
- 2010: 80%

---

**IMMUNIZATION**

- Percentage of children immunized against measles: 2015 (74)
- Percentage of children immunized with 3 doses DPT: 2015 (74)

**Prevention of mother to child transmission of HIV**

- 1997: 0%
- 2004: 4%
- 2010: 9%

**Diarrhoeal disease treatment**

- 1996: 15%
- 2000: 43%

**Malaria treatment**

- 1996: 15%
- 2000: 43%

---

**WATER AND SANITATION**

- Water: 2015 (91)
- Sanitation: 2015 (80)

---

**PNEUMONIA treatment**

- 1996: 18%
- 2001: 30%
- 2006: 43%

---

**MATERNAL AND NEWBORN HEALTH**

- Maternal mortality rate: 2010 (3)
- Neonatal tetanus protection: 2010 (8)
- Skilled attendant at delivery: 2010 (60)

---

**SYSTEMS**

- Financial Flows and Human Resources
  - Per capita total expenditure on health (%): 71 (2007)
  - Current spending on health (%): 8 (2007)

---

**EQUITY**

- Coverage gap by wealth quintile
  - 2006 DHS: 63
  - 2006 DHS: 100

---

**Counts to 2015**

**2008 Report**

---

**Nepal**
Papua New Guinea

**DEMOGRAPHICS**
- Total population (2006): 6,202,000
- Total under-five population (2006): 888,000
- Births (2006): 191,000
- Birth registration (%): --
- Under-five mortality rate, per 1000 live births: 73 (2006)
- Infant mortality rate, per 1000 live births: 54 (2006)
- Total under-five deaths (2006): 14,000
- Maternal mortality ratio, per 100,000 live births: 470 (2005)
- Total maternal deaths: 820 (2005)

**Causes of under-five deaths**
- Diarrhoea:
  - Deaths per 1000 live births: 74 (2006)
- Respiratory infections:
  - Deaths per 1000 live births: 77 (2006)
- Malaria:
  - Deaths per 1000 live births: 7 (2006)
- Other NS:
  - Deaths per 1000 live births: 7 (2006)

**INTERVENTION COVERAGE FOR MOTHERS, NEWBORNS AND CHILDREN**

**NUTRITION**
- Underweight prevalence: 2005
  - Percent children < 5 years underweight for age: 18
- Exclusive breastfeeding
  - Percent infants < 6 months exclusively breastfed: 2005
  - Percent infants < 6 months exclusively breastfed: 2005

**WATER AND SANITATION**
- Water
  - Percent population using improved drinking water sources: 2005
- Sanitation
  - Percent population using improved sanitation facilities: 2005

**EQUITY**
- Coverage along the continuum of care
  - Percent women aged 15-49 years attended at least once by a skilled health provider during pregnancy: 2005

**Causes of maternal deaths**
- Regional estimates for Asia: 1997-2002
  - Utero-ovarian:
    - Deaths per 1000 live births: 7 (2006)
  - Hypertensive disorders:
    - Deaths per 1000 live births: 5 (2006)
  - Injuries:
    - Deaths per 1000 live births: 3 (2006)
  - Other causes:
    - Deaths per 1000 live births: 2 (2006)

**SYSTEMS**
- International Code of Marketing of Breastmilk Substitutes:
  - Partial
- New ORS formula and etc for management of diarrhoea:
  - Partial
- Rota adapted to cover newborns 0-1 week of age:
  - Partial
- Mass media and interpersonal communication:
  - No
- Outdoor advertising:
  - No
- Coordinating implementation plan (s) for maternal, neonatal and child health available:
  - No
- Marijuana be authorised to administer a core set of life saving interventions:
  - Partial
- Skilled attendant at delivery:
  - Partial
- Contraceptive prevalence rate:
  - Percent of married women using contraception:
    - 2005
  - Percent of current married women using contraception:
    - 2005

**MATERNAL AND NEWBORN HEALTH**
- Neonatal tetanus protection
  - Percent of newborns protected against tetanus: 2005
- Antenatal care
  - Percent women aged 15-49 years attended at least once by a skilled health provider during pregnancy: 2005
- Skilled attendant at delivery
  - Percent live births attended by skilled health personnel: 2005
- Neonatal tetanus protection
  - Percent of newborns protected against tetanus: 2005

**DEMOGRAPHICS**
- Birth registration (%): --
- Under-five mortality rate, per 1000 live births: 73 (2006)
- Infant mortality rate, per 1000 live births: 54 (2006)
- Maternal mortality ratio, per 100,000 live births: 470 (2005)
- Total maternal deaths: 820 (2005)
**Peru**

**DEMOGRAPHICS**
- Total population (000): 27,569 (2006)
- Total under-five population (000): 2,815 (2006)
- Births (000): 229,946 (2006)
- Birth registration (%): 93 (2006)
- Under-five mortality rate (per 1,000 live births): 28 (2006)
- Infant mortality rate (per 1,000 live births): 21 (2006)
- Neonatal mortality rate (per 1,000 live births): 16 (2006)
- Total under-five deaths (000): 15 (2006)
- Maternal mortality ratio per 100,000 live births: 240 (2006)
- Lifetime risk of maternal death (1 in x): 140 (2006)
- Total maternal deaths: 1,500 (2006)

**Under-five mortality rate**
- Deaths per 1,000 live births

**Causes of under-five deaths**
- Diarrhoea
- Pneumonia
- Malaria
- Prematurity
- Congenital malformations
- Haemorrhage
- Other causes
- Preterm birth
- Other neonatal causes

**MATERIAL AND NEWBORN HEALTH**

**Causes of maternal deaths**
- Anaemia
- Maternal infections
- Preeclampsia/eclampsia
- Obstetric haemorrhage
- Others

**Antenatal care**
- Percent women aged 15-49 years attended at least once by a skilled health provider during pregnancy

**Skilled attendant at delivery**
- Percent live births attended by skilled health personnel

**Neonatal tetanus protection**
- Percent of newborns protected against tetanus

**INTERVENTION COVERAGE FOR MOTHERS, NEWBORNs AND CHILDREN**

**NUTRITION**
- Stunting prevalence (rural and urban, %): 30 (2004)
- Wasting prevalence (rural and urban, %): 1 (2004)

**Underweight prevalence**
- Percent children < 5 years underweight for age*

**Exclusive breastfeeding**
- Percent infants < 6 months exclusively breastfed

**Vitamin A supplementation**
- Percent children 6-59 months receiving vitamin A dose

**WATER AND SANITATION**
- Percent population using improved drinking water sources
- Percent children < 5 years with suspected pneumonia receiving appropriate health provider
- Percent children < 5 years with suspected pneumonia taken to health provider

