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. The correlation is less strong for maternal mortality – 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. 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, 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 adjunct to tracking progress towards 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 depends on improved data collection and monitoring. Up to 3.2 million babies are dying each year during the last 12 weeks of pregnancy.

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 100 per 100,000 live births), moderate (maternal mortality ratio of 100-1,000 per 100,000 live births), high (maternal mortality ratio of 1,000-10,000 per 100,000 live births) and very high (maternal mortality ratio of 10,000 or more per 100,000 live births).
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.

Using the new World Health Organization Child Growth Standards,11 of the 68 priority countries, at least 20 per cent of children under age 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.12 Results from the 2008 Countdown show that progress in coverage for such interventions remains unacceptably low.

<table>
<thead>
<tr>
<th>No progress or weak progress (n=16)</th>
<th>On track (n=5)</th>
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<tbody>
<tr>
<td>Burkina Faso</td>
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<td>Burundi</td>
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<td>Zimbabwe</td>
<td>Mexico</td>
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<td>Peru</td>
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Table 3.3. Countdown countries making ‘no progress’ or ‘on track’ towards achieving the underweight target of Millennium Development Goal 1 (2008)

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,13 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

Summary of Progress

| Nutritional Status
| Number of countries | Number of Countdown priority countries with prevalence among under-five
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Table 3.4. Nutritional status indicators in the Countdown priority countries (n=68)

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.14 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 200415 and has since been applied to estimates of low birthweight prevalence.16 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.18 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.

Using the new World Health Organization Child Growth Standards,11 of the 68 priority countries, at least 20 per cent of children under age 21, moderate 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.12 Results from the 2008 Countdown show that progress in coverage for such interventions remains unacceptably low.

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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 Survey1 or Demographic and Health Survey2 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 2008 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 18, 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 be 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 been available, if it is accessible and affordable in developing countries, and the training required 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 by calculating the average annual percentage-point change by calculating the average annual percentage-point change by calculating the average annual percentage-point change by calculating the average annual percentage-point change by calculating the average annual percentage-point change by calculating the average annual percentage-point change by calculating the average annual percentage-point change by calculating the average annual percentage-point change.
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. Careseeking 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.

### Changes in Coverage

<table>
<thead>
<tr>
<th>Coverage indicator</th>
<th>Number of countries</th>
<th>Median</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exclusive breastfeeding (0-5 months)</td>
<td>36</td>
<td>3</td>
<td>–11</td>
<td>29</td>
</tr>
<tr>
<td>Maternal and newborn health</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antenatal care coverage (at least one visit to a skilled provider)</td>
<td>47</td>
<td>4</td>
<td>–21</td>
<td>12</td>
</tr>
<tr>
<td>Births attended by skilled health personnel</td>
<td>60</td>
<td>5</td>
<td>–11</td>
<td>22</td>
</tr>
<tr>
<td>Neonatal tetanus protection</td>
<td>64</td>
<td>5</td>
<td>–11</td>
<td>21</td>
</tr>
<tr>
<td>Contraceptive prevalence rate</td>
<td>67</td>
<td>5</td>
<td>–11</td>
<td>27</td>
</tr>
<tr>
<td>Careseeking for pneumonia</td>
<td>33</td>
<td>2</td>
<td>–10</td>
<td>18</td>
</tr>
<tr>
<td>Oral rehydration therapy (oral rehydration salts or recommended home fluids) or increased fluids, with continued feeding</td>
<td>31</td>
<td>2</td>
<td>–17</td>
<td>23</td>
</tr>
<tr>
<td>Children sleeping under insecticide-treated nets</td>
<td>19</td>
<td>7</td>
<td>7</td>
<td>18</td>
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</table>

**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)

### 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 of coverage 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. It’s 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).

#### Figure 3.3

**Figure 3.3** shows the estimated percentage point change in exclusive breastfeeding in countries with adequate data to support trend analysis (n=36). Five countries have reported increases in the prevalence of exclusive breastfeeding of at least 10 percentage points over a three-year period since about 2000. But drops in coverage of similar magnitude occurred in three countries. Readers can refer to the individual country profiles to better understand these changes.
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. An evidence base pointing to specific effective interventions is described in detail elsewhere. 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. There has also been some progress in defining effective interventions and approaches. 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 80). Three countries reported prevalence rates of less than 20 per cent (Somalia 15, Tajikistan 15, Laos People’s Democratic Republic 10).

