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The 2008 *Countdown* findings – and a call to action

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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[2] – 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.

Progress Towards Millennium Development Goals 4 and 5

Country or territory	Millennium Development Goal 4 (reduce by two-thirds, between 1990 and 2015, the mortality rate in children under age five)						Millennium Development Goal 5 (reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio)[a]		
	Under-five mortality rate			Average annual rate of reduction (%)					
	1990	2006	Millennium Development Goal target 2015	Observed 1990–2006	Required 2007–2015	Progress towards the Millennium Development Goal target	Maternal mortality ratio (2005, adjusted)	Lifetime risk of maternal death (2005) 1 in:	Level of maternal mortality
Afghanistan	260	257	87	0.1	12.1	No progress	1,800	8	Very high
Angola	260	260	87	0.0	12.2	No progress	1,400	12	Very high
Azerbaijan	105	88	35	1.1	10.2	Insufficient	82	670	Low
Bangladesh	149	69	50	4.8	3.6	On track	570	51	Very high
Benin	185	148	62	1.4	9.7	Insufficient	840	20	Very high
Bolivia	125	61	42	4.5	4.2	On track	290	89	Moderate
Botswana	58	124	19	–4.7	20.7	No progress	380	130	High
Brazil	57	20	19	6.5	0.6	On track	110	370	Moderate
Burkina Faso	206	204	69	0.1	12.1	No progress	700	22	Very high
Burundi	190	181	63	0.3	11.7	No progress	1,100	16	Very high
Cambodia	116	82	39	2.2	8.3	Insufficient	540	48	High
Cameroon	139	149	46	–0.4	13.0	No progress	1,000	24	Very high
Central African Republic	173	175	58	–0.1	12.3	No progress	980	25	Very high
Chad	201	209	67	–0.2	12.6	No progress	1,500	11	Very high
China	45	24	15	3.9	5.2	On track	45	1300	Low
Congo	103	126	34	–1.3	14.5	No progress	740	22	Very high
Congo, Democratic Republic of the	205	205	68	0.0	12.2	No progress	1,100	13	Very high
Côte d'Ivoire	153	127	51	1.2	10.1	Insufficient	810	27	Very high
Djibouti	175	130	58	1.9	8.9	Insufficient	650	35	Very high
Egypt	91	35	30	6.0	1.6	On track	130	230	Moderate
Equatorial Guinea	170	206	57	–1.2	14.3	No progress	680	28	Very high
Eritrea	147	74	49	4.3	4.6	On track	450	44	High
Ethiopia	204	123	68	3.2	6.6	Insufficient	720	27	Very high
Gabon	92	91	31	0.1	12.1	No progress	520	53	High
Gambia	153	113	51	1.9	8.8	Insufficient	690	32	Very high
Ghana	120	120	40	0.0	12.2	No progress	560	45	Very high
Guatemala	82	41	27	4.3	4.5	On track	290	71	Moderate
Guinea	235	161	78	2.4	8.0	Insufficient	910	19	Very high
Guinea-Bissau	240	200	80	1.1	10.2	Insufficient	1,100	13	Very high
Haiti	152	80	51	4.0	5.1	On track	670	44	Very high
India	115	76	38	2.6	7.6	Insufficient	450	70	High
Indonesia	91	34	30	6.2	1.3	On track	420	97	High
Iraq	53	46	18	0.9	10.6	No progress	300	2	High
Kenya	97	121	32	–1.4	14.7	No progress	560	39	Very high
Korea, Democratic People's Rep	55	55	18	0.0	12.2	No progress	370	140	High
Lao People's Democratic Republic	163	75	54	4.9	3.6	On track	660	33	Very high
Lesotho	101	132	34	–1.7	15.2	No progress	960	45	Very high
Liberia	235	235	78	0.0	12.2	No progress	1,200	12	Very high
Madagascar	168	115	56	2.4	8.0	Insufficient	510	38	High
Malawi	221	120	74	3.8	5.4	Insufficient	1,100	18	Very high
Mali	250	217	83	0.9	10.6	No progress	970	15	Very high
Mauritania	133	125	44	0.4	11.5	No progress	820	22	Very high
Mexico	53	35	18	2.6	7.6	On track	60	670	Low
Morocco	89	37	30	5.5	2.4	On track	240	150	Moderate
Mozambique	235	138	78	3.3	6.3	Insufficient	520	45	High
Myanmar	130	104	43	1.4	9.7	Insufficient	380	110	High
Nepal	142	59	47	5.5	2.5	On track	830	31	Very high
Niger	320	253	107	1.5	9.6	Insufficient	1,800	7	Very high
Nigeria	230	191	77	1.2	10.1	Insufficient	1,100	18	Very high
Pakistan	130	97	43	1.8	9.0	Insufficient	320	74	High
Papua New Guinea	94	73	31	1.6	9.4	Insufficient	470	55	High
Peru	78	25	26	7.1	–0.4	On track	240	140	Moderate
Philippines	62	32	21	4.1	4.8	On track	230	140	Moderate
Rwanda	176	160	59	0.6	11.1	No progress	1,300	16	Very high
Senegal	149	116	50	1.6	9.4	Insufficient	980	21	Very high
Sierra Leone	290	270	97	0.4	11.4	No progress	2,100	8	Very high
Somalia	203	145	68	2.1	8.5	Insufficient	1,400	12	Very high
South Africa	60	69	20	–0.9	13.8	No progress	400	110	High
Sudan	120	89	40	1.9	8.9	Insufficient	450	53	High
Swaziland	110	164	37	–2.5	16.6	No progress	390	120	High
Tajikistan	115	68	38	3.3	6.4	Insufficient	170	160	Moderate
Tanzania, United Republic of	161	118	54	1.9	8.7	Insufficient	950	24	Very high
Togo	149	108	50	2.0	8.6	Insufficient	510	38	High
Turkmenistan	99	51	33	4.1	4.8	On track	130	290	Moderate
Uganda	160	134	53	1.1	10.2	Insufficient	550	25	Very high
Yemen	139	100	46	2.1	8.6	Insufficient	430	39	High
Zambia	180	182	60	–0.1	12.3	No progress	830	27	Very high
Zimbabwe	76	105	25	–2.0	15.8	No progress	880	43	Very high