**Saniation**
- Percent population using improved sanitation facilities

**IMMUNIZATION**
- Percent of children immunised against measles
- Percent of children immunised with 2 doses DPT
- Percent of children immunised with 3 doses DPT

**Malaria prevention**
- Percent children < 5 years sleeping under ITNs*

**Prevention of mother to child transmission of HIV**
- Percent HIV+ pregnant women receiving ARVs for PMTCT

**Diarrhoeal disease treatment**
- Percent children < 5 years with diarrhoea receiving oral rehydration therapy or increased fluids, with continued feeding

**Pneumonia treatment**
- Percent children < 5 years with suspected pneumonia to receive treatment

**Policies**
- International Code of Marketing of Breastmilk Substitutes
- New ORS formula and zinc for management of newborn and child health
- IMCI adapted to cover newborns 0-1 week of age
- Midwives be authorised to administer a core set of life-saving interventions
- Maternal protection in accordance with ILO Convention 183

**SYSTEMS**
- Financial Flows and Human Resources
- Per capita total expenditure on health (US$)
- General government expenditure on health as % of total government expenditure (2006)
- Out-of-pocket expenditure as % of total expenditure on health (2006)
- Density of health workers per 1000 population (2006)
- Ratio of skilled birth attendants to total births (2006)
- Difference percent-poorest/richest (%) (2006)

**Covered gap by wealth quintile**
- Coverage (%): 35 32 25 19 23
- Ratio: poor/rich
- Difference percent-poorest/richest (%) (2006)

**Neonatal survival**
- Early initiation of breastfeeding (within 1 hr of birth, %)
- Prolonged visit for baby (within 2 days of live birth, %)

**Causes of under-five deaths**
- Diarrhoea
- Pneumonia
- Malaria
- Prematurity
- Congenital malformations
- Haemorrhage
- Other causes
- Preterm birth
- Other neonatal causes

**Death rate**

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**IMF**

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**World Health**

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**UNICEF**

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**WHO**

---

**Other NS**

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**Source: WHO/UNICEF**

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**Source: DHS, MICS, Other NS**

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**Source: Ministry of Health, Peru, 2007**

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**Source: UNICEF, 2004**

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**Source: Lawn JE, Cousens SN for CHERG (Nov 2006)**

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**Source: WHO/UNICEF JMP, 2006**

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**Permission: Risk of malaria transmission**

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**EQUITY**

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**Child Health**

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**Underweight prevalence**

---

**Exclusive breastfeeding**

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**Vitamin A supplementation**

---

**Water and sanitation**

---

**Sanitation**

---

**IMMUNIZATION**

---

**Malaria prevention**

---

**Prevention of mother to child transmission of HIV**

---

**Diarrhoeal disease treatment**

---

**Pneumonia treatment**

---

**Policies**

---

**SYSTEMS**

---

**Financial flows and human resources**

---

**Covered gap by wealth quintile**

---

**Neonatal survival**

---

**Causes of maternal deaths**

---

**Antenatal care**

---

**Skilled attendant at delivery**

---

**Neonatal tetanus protection**

---

**INTERVENTION COVERAGE FOR MOTHERS, NEWBORNs AND CHILDREN**

---

**NUTRITION**

---

**Underweight prevalence**

---

**Exclusive breastfeeding**

---

**Vitamin A supplementation**

---

**WATER AND SANITATION**

---

**Sanitation**

---

**IMMUNIZATION**

---

**Malaria prevention**

---

**Prevention of mother to child transmission of HIV**

---

**Diarrhoeal disease treatment**

---

**Pneumonia treatment**

---

**Policies**

---

**SYSTEMS**

---

**Financial flows and human resources**

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**Covered gap by wealth quintile**

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**Neonatal survival**

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**Causes of maternal deaths**

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**Antenatal care**

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**Skilled attendant at delivery**

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**Neonatal tetanus protection**

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**INTERVENTION COVERAGE FOR MOTHERS, NEWBORNs AND CHILDREN**

---

**NUTRITION**

---

**Underweight prevalence**

---

**Exclusive breastfeeding**

---

**Vitamin A supplementation**

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**WATER AND SANITATION**

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**Sanitation**

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**IMMUNIZATION**

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**Malaria prevention**

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**Diarrhoeal disease treatment**

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**Pneumonia treatment**

---

**Policies**

---

**SYSTEMS**

---

**Financial flows and human resources**

---

**Covered gap by wealth quintile**

---

**Neonatal survival**

---

**Causes of maternal deaths**

---

**Antenatal care**

---

**Skilled attendant at delivery**

---

**Neonatal tetanus protection**

---
Sierra Leone
**Swaziland**

### DEMOGRAPHICS

- **Total population (000)**: 1,134 (2006)
- **Total under-five population (000)**: 147 (2006)
- **Births (000)**: 33 (2006)
- **Infant mortality rate (per 1000 live births)**: 53 (2006)
- **Under-five mortality rate (per 1000 live births)**: 199 (2006)

### UNDER-FIVE MORTALITY RATE

Deaths per 1000 live births:

- **1990**: 199
- **2000**: 164
- **2010**: 86
- **2015**: 57

### CAUSES OF UNDER-FIVE DEATHS

- **HIV/AIDS**: 47%
- **Diarrhoea**: 26%
- **Tuberculosis**: 13%
- **Malaria**: 12%
- **Other causes**: 10%
- **Unknown**: 5%

### INTERVENTION COVERAGE FOR MOTHERS, NEWBORN S AND CHILDREN

#### NUTRITION

- **Underweight prevalence**:
  - Percent children < 5 years underweight for age:
    - 2000: 9
    - 2005: 9

- **Complementary feeding rate (6-23 months, %)**: 80 (2006)

- **Exclusive breastfeeding**:
  - Percent infants 6-23 months exclusively breastfed:
    - At least one dose: 80%
    - Two doses: 64%

#### CHILD HEALTH

- **Immunization**:
  - Percent of children immunized against measles:
  - Percent of children immunized with 3 doses DPT:

- **Malaria prevention**:
  - Percent children < 5 years sleeping under a ITN:
    - 2005: 65

- **Prevention of mother to child transmission of HIV**:
  - Percent HIV+ pregnant women receiving ARVs for PMTCT:
    - 2006: 0

- **Antenatal care**:
  - Percent women aged 15-49 years attended at least once by a skilled health provider during pregnancy:
    - 2006: 86

### WATER AND SANITATION

- **Water**:
  - Percent population using improved drinking water sources:
    - Rural: 87
    - Urban: 90
    - Total: 88

- **Sanitation**:
  - Percent population using improved sanitation facilities:
    - Rural: 47
    - Urban: 87
    - Total: 66