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. Table 3.5 shows fairly high coverage rates for 2005, when 55 of 68 priority countries (81 per cent) had data on vitamin A coverage for 2005. The median for two-dose coverage was 78 per cent, with a range from 10 per cent (Morocco) to 99 per cent (Brazil, Peru, Thailand). Ten countries reported rates of 80 per cent or more (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. 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 23 per cent (Chad) to 99 per cent (Brazil, Peru, Turkmenistan).

Table 3.7 shows the remarkable progress many priority countries have made in achieving gains in vitamin A coverage (for the 44 countries with available trend data). From 2003–2005 the number of countries with 80 per cent two-dose coverage nearly doubled (from 12 to 22), 13 countries increased 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. 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.

In 2006, for the first time, global routine coverage rates for measles vaccination reached 80 per cent (up from 72 per cent in 1990). 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).
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. Of the 68 Countdown priority countries, 45 have endemic malaria—defined here as nationwide risk of Plasmodium falciparum throughout the year. 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 2006 (for Ethiopia) and 2003 (for Kenya). Future surveys are expected to document coverage rates that reflect these accelerated efforts.

Prevention of Mother-to-Child HIV Transmission

Table 3.8. Percentage of HIV-infected pregnant women receiving antiretrovirals to prevent mother-to-child HIV transmission in Countdown priority countries with estimated adult (age 15–49) HIV prevalence of at least 5 per cent, 2004–2006

Preventing mother-to-child HIV transmission requires giving pregnant women access to testing, safe delivery practices, antiretroviral therapy where needed and guidance for selecting safe and optimal infant-feeding options. Complementary efforts to prevent HIV transmission include providing family planning services to all women—with and without HIV infection—to increase the proportion of births that are intended.

Treatment of child pneumonia, diarrhoea and malaria. Pneumonia remains the biggest killer of children and, together with diarrhoea and malaria, constitutes the cause of over 50 per cent of child deaths in most sub-Saharan African countries. Prompt and effective treatment of these three infectious diseases is essential for newborn and child survival.

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).

Effective, feasible and well-known interventions to prevent mother-to-child HIV transmission by 2010 are estimated to include: providing at least 5 per cent of pregnant women with services to prevent mother-to-child HIV transmission; at least 80 per cent of pregnant women with services 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. 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 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.

Changes in Treatment of Diarrhoea

Trend data are available only for diarrhoea treatment (figure 3.7) and careseeking for pneumonia (figure 3.8). 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.24 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 osmolality 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 (Chad). 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). The Lancet sexual and reproductive health series has addressed this topic.43

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.44 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.B).44 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 these 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.
In the 64 Countdown priority countries with data for 2006, the median coverage estimates for neonatal tetanus protection is 81 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.

The presence of a skilled attendant at delivery is associated in observational studies with better delivery outcomes, including reduced maternal deaths. This association is plausible, since an attendant who is authorized 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.

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 are making 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. 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.

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**Malaria Treatment**

![Malaria Treatment Chart](image)

23 countries had no data for this indicator.

**Caesarean section**

![Caesarean section Chart](image)

Changes in Births Attended by Skilled Health Personnel

![Changes in Births Attended by Skilled Health Personnel Chart](image)

- **Azerbaijan**: 12
- **Peru**: 11
- **Burkina Faso**: 10
- **Niger**: 8
- **Libya**: 2
- **Trinidad and Tobago**: 2
- **Somalia**: 2
- **Burkina Faso, Central African Republic, Tanzania, South Africa, Madagascar**: 1
- **Ghana, Bangladesh, Ethiopia, Korea, DPR**: 0

**Country**

- **Ethiopia**: 6
- **Korea, DPR**: 0

Three-year percentage point change in coverage

![Three-year percentage point change in coverage Chart](image)
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 24 hours after birth contains 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.34 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.35

Table 3.10 shows the percentage of newborns delivered at home whose mothers report receiving a postnatal visit for the newborn within two days of delivery.

**Comparative 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 question 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.36
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.51

The graph in each 2008 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 25 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 (Benin).

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.52

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 2004.53 Countries not listed had shown either insufficient or no progress.
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).
- Immunization (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. In India (2006), Philippines (2003) and Peru (2000), for example, the coverage gap was at least three times as large in the poorest as in 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 categories. 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 2 percentage points. Patterns of inequity by wealth quintile normally change only gradually – but there are several examples of rapid change. 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 almost 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...
and non-discrimination and rights to breastfeeding leave, cash and medical benefits, employment security.

Expanding the scope and entitlements of maternity protection conventions is critical for ensuring direct protection, maternity leave, cash and medical benefits, employment security and non-discrimination for women and newborns.