a. Due to the large margins of uncertainty around these estimates, country-level trend analysis is problematic. Progress towards this Millennium Development Goal is therefore assessed based on the latest available estimates and is classified according to the following thresholds: Very high: maternal mortality ratio of 550 or more; High: maternal mortality ratio of 300–549; Moderate: maternal mortality ratio of 100–299; Low: maternal mortality ratio below 100.
Source: UNICEF 2007a

Table 3.1. Progress towards Millennium Development Goals 4 and 5.

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.[4] 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.[5]

Annual country-level data or estimates for neonatal mortality are an important adjunct 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 depends on improved data collection and monitoring. Up to 3.2 million babies are dying each year during the last 12 weeks of pregnancy.[6]

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), moderate (maternal mortality ratio of 100–299), high (maternal mortality ratio of 300–549) and very high (maternal mortality ratio of 550 or greater). Of the 68 priority countries, 56 (82 per cent) have either high or very high maternal mortality ratios. Only three have low maternal mortality ratios (Azerbaijan, China and Mexico).

In table 3.1, the column for lifetime risk of maternal death reflects the combined input of risks associated with each birth (the maternal mortality ratio) and the total exposure to risk represented by the total number of births (the total fertility rate). Lifetime risk of maternal death varies widely across the priority countries, from 1 in 7 (Niger) to 1 in 1,300 (China).

As explained in chapter 2, reproductive health will receive special attention in the next cycle of the *Countdown*.

Comparisons of country-specific progress towards Millennium Development Goal 4 and Millennium Development Goal 5 show that the great majority of the priority countries (50 of 68) are judged to be doing poorly in both areas, with either 'no progress' or 'insufficient progress' towards Millennium Development Goal 4 and either 'high' or 'very high' maternal mortality ratios.

The remaining 18 countries, however, are making good progress towards Millennium Development Goal 4, Millennium Development Goal 5 or both (table 3.2).

A closer look at the country profiles for the 10 countries making good progress towards both Millennium Development Goal 4 and Millennium Development Goal 5 is encouraging, since several are among the priority countries with the largest populations.


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Summary of Progress

	Good progress towards Millennium Development Goal 4 and Millennium Development Goal 5	Good progress towards Millennium Development Goal 4 but not Millennium Development Goal 5	Good progress towards Millennium Development Goal 5 but not Millennium Development Goal
Number of countries	10	6	2
Countries	Bolivia, Brazil, China, Egypt, Guatemala, Mexico, Morocco, Peru, the Philippines, Turkmenistan	Bangladesh, Eritrea, Haiti, Indonesia, Lao People's Democratic Republic, Nepal	Azerbaijan, Tajikistan

Source: Abstracted from UNICEF 2007b

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

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

No progress (n=15)	On track (n=16)
Burkina Faso	Afghanistan
Burundi	Bangladesh
Cameroon	Bolivia
Central African Rep.	Botswana
Djibouti	Brazil
Lesotho	Cambodia
Madagascar	China
Niger	Congo
Sierra Leone	Ghana
Somalia	Guatemala
South Africa	Guinea-Bissau
Sudan	Indonesia
Togo	Malawi
Yemen	Mauritania
Zimbabwe	Mexico
	Peru

Source: UNICEF 2007b

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,[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 are 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 unacceptably low.

Nutritional Status

	Number of countries	Number of *Countdown* priority countries with prevalence among under-fives				
		< 5%	5–19%	20–30%	31–50%	>50%
Underweight moderate or severe	68	1	34	16	17	0
Stunting moderate or severe	67	0	5	11	39	12
Wasting moderate or severe	66	11	51	4	0	0

Source: UNICEF 2007c, adapted based on new World Health Organization growth standards

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 2004[15] 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.

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[19] or Demographic and Health Survey[20] 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.

Most Recent MICS or DHS Coverage Data

Source: Compiled by UNICEF based on MICS and DHS surveys conducted through to 2006

Figure 3.1. Most recent MICS or DHS coverage data available in the 68 Countdown priority countries