### SYSTEMS

- **International Code of Marketing of Breastmilk Substitutes**:
  - Partial

- **New CRS formulae and etc for management of diarrhea**:
  - ---

- **Community treatment of pneumonia with antibiotics**:
  - ---

- **RtI C adapted to cover newborns 0-1 week of age**:
  - ---

- **Malaria treatment**:
  - Percent children < 5 years using antimalarials:
    - 2000: 24

- **Pneumonia treatment**:
  - Percent children < 5 years with suspected pneumonia taken to a hospital for treatment:
    - 2000: 26

- **Diarrhoeal disease treatment**:
  - Percent children < 5 years with diarrhoea receiving oral rehydration therapy or increased food, with continued feeding:
    - 2000: 24

### MATERNAL AND NEWBORN HEALTH

#### Causes of maternal deaths

- Regional estimates for Africa, 1997-2002
  - Unmet need for family planning (---)
  - Antenatal visits for woman (4 or more visits, ---)
  - Interim/limited preventive treatment for malaria (---)
  - Caesarean rate (total rate, %), (placenta/uterine tear and exitus),百分比
  - Early initiation of breastfeeding (within 1 hour of birth, ---)
  - Skilled attendant during delivery (at birth, ---)

- **Neonatal tetanus protection**:
  - Percent live births attended by skilled health personnel:
    - 2006: 80

#### Skilled attendant at delivery

- Percent live births attended by skilled health personnel:
  - 2006: 80

### Coverage along the continuum of care

#### Coverage gap by wealth quintile

- **2005 MICS**:
  - Coverage gap (%): 35

### POLICIES

#### International Code of Marketing of Breastmilk Substitutes

- **Partial**

#### New CRS formulae and etc for management of diarrhea

- ---

#### Community treatment of pneumonia with antibiotics

- ---

#### RCI C adapted to cover newborns 0-1 week of age

- ---

#### Malaria treatment

- Percent children < 5 years using antimalarials:
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#### Diarrhoeal disease treatment

- Percent children < 5 years with diarrhoea receiving oral rehydration therapy or increased food, with continued feeding:
  - 2000: 24

### SWAZILAND

- **2000 MICS**:
  - Coverage gap (%): 35
## Zimbabwe

### Maternal and Newborn Health

#### Causes of maternal deaths

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<tr>
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<tr>
<td>Maternal death from complications</td>
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<td>Maternal death from anesthesia</td>
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#### Causes of under-five deaths

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### Intervention Coverage for Mothers, Newborns and Children

#### Vaccination Coverage

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#### Antenatal Care

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#### Exclusive Breastfeeding

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#### Skilled Attendant at Delivery

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### Water and Sanitation

#### Water Coverage

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#### Sanitation Coverage

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#### Malaria Prevention

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### Financial Flows and Human Resources

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### EQUITY

#### Contraceptive prevalence rate

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#### Maternal mortality ratio

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#### Neonatal tetanus protection

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### Systems

#### Financial Flows and Human Resources

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### Immunization

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#### Malaria Prevention

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### Diarrhoeal disease treatment

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#### Pneumonia treatment

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Annex A

Initiatives, resources and databases for monitoring progress towards the health-related Millennium Development Goals, with a special focus on maternal, newborn and child survival

This list is not comprehensive but includes important resources, reports and databases related to monitoring progress towards the Millennium Development Goals for women, newborns and children.

Reports

The State of the World’s Children is UNICEF’s flagship publication. Each year the report focuses on a key issue affecting children and provides a set of detailed statistical tables that include individual country and regional estimates on a range of key indicators for monitoring the situation of women and children in the world. The report’s focus in 2008 is child survival (www.unicef.org). This publication is the primary source for the coverage estimates used in the Countdown.

Progress for Children (IPC) is UNICEF flagship publication reporting on progress towards the Millennium Development Goals. The World Fit for Children (WFC) Statistical Review is a special issue of IPC to report on progress towards the MDG’s and targets included in the MDGs, MDG Indicators database. The UN Statistics Division (UNSD) coordinates the preparation of the UN Secretary General’s report on progress towards the Millennium Development Goals and is responsible for maintaining the Millennium Indicators database. The UN Statistics Division also coordinates the Inter-Agency and Experts Group on MDG Data Goal reporting (IAEG), which is responsible for the preparation of data and analysis to monitor progress towards the Millennium Development Goals. The Group also reviews and defines methodologies and technical issues in relation to the indicators, product guidelines and helps design priorities and strategies to support countries in data collection, analysis and reporting on Millennium Development Goals.

Lead agencies have been assigned to report on progress towards specific goals and targets. UNICEF and World Health Organization are the lead agencies for reporting on the health-related Millennium Development Goals. United Nations Population Fund is also involved in reporting on Millennium Development Goal 5. UNDP is responsible for reporting support to countries in the preparation of country reports on progress towards the Millennium Development Goals.

The Child Health Epidemiology Reference Group (CHERG) was established in 2001 and has worked since that time to improve the quality of global estimates on maternal and child mortality, morbidity, intervention coverage and the potential effects of health services and interventions. The coverage estimates reported through the Countdown process are generated by CHERG’s Epidemiology Reference Group for consistency with mortality estimates.

The Country Profiles on Maternal and Newborn Health produced in 2008 by the World Health Organization (World Health Organization) (http://www.who.int) provide evidence on maternal and newborn health, including maternal and newborn mortality, service availability, coverage and the potential effects of health services and interventions. The World Health Report is published annually by the World Health Organization (World Health Organization) (http://www.who.int/whr). Each year the report combines an expert assessment of global health, including statistics relating to all countries, with a focus on a specific theme (2008, primary health care). Some of the data and benchmarks presented here on health policy and health systems, including human resources and financial flows, were taken from previous reports.

World Health Statistics Report (http://www.who.int). This annual report presents comprehensive health data on all of the 193 World Health Organization Member States. The data, selected on the basis of quality and availability, relevance to global health, and comparability across member nations, cover over 50 core health indicators, which are organized into six major areas: mortality and disability, health service coverage, risk factors, health system inputs, inpatient and outpatient health outcomes and coverage, as well as basic socioeconomic statistics.

The World Health Report, published by the World Bank, aims to provide a "guide to the economic, social and environmental state of the world today." (http://go.worldbank.org/L4T6G7KQ6I). This publication focuses on the responsibilities and accountability of donor countries, developing countries and the international financial institutions to support achievement of the Millennium Development Goals and monitors progress towards the Millennium Development Goal targets. The 2007 report focuses on gender equality and the empowerment of women.

The Global Millennium Development Goal Monitoring Report is published annually by the World Bank (http://go.worldbank.org/4SE0G70I9G8). This publication focuses on the responsibilities and accountability of donor countries, developing countries and the international financial institutions to support achievement of the Millennium Development Goals and monitors progress towards the Millennium Development Goal targets. The 2007 report focuses on gender equality and the empowerment of women.