Midwives authorised to administer 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. Essential care for women and newborns requires that midwives be authorised to administer perenteral antibiotics, perenteral oxytocics and perenteral anticonvulsants, 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. 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. It is critical that all pregnant women have access to both a basic emergency obstetric care facility and the seven signal functions (administer perenteral antibiotics, perenteral oxytocics and perenteral 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 measure of a health system’s capacity to respond both to 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. 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 support from international organizations 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 reported as percentages of needed facilities based on country populations. Data on geographic distribution, though available for several countries, are not reported.

Twenty-seventh countries had comparable data that the Countdown could use. Of those 27, 11 at least had half of the recommended minimum number of functioning emergency obstetric care facilities. The remaining 16 countries had 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.

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.

In this Countdown cycle, 39 of the 68 priority countries reported having national coverage of IMCI 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 new, low osmolarity formulation of oral rehydration solution (ORS) 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. The by the end of 2007, 34 Countdown priority countries had adopted the new guidelines and intensified efforts to increase coverage for oral rehydration therapy. In the 2008 cycle, 39 of the 68 priority countries reported having national coverage of IMCI 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 ORS

Figure 3.17: Progress in implementing three policies (International Code of Marketing of Breastmilk Substitutes, low osmolarity ORS and zinc supplement for management of diarrhoea) since 2005. The rate of adoption of these policies varies widely, both within and between countries.

The data are reported as percentages of countries that have updated their policies to include both low osmolarity ORS and zinc supplementation and community treatment of pneumonia with antibiotics in the 68 Countdown priority countries (2005–2007).

The Code and on later World Health Assembly resolutions.

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).

The ILO Convention 183 on Maternity Protection

International labour standards on maternity protection are important to protect the health and employment of women. 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 breaks for nursing mothers. The Social Security (Minimum Standards) Convention, 1952 (No. 102), is also relevant to maternal health, setting minimum requirements for the provision of health care during pregnancy and confinement, cash maternity benefits replacing lost income and minimum standards for access to preventive and curative health services in general. Conventions are binding in ratifying countries.

To date, none of the 68 priority countries has ratified Convention No. 183, while 21 have ratified one of the earlier maternity protection conventions. Of the countries that have ratified none of the maternity protection conventions, five have ratified Convention No. 102.

Forty-seven countries had not ratified any convention on maternity protection. Intensified advocacy is needed in this area. Measures stipulated under the Convention are critical for ensuring direct protection, maternity leave, cash and medical benefits, employment security and non-discrimination for women and newborns.

The emergency obstetric care availability data in this report come from government surveys conducted with support from international organizations 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 reported 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 at least had half of the recommended minimum number of functioning emergency obstetric care facilities. The remaining 16 countries had 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

Although it might be too early to find widespread 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.
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 2004, 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 authorizing 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 2006 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 reporting had 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. Interpreters of this indicator varied between countries, since in some 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 total expenditure on health

It has been estimated that less than $45 per capita total expenditure on health is insufficient to ensure access to a very basic set of needed services. Among the 68 Countdown priority countries, 21 had a total per capita expenditure smaller than $45.

General expenditure on health as a percentage of total expenditure

This indicator reflects government commitment to health. While there is no threshold, African heads of state have made a commitment to allocate at least 15 per cent of the overall budget to health. An ideal target, it has only been achieved by 7 of the 68 Countdown priority countries.

Out-of-pocket expenditure as a percentage of total expenditure

Very high out-of-pocket payments prevent many people from seeking care, and they impoverish households. Where such payments comprised less than 15 per cent of total health spending, very few households tend to be harmed by catastrophic payments. Of the 68 Countdown priority countries, only 6 have a rate of out-of-pocket payments of less than 15 per cent.

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 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

Table 3.12. Official development assistance to child health per child and official development assistance to maternal and neonatal health per live birth for the 68 Countdown priority countries (2004–2005)
established general health expenditure indicators. Unlike the coverage indicators, there is little agreement on what funding targets are desirable or adequate.

The evidence points broadly towards a substantial funding gap in maternal, newborn and child health in developing countries, which must be filled partly by increased funding from donors. While acknowledging the unpredictability of international aid, the authors of this report make a tentative assessment of progress to increase official development assistance to maternal, newborn and child health by making a comparison across years. Table 3.12 presents estimates of the two official development assistance indicators by country for 2004–2005, expressed in constant 2006 dollars. The volume of official development assistance to child, newborn and maternal health increased by 28 per cent worldwide in 2005, representing increases of 49 per cent in official development assistance to child health and 21 per cent in official development assistance to maternal and newborn health. Of the 68 Countdown countries, 38 experienced increases in official development assistance to child health per capita in 2005; 39 countries also saw official development assistance to newborn and child health per live birth rise from 2004–2005. The Countdown Financial Flows Working Group is doing further statistical analysis of aid flow determinants.