Medians and Ranges of Coverage Indicators

Coverage indicator	Number of countries	Median	Range	
			Low	High
Nutrition				
Exclusive breastfeeding (less than six months)	63	28	1	88
Breastfeeding and complementary feeding (6–9 months)	63	62	10	91
Vitamin A supplementation: two doses	55	78	0	99
Vitamin A supplementation: at least one dose	55	90	9	100
Child health				
Measles immunisation	68	80	23	99
Third dose of diphtheria and tetanus with pertussis vaccine (DPT3) immunisation	68	81	20	99
Third dose of haemophilus influenzae type B vaccine (Hib3) immunisation	20	85	10	99
Oral rehydration therapy or increased fluids, with continued feeding	57	38	7	76
Children sleeping under insecticide-treated nets[a]	35	7	0	49
Antimalarial treatment for fever[a]	34	40	0	63
Careseeking for pneumonia	60	48	12	93
Antibiotic use for pneumonia	19	32	3	82
Maternal and newborn health				
Contraceptive prevalence rate	64	29	3	87
Unmet need for family planning	40	23	9	41
Antenatal care coverage: four or more visits	39	49	12	87
Antenatal care coverage: at least one visit	65	82	16	99
Neonatal tetanus protection	64	81	31	94
Intermittent preventive treatment for pregnant women (IPTp) for malaria[a]	22	7	0	61
Skilled attendant at delivery	66	53	6	100
Early initiation of breastfeeding (within one hour of birth)	47	43	23	78
Water and sanitation				
Use of improved drinking water sources (total)	68	69	22	100
Urban	68	87	32	100
Rural	68	56	11	100
Use of improved sanitation facilities (total)	68	43	9	86
Urban	68	59	24	95
Rural	68	32	3	82

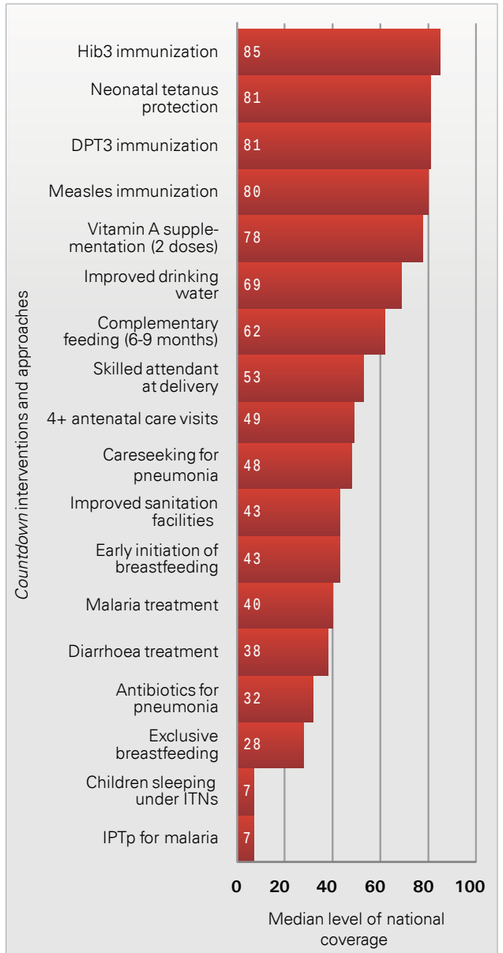
a. Intervention applies only to the 45 malaria endemic priority countries.
Source: Author's analysis based on data from UNICEF global databases with contributions from WHO databases and United Nations Population Fund databases

Table 3.5. Coverage estimates for selected Countdown interventions and approaches, 68 priority countries, latest available data (2000–2006)

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.

Coverage Levels



Source: UNICEF 2007c

Figure 3.2. Median national coverage levels for selected Countdown indicators and approaches across the 68 priority countries, most recent estimate

- **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 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. 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

Coverage indicator	Number of countries	Average three-year change in percentage points		
		Median	Range	
			Low	High
Nutrition				
Exclusive breastfeeding (0–5 months)	36	3	–11	29
Maternal and newborn health				
Antenatal care coverage (at least one visit to skilled provider)	42	4	–21	19
Births attended by skilled health personnel	45	2	–5	12
Neonatal tetanus protection	64	5	–11	31
Contraceptive prevalence rate	39	2	–7	10
Child health				
Careseeking for pneumonia	33	1	–10	18
Oral rehydration therapy (oral rehydration salts or recommended home fluids) or increased fluids, with continued feeding	31	2	–17	23
Children sleeping under insecticide-treated nets	19	7	2	18

Source: Author's analysis based on data from UNICEF global database

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.[21] Its recommendations are consistent with the Global Strategy for Infant and Young Child Feeding.[22] Most of the interventions identified as effective[23] are being tracked through the *Countdown*.

The Lancet series emphasised the importance of exclusive breastfeeding in the first six months of life[24] and highlighted individual and group counselling as effective ways to increase exclusive breastfeeding rates in countries with high stunting rates.[25] 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).

Changes in Exclusive Breastfeeding

Source: Authors' compilation based on data from UNICEF global database (household survey data 2000–2006)

Figure 3.3. Estimated percentage point change in exclusive breastfeeding over a three-year period, by country, 2000-2006

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.[26] 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.[28] 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 80). Three countries reported prevalence rates of less than 20 per cent (Somalia 15, Tajikistan 15, Lao 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.[30] 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 of children 6–59 months of age is 78 per cent, with a range from 0 per cent (Djibouti, Papua New Guinea) to 99 per cent (Rwanda). And the median coverage for at least one dose is 90 per cent, with a range from 9 per cent (Lesotho) to 100 per cent (Rwanda).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Changes in Vitamin A Coverage