Introduction.

Each year the report focuses on a key issue addressing population, reproductive and maternal and health development concerns and provides statistical tables on a range of key demographic, health and socioeconomic indicators. Past reports have addressed such issues as an urbanization, adolescent health, poverty, the environment, international migration, gender equality and changing population age structure. The relation of the thematic focus to maternal and reproductive health is a feature of every report.

Resources and monitoring activities

Millennium Development Goal monitoring occurs within the United Nations system. The UN Statistics Division (UNSD) coordinates the production of the UN Secretary General’s report on progress towards the Millennium Development Goals and is responsible for maintaining the Millennium Indicators database. The UN Statistics Division also coordinates the Inter-Agency and Experts Group on MDG Data Goal reporting (IAEG), which is responsible for the preparation of data and analysis to monitor progress towards the Millennium Development Goals. The Group also reviews and defines methodologies and technical issues in relation to the indicators, product guidelines and helps design priorities and strategies to support countries in data collection, analysis and reporting on Millennium Development Goals.

Multiple Indicator Cluster Surveys was planned to provide a monitoring tool for the Millennium Development Goals. Nationally, 103 countries are now using DevInfo to develop national socioeconomic databases for Millennium Development Goals. The World Health Report is published annually by the World Health Organization (World Health Organization) (http://www.who.int/whr). Each year the report combines an expert assessment of global health, including statistics relating to all countries, with a focus on a specific theme (2008, primary health care). Some of the data and benchmarks presented here on health policy and health systems, including human resources and financial flows, were taken from previous reports.

World Health Statistics Report (http://www.who.int). This annual report presents comprehensive health data on all of the 193 World Health Organization Member States. The data, selected on the basis of quality and availability, relevance to global health, and comparability across member nations, cover over 50 core health indicators, which are organized into six major areas: mortality and disability, health service coverage, risk factors, health system inputs, inpatient and outpatient health outcomes and coverage, as well as basic socioeconomic statistics.

The World Health Report, published by the World Bank, aims to provide a "guide to the economic, social and environmental state of the world today." (http://go.worldbank.org/L4T6G7KQ6I). This publication focuses on the responsibilities and accountability of donor countries, developing countries and the international financial institutions to support achievement of the Millennium Development Goals and monitors progress towards the Millennium Development Goal targets. The 2007 report focuses on gender equality and the empowerment of women.

The Global Millennium Development Goal Monitoring Report is published annually by the World Bank (http://go.worldbank.org/4SE0G70I9G8). This publication focuses on the responsibilities and accountability of donor countries, developing countries and the international financial institutions to support achievement of the Millennium Development Goals and monitors progress towards the Millennium Development Goal targets. The 2007 report focuses on gender equality and the empowerment of women.


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UNICEF maintains a series of publicly accessible databases for tracking the situation of children and women globally. These databases contain both the current (presented in The State of the World’s Children) and trend data for the coverage estimates used in the Countdown.

The survey is based on a nationally representative sampling frame.

The survey was conducted using computer-aided personal interviewing (CAPI) in order to ensure data quality in the recruitment, training and supervision of data collectors teams and in the transfer and management of the survey data.

One of the databases maintained by UNICEF is DevInfo, a technical platform designed for use in monitoring progress towards the Millennium Development Goals. Nationally, 103 countries are now using DevInfo to develop national socioeconomic databases for Millennium Development
## Annex B

### Indicators and data sources

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<th>Indicators</th>
<th>Data Source</th>
<th>Global Database</th>
</tr>
</thead>
<tbody>
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<td><strong>DEMOGRAPHICS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demographics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total population</td>
<td>United Nations Population Division</td>
<td>United Nations Population Division</td>
</tr>
<tr>
<td>Total under-five population</td>
<td>United Nations Population Division</td>
<td>United Nations Population Division</td>
</tr>
<tr>
<td>Total births</td>
<td>United Nations Population Division</td>
<td>United Nations Population Division</td>
</tr>
<tr>
<td>Birth registration</td>
<td>Multiple Indicator Cluster Survey</td>
<td>United Nations Children's Fund</td>
</tr>
<tr>
<td>Child Mortality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neonatal mortality rate</td>
<td>World Health Organization</td>
<td>World Health Organization</td>
</tr>
<tr>
<td>Total children under five deaths</td>
<td>United Nations Children's Fund</td>
<td>United Nations Children's Fund</td>
</tr>
<tr>
<td>Cause of death of children under five</td>
<td>Child Health Epidemiology Reference Group</td>
<td>World Health Organization</td>
</tr>
<tr>
<td>Maternal Mortality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total maternal deaths</td>
<td>United Nations Children's Fund</td>
<td>United Nations Children's Fund</td>
</tr>
<tr>
<td>Maternal deaths by cause (regional)</td>
<td>World Health Organization</td>
<td>World Health Organization</td>
</tr>
<tr>
<td><strong>NUTRITION</strong></td>
<td></td>
<td></td>
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<tr>
<td>Anthropometric</td>
<td></td>
<td></td>
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<tr>
<td>Underweight prevalence</td>
<td>Demographic and Health Surveys</td>
<td>United Nations Children's Fund</td>
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<tr>
<td>Stunting prevalence</td>
<td>Demographic and Health Surveys</td>
<td>United Nations Children's Fund</td>
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<tr>
<td>Wasting prevalence</td>
<td>Demographic and Health Surveys</td>
<td>United Nations Children's Fund</td>
</tr>
<tr>
<td>Infant feeding</td>
<td>Demographic and Health Surveys</td>
<td>United Nations Children's Fund</td>
</tr>
<tr>
<td>Complementary feeding rate (6-9 months)</td>
<td>Demographic and Health Surveys</td>
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<tr>
<td>Low birth weight</td>
<td>Demographic and Health Surveys</td>
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<tr>
<td>Micronutrient supplementation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vitamin A supplementation (at least 1 dose &amp; 2 doses)</td>
<td>National Immunisation Days, Demographic and Health Surveys, Multiple Indicator Cluster Survey</td>
<td>United Nations Children's Fund</td>
</tr>
<tr>
<td><strong>IMMUNISATION</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measles immunisation coverage</td>
<td>Routine, Multiple Indicator Cluster Survey, Demographic and Health Surveys</td>
<td>United Nations Children's Fund/World Health Organization</td>
</tr>
<tr>
<td>PNT3 immunisation coverage</td>
<td>Routine, Multiple Indicator Cluster Survey, Demographic and Health Surveys</td>
<td>United Nations Children's Fund/World Health Organization</td>
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<tr>
<td>Hib3 immunisation coverage</td>
<td>Routine, Multiple Indicator Cluster Survey, Demographic and Health Surveys</td>
<td>United Nations Children's Fund/World Health Organization</td>
</tr>
<tr>
<td>Malaria</td>
<td>Under-fives sleeping under 17hs</td>
<td>Demographic and Health Surveys, Multiple Indicator Cluster Survey,</td>
</tr>
<tr>
<td><strong>REPRODUCTIVE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maternal Mortality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total maternal deaths</td>
<td>United Nations Children's Fund</td>
<td>United Nations Children's Fund</td>
</tr>
<tr>
<td>Maternal deaths by cause (regional)</td>
<td>World Health Organization</td>
<td>World Health Organization</td>
</tr>
<tr>
<td><strong>AIDS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIV+ pregnant woman receiving ARVs</td>
<td>MDG, Joint United Nations Programmes on HIV/AIDS</td>
<td>United Nations Children's Fund</td>
</tr>
<tr>
<td><strong>MATERNAL AND NEWBORN HEALTH</strong></td>
<td></td>
<td></td>
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<tr>
<td>Antenatal care</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antenatal care (at least one visit)</td>
<td>Demographic and Health Surveys</td>
<td>United Nations Children's Fund</td>
</tr>
<tr>
<td>Antenatal care (4 or more visits)</td>
<td>Demographic and Health Surveys</td>
<td>United Nations Children's Fund</td>
</tr>
<tr>
<td>IPTi for malaria</td>
<td>Intermittent preventive treatment for pregnant women</td>
<td>United Nations Children's Fund</td>
</tr>
<tr>
<td>Neonatal tetanus protection</td>
<td>Neonatal tetanus protection</td>
<td>United Nations Children's Fund</td>
</tr>
<tr>
<td>Delivery care</td>
<td>Skilled attendant at birth</td>
<td>United Nations Children's Fund</td>
</tr>
<tr>
<td>C-section</td>
<td>C-section rate</td>
<td>United Nations Children's Fund</td>
</tr>
<tr>
<td>Postnatal visit</td>
<td>Postnatal visit for mother</td>
<td>United Nations Children's Fund</td>
</tr>
<tr>
<td>Postnatal visit for baby</td>
<td>Postnatal visit for baby</td>
<td>United Nations Children's Fund</td>
</tr>
<tr>
<td>Breast-feeding</td>
<td>Early initiation of breast-feeding</td>
<td>Demographic and Health Surveys, Multiple Indicator Cluster Survey, National Survey</td>
</tr>
<tr>
<td>---------------</td>
<td>----------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Contraceptive prevalence</td>
<td>Contraceptive prevalence rate</td>
<td>Demographic and Health Surveys, Multiple Indicator Cluster Survey, Reproductive Health Survey, Family Health Survey</td>
</tr>
<tr>
<td>Unmet need</td>
<td>Unmet need for family planning</td>
<td>Demographic and Health Surveys, National Survey</td>
</tr>
</tbody>
</table>