Conclusions and recommendations

This second Countdown report, issued three years after the first report of findings at the 2005 conference,1 documents what can be done and what needs to be done. Coverage for selected interventions – such as vitamin A supplementation and the use of insecticide-treated bed nets to prevent malaria – has increased rapidly in many countries, but not in all. Coverage levels for other interventions have stagnated or even deteriorated. Examining country-by-country progress can yield important knowledge about hindrances to progress, spurring further action. The power of the Countdown depends on the quality of the coverage data in the priority countries. Let us be the first to say that many improvements can and should be made in defining indicators, measuring them and interpreting the results. We, better than most, recognise that there is an urgent technical agenda to be pursued in strengthening the measurement of coverage. But do the methodological weaknesses invalidate the massive amounts of information presented in the country profiles? We believe not.

Millions of person-hours have been invested in defining measurement strategies, developing protocols, visiting randomly selected villages and knocking on doors to ask family members to participate in building an information base sufficient to guide policy. The authors have been reported, checked, summarised, shared and interpreted in districts and capital cities throughout the world. If there is a better way to do things, let us do it together – not just as a ‘community of practice’, but as leaders, scientists and children, and but also as scientists wanting a fuller understanding and as policy makers and programme managers hoping to learn more about how to make programmes and services more effective.

The Countdown is an informal ‘community of practice’ that brings together information and interprets it for several purposes: for science, for policy and governance, for better development assistance and for easier access and ownership by women and children. Any conclusions drawn from the information in these pages is in a sense premature, since a full understanding requires more input from those working to achieve high, sustained and equitable coverage in individual countries, districts and communities. But the community of practice also includes those responsible for the international Countdown movement. In that spirit we present a summary of what we see as the most important conclusions of this Countdown cycle and what those conclusions might mean for the immediate next steps towards the health-related Millennium Development Goals.

Country representatives who participate in the April, 2008 Countdown conference in Cape Town, South Africa will issue a statement. We see that statement as a complement to the remainder of the chapter.

Preliminary conclusions proposed by the Countdown Core Group

Countries, while rapidly increasing coverage for some interventions, are making little or no progress with others. Coverage trends are more promising for many preventive interventions, such as vitamin A supplementation, immunisation (including measles, neonatal tetanus protection, Hib3 and OPV3) and insecticide-treated bed nets to prevent malaria. But progress is lagging for most curative interventions and interventions requiring 24-hour service availability, such as antenatal, postnatal and delivery care 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.

Progress on nutrition is lagging, with social and cultural change – such as exclusive breastfeeding and complementary feeding practices – is mixed and often insufficient.

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 in the life-cycle. Services that contribute to the achievement of one Millennium Development Goal will not necessarily contribute to 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.1 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 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 (50 per cent).13 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.14 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 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 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 health must lead the change by improving monitoring, evaluation and dissemination.

- **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, Kimfu and others (forthcoming).
5. Ibid.
11. Ibid.
12. VHO 2006a.
17. UNICEF 2007c.
19. UNICEF n.d.
29. UNICEF 2007c.
30. UNICEF 2007d.
32. UNICEF 2007b.
33. Ibid.
34. VHO 2006b.
35. Waddington, Martin, Walford and others 2005.
36. VHO 2007a.
38. UNICEF 2007b.
39. Ibid.
42. Bryce, Boschi-Petro, Shibuya and others 2005.
44. WHO and UNICEF 2003.
46. UNICEF 2007a.
47. UNICEF and Roll Back Malaria 2007.
49. UNICEF 2007b.
52. Lawn, Coovers and Zupan 2005.
54. Bhutta, Ahmed, Arifeen and others n.d.
59. UNICEF 2007f.
60. VHO and UNICEF 2003.
63. UNICEF, VHO and UNFPA 1997.
64. Khan, Widdjly, Say and others 2008; Ronoms and Graham 2006.
66. The Young Infants Clinical Signs Study Group 2008.
68. Wardlaw, Salama, Johansson and others 2006.
69. VHO and UNICEF 2006.
70. Johns, Siguiptjomsittee, Fogstad and others 2007; Stenberg, John, Schepellearner and others 2007; Grace, Powell-Jackson, Borgh and others (forthcoming).
73. UNICEF 2007b.