Country	2003 (%)	2005 (%)	Change (percentage points)
Rwanda	8	99	91
Sudan	0	90	90
Zimbabwe	0	81	81
Cameroon	21	95	74
Nigeria	0	73	73
Malawi	14	86	72
Kenya	0	69	69
Eritrea	0	50	50
Haiti	0	42	42
Swaziland	0	40	40
Ethiopia	22	59	37
Niger	68	94	26
Togo	72	92	20
India	45	64	19
Cambodia	47	65	18
Burundi	0	17	17
Ghana	78	95	17
Mozambique	0	16	16
Yemen	0	15	15
Congo, The Democratic Republic of	72	87	15
Burkina Faso	80	95	15
Indonesia	62	76	14
Madagascar	84	95	11
Sierra Leone	84	95	11
Congo	0	9	9
Philippines	76	85	9
Myanmar	87	95	8
Afghanistan	85	91	6
Mali	61	66	5
Tanzania, United republic of	91	95	4
Guinea	93	95	2
Bolivia	38	39	1
Djibouti	0	0	0
Papua New Guinea	0	0	0
Korea, Democratic People's Republic of	95	95	0
Pakistan	95	95	0
Nepal	96	96	0
Lao People's Democratic Republic	64	62	–2
Angola	68	65	–3
Benin	95	92	–3
Bangladesh	87	82	–5
Zambia	73	66	–7
Gambia	52	16	–36
Lesotho	75	2	–73

Source: UNICEF Vitamin A global database 2008

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

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.[31]

In 2006, for the first time, global routine coverage rates for measles vaccination reached 80 per cent (up from 72 per cent in 1990).[32] 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).

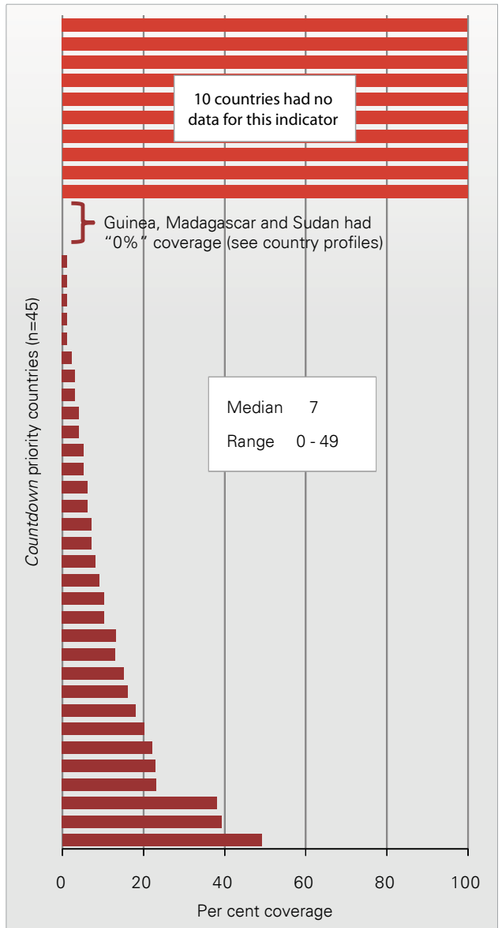
Similarly, the estimated median coverage rate for three doses of diphtheria and tetanus with pertussis vaccine (DPT3) is 81 per cent for the 68 priority countries, with a range from 20 per cent (Chad) to 99 per cent (Brazil, Malawi, Rwanda, South Africa). A recent analysis estimated that in 2007 there 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.[33]

Haemophilus Influenzae Type B (Hib) vaccine is a fairly new intervention, recently recommended for delivery with DPT3 in all low-income country immunisation schedules.[34] In 2005 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.[35]

Of the 68 *Countdown* priority countries, 45 have endemic malaria – defined here as nationwide risk of Plasmodium falciparum throughout the year.[36] 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).

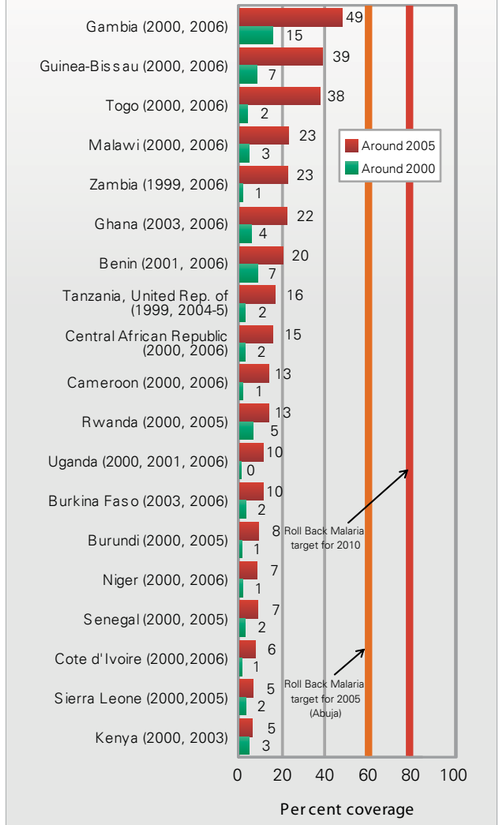
ITN Coverage



Source: Author's analysis based on data from UNICEF global database (household survey data from 2000–2006)

Figure 3.4. Insecticide-treated net coverage for children in the 45 countries with endemic malaria, most recent estimate, 2008. (Endemic countries defined here as countries with nationwide risk of p. falciparum throughout the year.)

Changes in ITN Coverage



Source: UNICEF and Roll Back Malaria, 2007

Figure 3.5. Children sleeping under ITN's in Countdown priority countries with two coverage surveys since about 2000

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).[37] 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.[38] 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.[39] 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 percent 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).