**MATERNAL AND NEWBORN HEALTH**


**POLICIES, SYSTEMS AND EQUITY**

| WHO IMCI adapted to cover newborns 0-1 week of age | World Health Organization | Special data compilation by World Health Organization | United Nations Children’s Fund/World Health Organization |
| Costed implementation plan for MNCH available | World Health Organization | Special data compilation by World Health Organization | United Nations Children’s Fund/World Health Organization |
| Midwives authorised to administer a core set of life-saving interventions | World Health Organization | Special data compilation by World Health Organization | United Nations Children’s Fund/World Health Organization |
| Community case management of malaria in accordance with WHO guidelines | Malaria task force/ World Health Organization | LOLEX | International Labor Organization |
| Specific notification of maternal deaths | World Health Organization | Special data compilation by WHO | World Health Organization |
| Systems | Per capita total expenditure on health | World Health Organization | World Health Organization |
| General government expenditure on health as % of total government expenditure | World Health Organization | World Health Organization/World Health Organization | United Nations Children’s Fund/World Health Organization |
| Out-of-pocket expenditure as % of total expenditure on health | World Health Organization | World Health Organization/World Health Organization | United Nations Children’s Fund/World Health Organization |
| Density of health workers per 1000 population | Global Atlas on Human Resources | World Health Organization |
| Obstetric development assistance to child health per child | Development Assistance Committee | London School of Hygiene and Tropical Medicine |
| Obstetric development assistance to maternal and neonatal health per live birth | Development Assistance Committee | London School of Hygiene and Tropical Medicine |
| Availability of emergency obstetric care services | EdIRC Assessments | Averting maternal death and enabling women to access maternal care at all levels | United Nations Children’s Fund |
| Equity | Coverage gap by wealth quintile | Multiple Indicator Cluster Surveys/Demographic and Health Surveys | Special data analysis by World Health Organization |
| Coverage gap (%) | Multiple Indicator Cluster Survey/Demographic and Health Surveys | Special data analysis by World Health Organization | United Nations Children’s Fund |
| Ratio poorest/wealthiest | Multiple Indicator Cluster Survey/Demographic and Health Surveys | Special data analysis by World Health Organization | United Nations Children’s Fund |
| Difference poorest - wealthiest (%) | Multiple Indicator Cluster Survey/Demographic and Health Surveys | Special data analysis by World Health Organization | United Nations Children’s Fund |

### Annex C

**Defining current Countdown indicators**

<table>
<thead>
<tr>
<th>NO.</th>
<th>INDICATOR NAME</th>
<th>INDICATOR DEFINITION</th>
<th>NUMERATOR</th>
<th>DENOMINATOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Exclusive breastfeeding (0-6 months)</td>
<td>Percentage of infants aged 0-6 months who are exclusively breastfed</td>
<td>Number of infants aged 0-6 months who are exclusively breastfed</td>
<td>Total number of infants aged 0-6 months surveyed</td>
</tr>
<tr>
<td>2</td>
<td>Breast-feeding plus complementary food (6-9 months)</td>
<td>Percentage of infants aged 6-9 months who are breastfed and receive complementary food</td>
<td>Number of infants aged 6-9 months who are breastfed and receive complementary food</td>
<td>Total number of infants aged 6-8 months surveyed</td>
</tr>
<tr>
<td>3</td>
<td>Vitamin A supplementation coverage</td>
<td>Percentage of children aged 6-59 months who received at least one high-dose vitamin A supplement in the last six months (and at least two doses in the last 12 months)</td>
<td>Number of children aged 6-59 months who received at least one high-dose vitamin A supplement in the last 6 months, and at least two doses in the last 12 months</td>
<td>Total number of children aged 6-59 months</td>
</tr>
</tbody>
</table>