Prevention of Mother-to-Child HIV Transmission

Country	2004		2005		2006	
Botswana	87	(81-94)	64	(60-69)	>95	---
Cameroon	11	(10–13)	10	(9–12)	22	(18–30)
Central African Republic	2	(2–3)	7	(7–8)	18	(16–20)
Congo	7	(6–8)	23	(20–28)	7	(6–9)
Gabon	—	—	4	(3–5)	4	(3–5)
Kenya	25	(22–29)	24	(21–28)	48	(42–59)
Lesotho	7	(6–7)	15	(14–16)	17	(15–18)
Malawi	4	(4–5)	8	(7–9)	14	(12–16)
Mozambique	3	(3–4)	9	(8–11)	13	(11–15)
South Africa	15	(13–17)	34	(29–40)	50	(43–60)
Swaziland	5	(4–5)	36	(33–40)	62	(57–69)
Tanzania, United Rep. of	2	(1.7–2)	6	(6–7)	15	(14–16)
Uganda	9	(8–11)	15	(13–17)	25	(22–28)
Zambia	18	(16–20)	19	(17–22)	35	(31–39)
Zimbabwe	8	(7–8)	13	(12–14)	17	(16–19)

Note: Numbers in parentheses, representing the range in coverage estimates, are based on plausibility (uncertainty) bounds in the denominator (low and high estimated numbers of HIV-infected pregnant women).
— is not available.
Source: For the latest available coverage data and methods of estimating coverage, UNICEF and WHO, Report Card on the Prevention of Mother-to-Child Transmission of HIV and Paediatric Care (2007); for denominators, unpublished 2007 HIV estimates by the Joint United Nations Programme on HIV/AIDS and the World Health Organization

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

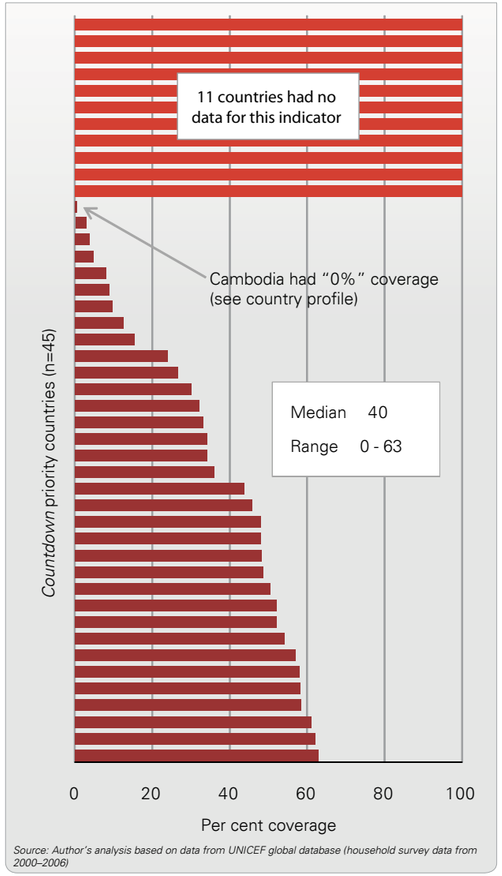
Preventing mother-to-child HIV transmission requires giving pregnant women access to testing, safe delivery practices, antiretroviral therapy where needed and guidance for selecting safe and optimal infant-feeding options. Complementary efforts to prevent HIV transmission include providing family planning 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[40] and, together with diarrhoea and malaria, constitutes the cause of over 50 per cent of child deaths in most sub-Saharan African countries.[41] Prompt and effective treatment of these three infectious diseases is essential for newborn and child survival.

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).

Antimalarial Treatment Coverage



Source: Author's analysis based on data from UNICEF global database (household survey data from 2000–2006)

Figure 3.6. Antimalarial treatment coverage in the 45 countries with endemic malaria, most recent estimate, 2008. (Endemic countries defined here as nationwide risk of p. falciparum throughout the year.)

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.

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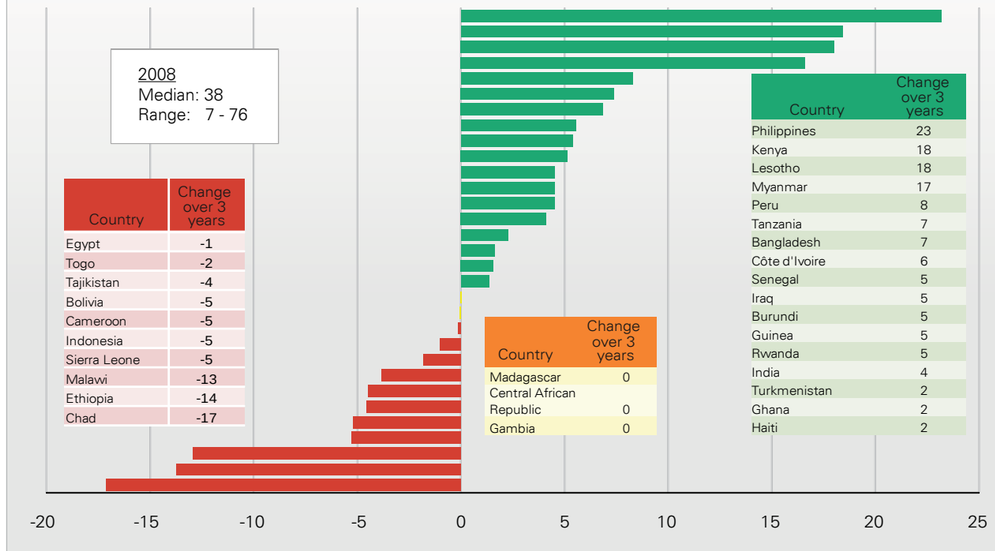
Changes in Treatment of Diarrhoea



Source: Author's analysis based on data from UNICEF global database (household survey data from 1998–2006)

Figure 3.7. Estimated percentage point change in treatment of diarrhoea among children less than five years of age over a three-year period, by country (1998-2006).

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.[42] 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.

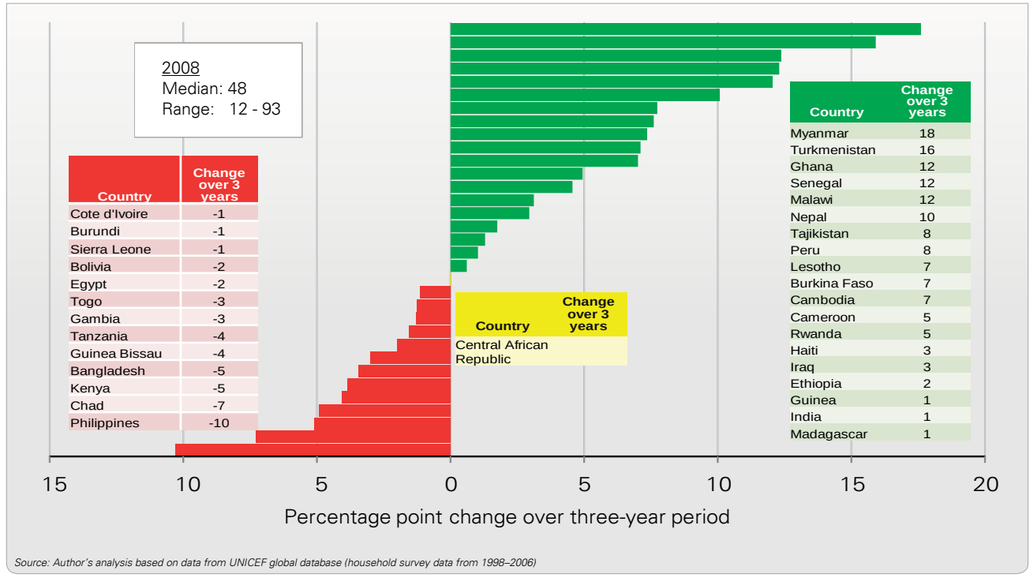


Figure 3.8. Estimated percentage point change over three years in the proportion of children less than five years of age with suspected pneumonia taken to an appropriate health provider, by country (1998-2006)

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.[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 5.5).[45] Readers should note that the survey

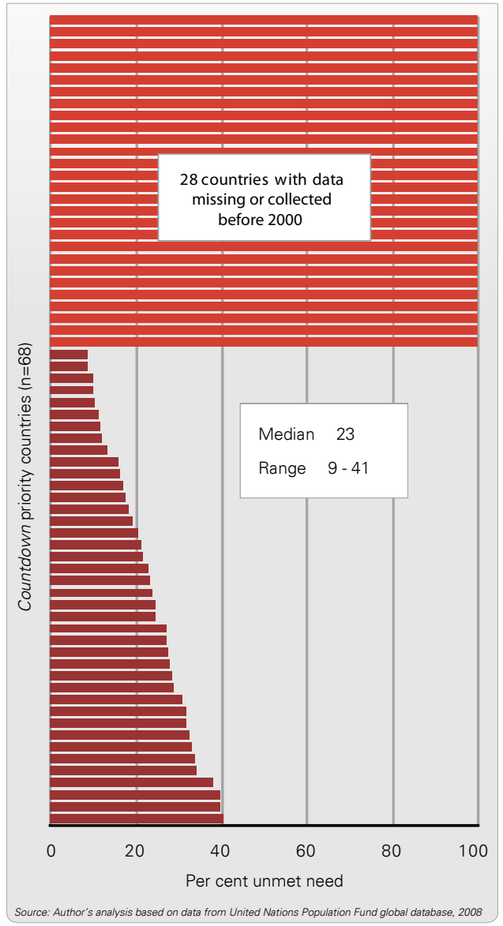


Figure 3.9. Median prevalence of unmet need for family planning in the Countdown countries, 2008

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.