**CHILD HEALTH**

<p>| 4   | Measles immunisation coverage | Percentage of children aged 12-23 months who are immunized against measles | Number of children aged 12-23 months who are immunized against measles | Total number of children aged 12-23 months surveyed |
| 5   | DPT3 immunisation coverage | Percentage of children aged 12-23 months who received 3 doses of DPT vaccine | Number of children aged 12-23 months who received 3 doses of DPT vaccine | Total number of children aged 12-23 months surveyed |
| 6   | Hib3 immunisation coverage | Percentage of children aged 12-23 months who received 3 doses of Hib vaccine | Number of children aged 12-23 months who received 3 doses of Hib vaccine | Total number of children aged 12-23 months surveyed |
| 7   | Oral rehydration and continuation feeding | Percentage of children aged 0-59 months with diarrhoea who received oral rehydration and continued feeding | Number of children aged 0-59 months with diarrhoea in the 2 weeks prior to the survey who received oral rehydration therapy and/or oral rehydration solution and/or recommended homemade fluids or increased fluid and continued feeding | Total number of children aged 0-59 months with diarrhoea in the 2 weeks prior to the survey |
| 8   | Insecticide-treated net coverage | Percentage of children aged 6-59 months sleeping under an insecticide-treated mosquito net at night before the survey | Number of children aged 6-59 months sleeping under an insecticide-treated mosquito net the night before the survey | Total number of children aged 6-59 months surveyed |
| 9   | Antimalarial treatment | Percentage of children aged 6-59 months with fever receiving appropriate antimalarial drugs | Number of children aged 6-59 months with fever who reported to have received at least one appropriate antimalarial drug in the 24 hours prior to the survey | Total number of children aged 6-59 months reported to have fever in the 2 weeks prior to the survey |
| 10  | Prevention of mother-to-child transmission of HIV | Percentage of all HIV-positive pregnant women given a complete course of ART prophylaxis in the preceding 12 months | Number of HIV-positive pregnant women given ART prophylaxis in the preceding 12 months | Estimated number of HIV-positive pregnant women giving birth in the preceding 12 months |</p>
<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
<th>Indicator</th>
<th>Indicator Details</th>
<th>Key</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>Care seeking for pneumonia</td>
<td>% of children aged 0-59 months with suspected pneumonia admitted to hospital</td>
<td>Number of children aged 0-59 months with suspected pneumonia in the 2 weeks prior to the survey</td>
<td>Total number of children aged 0-59 months with suspected pneumonia in the 2 weeks prior to the survey</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Antibiotic treatment for pneumonia</td>
<td>% of children aged 0-59 months with suspected pneumonia receiving antibiotics</td>
<td>Number of children aged 0-59 months with suspected pneumonia in the 2 weeks prior to the survey</td>
<td>Total number of children aged 0-59 months with suspected pneumonia in the 2 weeks prior to the survey</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Contraceptive prevalence</td>
<td>Proportion of women currently married or in union aged 15-49 that are using a contraceptive method</td>
<td>Number of women currently married or in union aged 15-49 years that are using a contraceptive method</td>
<td>Total number of women aged 15-49 years that are currently married or in union</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Unmet need for family planning</td>
<td>Proportion of women that are currently married/unmarried that have an unmet need for contraception</td>
<td>Number of women that are currently married or in union that have and that are not currently using contraception</td>
<td>Total number of women interviewed that are currently married or in union</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Antenatal care (at least one visit)</td>
<td>Percent of women attended at least once during pregnancy by skilled health personnel for reasons related to the pregnancy in the X years prior to the survey</td>
<td>Number of women attended at least once during pregnancy by skilled health personnel for reasons related to the pregnancy in the X years prior to the survey</td>
<td>Total number of women who had a live birth occurring in the same period</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Antenatal care (at least four visits)</td>
<td>Percent of women attended at least four times during pregnancy by any provider (skilled or unskilled) for reasons related to the pregnancy in the X years prior to the survey</td>
<td>Number of women attended at least four times during pregnancy by any provider (skilled or unskilled) for reasons related to the pregnancy in the X years prior to the survey</td>
<td>Total number of women who had a live birth occurring in the same period</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Neonatal tetanus protection</td>
<td>% of newborns protected against tetanus</td>
<td>Number of mothers with a live birth in the year prior to the survey</td>
<td>Total number of mothers with a live birth in the year prior to the survey</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Intermittent preventive treatment for malaria</td>
<td>Proportion of women who received intermittent preventive treatment for malaria during their last pregnancy</td>
<td>Number of women at risk for malaria who received two or more doses of a recommended antimalarial drug treatment</td>
<td>Total number of women surveyed at risk for malaria who delivered a live baby within the last two years</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Skilled attendant at delivery</td>
<td>% of live births attended by skilled health personnel (doctor, nurse, midwife or auxiliary midwife)</td>
<td>Number of live births to women aged 15-49 years in the X years prior to the survey</td>
<td>Total number of live births to women aged 15-49 years in the X years prior to the survey</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Coercion rate</td>
<td>Percentage of live births delivered by Caesarean section</td>
<td>Number of live births to women aged 15-49 years in the X years prior to the survey</td>
<td>Total number of live births to women aged 15-49 years in the X years prior to the survey</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Early initiation of breast feeding</td>
<td>Percentage of newborns put to the breast within one hour of birth</td>
<td>Number of women with a live birth in the X years prior to the survey</td>
<td>Total number of women with a live birth in the X years prior to the survey</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Postnatal care for mothers</td>
<td>% of mothers who received postnatal care visit within two days of childbirth</td>
<td>Number of women who received a postnatal care visit within two days of childbirth (regardless of place of delivery)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Postnatal care for babies</td>
<td>% of babies born outside a facility who received a postnatal care visit within two days of birth</td>
<td>Number of babies born outside of a health facility who received a postnatal care visit within two days of birth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Use of improved drinking water sources</td>
<td>Percentage of the population using improved drinking water sources</td>
<td>Number of household members living in households using improved drinking water sources</td>
<td>Total number of household members in households surveyed</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Use of improved sanitation facilities</td>
<td>Percentage of the population using improved sanitation facilities</td>
<td>Number of household members using improved sanitation facilities (including household connection to a public sewer, connection to a septic system, pour-flush latrine, simple pit latrine, or a ventilated improved pit latrine)</td>
<td>Total number of household members in households surveyed</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
- a. More details on the HIV estimates methodology can be found at www.unaids.org.
- b. This reference period may differ between surveys.
- c. This denominator differs from the all births denominator used for the indicator for postnatal care for mother. Therefore, the coverage for mother and baby cannot be compared. Data for both mothers and babies that is comparable (home birth denominator) is available for only four countries.
### Definitions of policy and health systems indicators