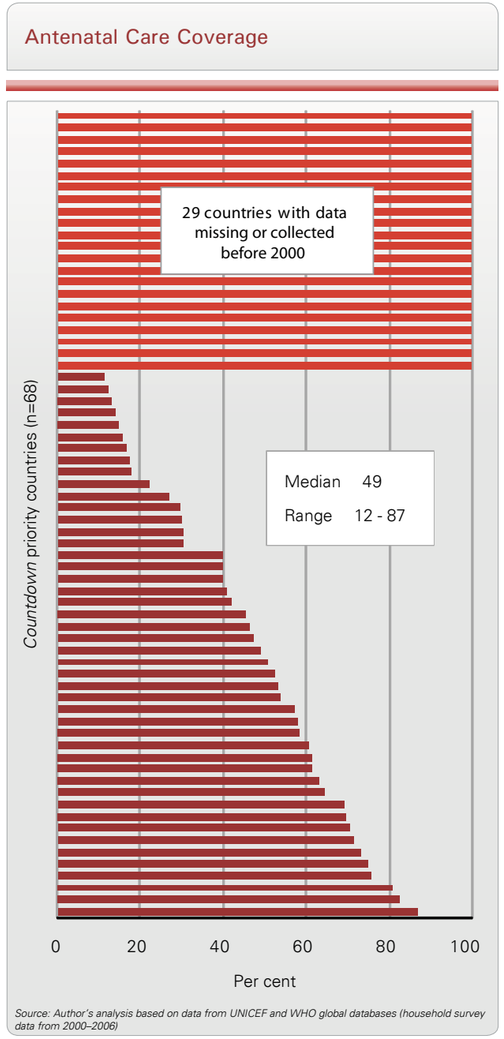


Figure 3.10. Median coverage for antenatal care (four or more visits), 2008

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);[46] 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.[47]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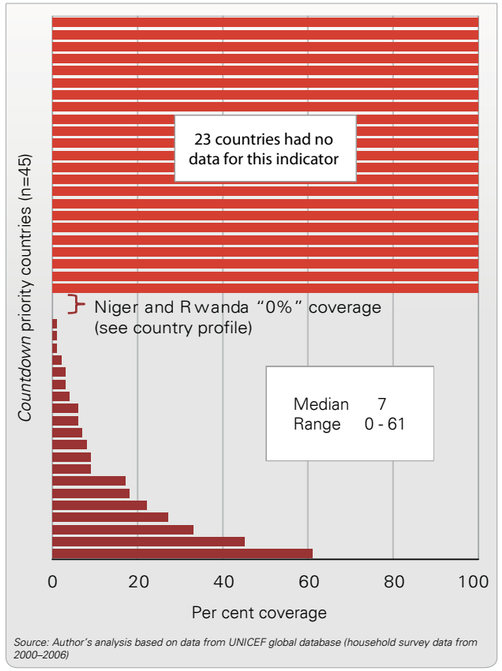
Malaria Treatment



Source: Author's analysis based on data from UNICEF global database (household survey data from 2000–2006)

Figure 3.11. Coverage for intermittent preventive malaria treatment in pregnancy 45 countries with endemic malaria, most recent estimates, 2008. (Endemic countries defined here as nationwide risk of p. falciparum throughout the year.)

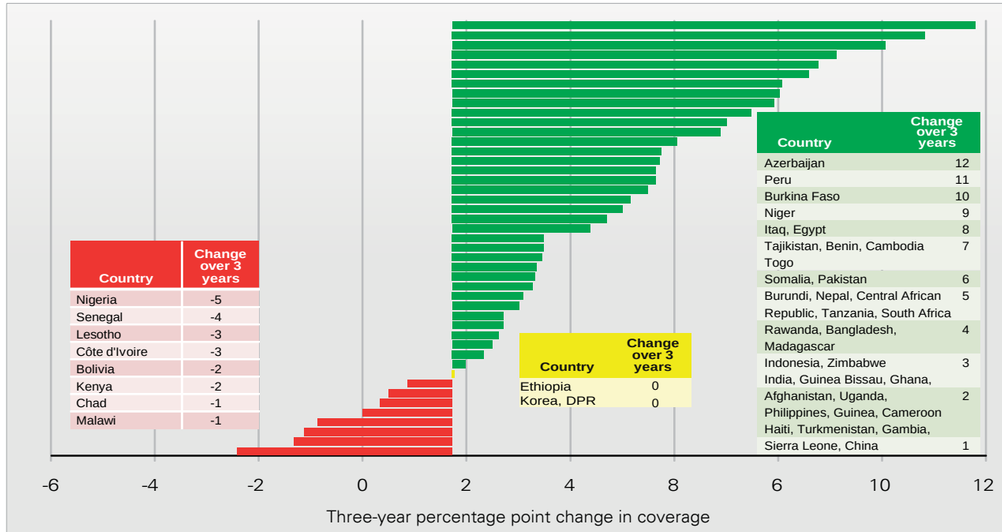
The presence of a skilled attendant at delivery is associated in observational studies with better delivery outcomes, including reduced maternal deaths.[48] This association is plausible, since an attendant who is authorised to perform life-saving functions and supported by a performing health system 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.[49]

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.[50] 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.[51]

Changes in Births Attended by Skilled Health Personnel



Source: Analysis by authors based on UNICEF global database (household survey data from 1998–2006)

Figure 3.12. Estimated percentage point change in the percentage of live births attended by skilled health personnel, by country (1998-2006)

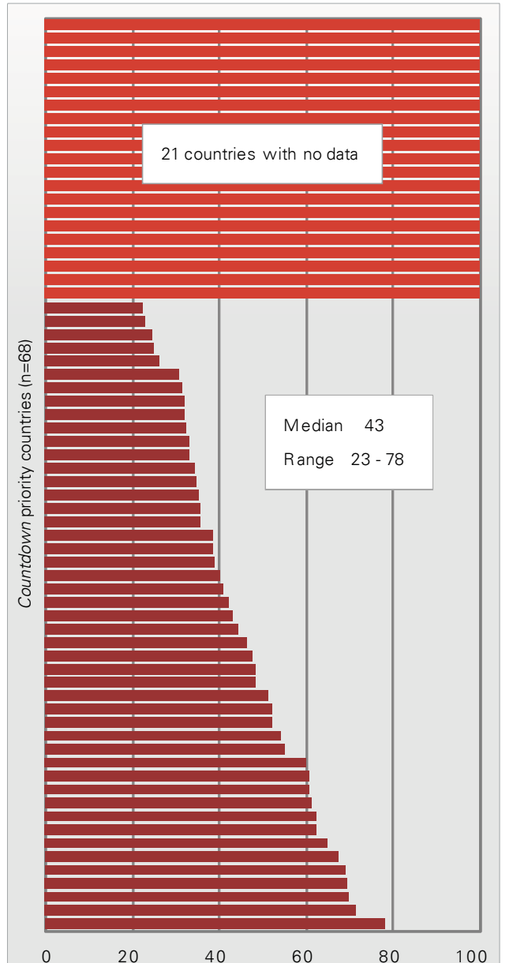
Second, caution is required when interpreting these results at the national level because of the substantial heterogeneity between urban and rural areas, different wealth strata and public and private sectors. If rates for a minority of the country's population exceed 15 per cent, then a national rate 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 percent. 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.