<table>
<thead>
<tr>
<th>NO.</th>
<th>POLICY</th>
<th>INDICATOR DEFINITION</th>
<th>CRITERIA FOR RANKING</th>
<th>2007 RESULTS (68 Countries)</th>
<th>2008 RESULTS (50 Countries)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 1   | Midwives authorized to administer a core set of life-saving interventions | National policy adopted authorizing midwives to administer the following:  
  - a. perenteral antibiotics  
  - b. perenteral osmotics  
  - c. perenteral anticonvulsants  
  - d. manual removal of placenta  
  - e. removal of retained products of conception  
  - f. assisted vaginal delivery  
  - g. newborn resuscitation | Yes: midwives authorized for all tasks  
Partial: midwives authorized for some tasks  
No: midwives not authorized for any of these tasks | Yes: 27  
Partial: 25  
No: 5  
No date: 11 | Yes: 27  
Partial: 25  
No: 5  
No date: 11 |
|     |        |                      |                      |                            |                            |
| 2   | IMCI adapted to cover newborns 0-1 week of age | National IMCI guidelines adapted to cover major conditions affecting newborn survival in the first week of life: generic guidelines 2006  
Partial: National IMCI guidelines adapted but not fully in line with WHO guidelines 2006  
No: National IMCI guidelines not adapted | Yes: National IMCI guidelines 2006  
Partial: National IMCI guidelines adapted but not fully in line with WHO guidelines 2006  
No: National IMCI guidelines not adapted | Yes: 39  
Partial: 3  
No: 21  
No date: 5 | Yes: 39  
Partial: 3  
No: 21  
No date: 5 |
| 3   | New ORS formula and zinc for management of diarrhoea | National policy guidelines adopted on management of diarrhoea with low osmolarity ORS and zinc supplements in national policy:  
Partial: low osmolarity ORS or zinc supplements in national policy  
No: low osmolarity ORS and zinc supplements not promoted in national policy | Yes: low osmolarity ORS and zinc supplements in national policy  
Partial: low osmolarity ORS or zinc supplements in national policy  
No: low osmolarity ORS and zinc supplements not promoted in national policy | Yes: 34  
Partial: 17  
No: 10  
No date: 7 | Yes: 34  
Partial: 17  
No: 10  
No date: 7 |
|     |        |                      |                      |                            |                            |
|     |        |                      |                      |                            |                            |

### Community management of pneumonia with antibiotics

- Yes: community health workers authorized to give antibiotics for pneumonia  
- Partial: no national policy but some implementation of community-based management of pneumonia  
- No: no national policy and no implementation

### National policy adopted authorizing community health workers to identify and manage pneumonia with antibiotics

- Yes: no data  
- Partial: 8  
- No: 14  
- Yes: 31  
- Partial: 18  
- No: 14  
- Yes: data: 5

### National policy adopted on all provisions stipulated in the International Code of Marketing of Breast milk Substitutes

- Yes: all provisions of the International Code adopted in legislation  
- Partial: voluntary agreements or some provisions of the International Code adopted in legislation  
- No: no legislation and no voluntary agreements adopted in relation to the International Code

### Costed plan or plans for scaling up maternal, newborn and child health interventions available and costed

- Yes: costed plan or plans to scale up maternal, newborn and child health interventions available and costed  
- Partial: costed plan available for either maternal and newborn or child health  
- No: no costed implementation plan for MNCH available

### Per capita total expenditure on health in international US$ (US$ rate)

- Numerical

### Per capita expenditure on health as % of total government expenditure

- Numerical

### FINANCIAL FLOWS AND HUMAN RESOURCES

#### CRITERIA FOR RANKING

- a. perenteral antibiotics  
- b. perenteral osmotics  
- c. perenteral anticonvulsants  
- d. manual removal of placenta  
- e. removal of retained products of conception  
- f. assisted vaginal delivery  
- g. newborn resuscitation

#### Specific notification of maternal deaths

- Yes: national policy adopted requiring health professionals to notify any maternal death  
- Partial: national policy adopted but no systematic implementation  
- No: no national policy

#### IMCI adapted to cover newborns 0-1 week of age

- Yes: National IMCI guidelines adapted to cover major conditions affecting newborn survival in the first week of life: generic guidelines 2006  
- Partial: National IMCI guidelines adapted but not fully in line with WHO guidelines 2006  
- No: National IMCI guidelines not adapted

#### New ORS formula and zinc for management of diarrhoea

- Yes: low osmolarity ORS and zinc supplements in national policy  
- Partial: low osmolarity ORS or zinc supplements in national policy  
- No: low osmolarity ORS and zinc supplements not promoted in national policy

#### COSTED IMPLEMENTATION ON PLAN FOR MATERNAL, NEWBORN AND CHILD HEALTH

- Yes: costed plan or plans to scale up maternal, newborn and child health interventions available and costed  
- Partial: costed plan available for either maternal and newborn health or child health  
- No: no costed implementation plan for MNCH available

#### COSTED IMPLEMENTATION ON PLAN FOR MATERNAL, NEWBORN AND CHILD HEALTH INTERVENTIONS AVAILABLE AND COSTED

- Yes: costed plan or plans for scaling up maternal, newborn and child health interventions available and costed  
- Partial: costed plan available for either maternal and newborn health or child health  
- No: no costed implementation plan for MNCH available

#### COSTED PLAN OR PLANS FOR SCALING UP MATERNAL, NEWBORN AND CHILD HEALTH INTERVENTIONS AVAILABLE AND COSTED

- Yes: all provisions of the International Code adopted in legislation  
- Partial: voluntary agreements or some provisions of the International Code adopted in legislation  
- No: no legislation and no voluntary agreements adopted in relation to the International Code

#### COSTED PLAN OR PLANS TO SCALE UP MATERNAL, NEWBORN AND CHILD HEALTH INTERVENTIONS AVAILABLE AND COSTED

- Yes: costed plan or plans to scale up maternal, newborn and child health interventions available and costed  
- Partial: costed plan available for either maternal and newborn health or child health  
- No: no costed implementation plan for MNCH available
Annex E
Countdown to 2015 measuring equity in maternal, newborn and child health through the coverage gap index: technical notes

1. Coverage indicators
The measure of equity constructed for this report is called the ‘coverage gap index’. For guidance on interpreting the coverage gap graphs in the country profiles, please see section 4 below. The coverage gap index combines information on four intervention areas across the Continuum of Care: family planning, maternal and newborn care, immunisation and treatment of sick children. Data from Demographic and Health Surveys and Multiple Indicator Cluster Survey on eight coverage indicators in these four intervention areas was used to construct the coverage gap index. Table E1 defines the indicators.

<table>
<thead>
<tr>
<th>No.</th>
<th>Indicator</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a.</td>
<td>Need for family planning satisfied (FP)</td>
<td>Percentage of currently married women who say that they do not want any more children or that they want to wait two or more years before having another child, and are using contraception</td>
</tr>
<tr>
<td>1b.</td>
<td>Contraceptive prevalence rate (CPR)</td>
<td>Percentage of women currently married or in union aged 15–49 that are using (or whose partner is using) a modern contraceptive method</td>
</tr>
<tr>
<td>2.</td>
<td>Antenatal care (ANC)</td>
<td>Percentage of women attended at least once during pregnancy by skilled health personnel for reasons related to the pregnancy in the three years prior to the survey</td>
</tr>
<tr>
<td>3.</td>
<td>Skilled birth attendance (SBA)</td>
<td>Percentage of live births in the three years prior to the survey attended by skilled health personnel (biotist, nurse, midwife or auxiliary midwife)</td>
</tr>
<tr>
<td>4.</td>
<td>Measles vaccination (MSVL)</td>
<td>Percentage of children aged 12–23 months who are immunized against measles</td>
</tr>
<tr>
<td>5.</td>
<td>Diphtheria, pertussis and tetanus vaccination (three doses of combined diphtheria/pertussis/tetanus vaccine)</td>
<td>Percentage of children aged 12–23 months who received three doses of DPT vaccine</td>
</tr>
<tr>
<td>6.</td>
<td>BCG vaccination</td>
<td>Percentage of children aged 12–23 months currently vaccinated against BCG</td>
</tr>
<tr>
<td>7.</td>
<td>Oral rehydration therapy (ORT)</td>
<td>Percentage of under-five children with diarrhoea in the last two weeks who received ORT (ORT packets, recommended home solution or increased fluid) and continued feeding</td>
</tr>
<tr>
<td>8.</td>
<td>Treatment of acute respiratory infection (ARI)</td>
<td>Percentage of children aged 0–59 months with suspected pneumonia (cough and dyspnoea) who sought care from a health provider</td>
</tr>
</tbody>
</table>

2. Calculation of the coverage gap index
The coverage gap index was calculated using the formula:

\[ 100 \text{ per cent} = \left( \frac{\text{OR} + \text{ARI} + \text{FP} + \text{SBA} + \text{ANC} + \text{MSVL} + \text{DPT} + \text{BCG}}{\text{HIS for Nepal}} \right) \times 4/4 \]

Each of the four intervention areas is given equal weight.

Note: If need satisfied for family planning (FP) was not available, the contraceptive prevalence rate (CPR) among married women 15–49 years was used to estimate the need satisfied according to the following formula: \[ \text{FP} = \text{CPR} \times 1.07 + 27 \]

This formula was derived from analysis of more than 100 Demographic and Health Surveys with data on both unmet need and contraceptive prevalence rate.

3. Wealth index
The coverage gap index was calculated for the total sample for each country and data point. To measure equity, one needs to divide the total sample into groups by socioeconomic status. The Demographic and Health Surveys and Multiple Indicator Cluster Survey do not collect information on income and expenditure, which could be used to divide the sample into socioeconomic groups. However, the Demographic and Health Surveys and Multiple Indicator Cluster Survey do collect information on asset ownership and availability of basic household services. For the purposes of analyzing socioeconomic inequalities in health, it has been shown that using such variables to develop an index of socioeconomic status leads to similar results as using income and/or expenditure data.

For coverage of health interventions in the Demographic and Health Surveys, we used data from an analysis conducted by Gwalt and colleagues (2005). They used information in Demographic and Health Surveys on household assets and access to basic household services to construct a wealth index. The index was used to...
rank households and then divide the household population into quintiles. Results from recent Demographic and Health Surveys results were also included. For Multiple Indicator Cluster Surveys, we used data provided by UNICEF through the MICS website (http://childinfo.org) for those countries and data points for which a wealth index had been constructed. 3

4. Explanation and interpretation of coverage gap graph

The x-axis shows the wealth quintiles; from the poorest 20 per cent to the best-off 20 per cent. The y-axis shows the coverage gap, which is measured as a percentage as explained in section 2. No percentage gap implies maximum coverage for all interventions. A 20 per cent gap means that the coverage as calculated in the index is 80 per cent. Given that the gap is measured as maximum coverage minus actual coverage, a low figure is preferable to a high figure.

The difference between the poorest and richest quintiles and shape of the line shows the patterns of inequality within a country. First, the greater the inequality between the poorest and richest quintiles, the steeper the downward slope. With a few exceptions, the coverage gap line declines as one moves from the poorest quintile to the best-off quintile in the country profiles. A horizontal line indicates relatively equal, which was observed in some of the surveys in Central Asian Republics.

The shape is equally important. 4 The way the lines are curved can illustrate where inequities are concentrated. There are three main patterns. First, bottom inequity occurs when the poorest lag behind. Second, top inequity occurs when the richest do substantially better than the other quintiles. The intermediate pattern is more or less linear. The coverage gap increases by a similar fraction as one goes from the richest to the poorest quintile.

The shape of the coverage gap line can inform policies to address inequities. Many country graphs have relatively straight downward-sloping lines from the poorest to the best-off quintile, which would suggest that efforts should be made to increase the overall coverage of interventions, but with special attention paid to the poor. A top inequity pattern, as illustrated in the Burkina Faso and Niger country profiles, with a relatively small coverage gap among the best off 20 per cent, suggests that inequities would be reduced by raising the overall population coverage of interventions.

A downward slope from the poorest quintile to the second-poorest quintile and then a more or less straight line (or at least less steep) to the best-off quintile would be an example of bottom inequity, as shown in the Brazil country profile. Such a pattern indicates that inequities are concentrated among the poorest and that the most appropriate policy response would be to target that particular group.

For coverage gap graphs with data from two or more surveys, it can also be used to analyze trends, both by overall levels by wealth quintile and patterns between quintiles. A good example of the change from top inequity to linear pattern to bottom inequity as the overall coverage gap is reduced over time is Nepal between 1996 and 2006.

5. Explanation and interpretation of coverage gap ratio

The ‘coverage gap ratio’ was derived by dividing the coverage gap for the poorest quintile with that of the best-off quintile. A ratio of 1 indicates equity in coverage in terms of comparing those two quintiles (there could still be inequities with regards to the three middle quintiles). A ratio of less than 1 indicates a lower coverage gap among the poor. A relatively large poorest–best-off difference can occur in all patterns: top or bottom inequity or linear patterns. A small difference tends to occur in countries with smaller coverage gaps.

Notes:
1 Wagstaff and Watanabe 2003.
2 Gwatkin, Rutstein, Johnson, and others 2005.
3 For more information on the calculation of the wealth index from DHS and MICS data, please refer to Rutstein and Johnson 2004.