Early Initiation of Breastfeeding



Source: Author's analysis based on data from UNICEF global database (household survey data from 2000–2006)

Figure 3.13. Median prevalence of early initiation of breastfeeding in the Countdown priority countries, 2008

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.[52] 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

Births by Caesarean Section

Country	Urban (%)	Rural (%)	Total (%)
Azerbaijan	4	1	3
Bangladesh	11	2	4
Benin	6	2	3
Bolivia	21	6	15
Burkina Faso	3	0	1
Cambodia	6	1	2
Cameroon	4	1	2
Chad	1	0	0
Cote d'Ivoire	8	6	6
Egypt	29	15	20
Eritrea	7	1	3
Ethiopia	9	0	1
Gabon	6	4	6
Ghana	8	2	4
Guatemala	19	8	11
Guinea	5	1	2
Haiti	6	1	3
India	17	6	9
Indonesia	7	2	4
Kenya	9	3	4
Lesotho	8	5	5
Madagascar	2	1	1
Malawi	4	3	3
Mali	3	0	1
Mauritania	6	1	3
Morocco	9	2	5
Mozambique	5	1	2
Nepal	8	2	3
Niger	5	0	1
Nigeria	4	1	2
Peru	23	6	16
Philippines	10	5	7
Rwanda	8	2	3
Senegal	7	1	3
Tanzania	8	2	3
Turkmenistan	4	2	3
Uganda	9	2	3
Zambia	4	1	2
Zimbabwe	9	3	5

Source: Author's analysis based on data from UNICEF and WHO global database (household survey data from 2000–2006)

Table 3.9. Percentage of live births delivered by caesarean section in Countdown priority countries with coverage estimates since 2000, by maternal residence (urban or rural)

referral or treatment when required – and for providing counselling on family planning services.[53]

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.[54] 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.[55] 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.[56]

Postnatal Visits

Country	Total (%)
Bangladesh	22
Egypt	9
Haiti	4
Ethiopia	2
Nepal	2

Source: Analysis provided by Saving Newborn Lives (household survey data from 2000–2006)

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

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.

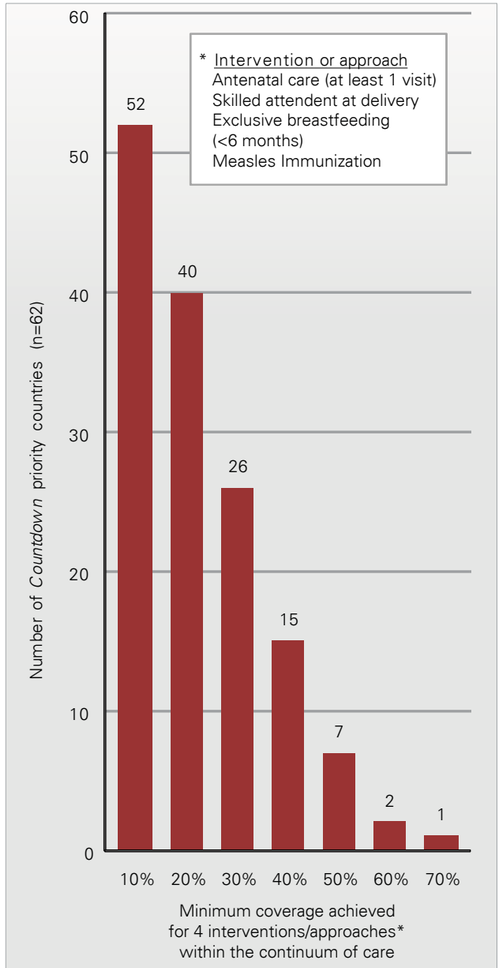
Coverage across the continuum of care

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.[57]

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.

Continuum of Care Coverage



Source: Adapted from UNICEF 2007c

Figure 3.14. Number of countdown priority countries achieving coverage for interventions/aproaches within the continuum of care (n=62 countries with coverage data for all four interventions/aproaches)

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 percent) have at least 20 per cent coverage, and only 26 countries (42 percent) 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.[58]

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.[59] Countries not listed had shown either insufficient or no progress.

Water and Sanitation

Use of improved drinking water sources (n=36)	Use of improved sanitation facilities (n=14)
Afghanistan	Afghanistan
India	China
Angola	Djibouti
Indonesia	Egypt
Azerbaijan	Guatemala
Kenya	Malawi
Bolivia	Mexico
Korea, DPR	Morocco
Botswana	Myanmar
Malawi	Nepal
Brazil	Pakistan
Mali	Peru
Burkina Faso	Philippines
Mauritania	Senegal
Burundi	
Mexico	
Cambodia	
Morocco	
Cameroon	
Myanmar	
Central African Republic	
Nepal	
Chad	
Pakistan	
China	
Peru	
Côte d'Ivoire	
Rwanda	
Egypt	
Senegal	
Eritrea	
South Africa	
Ghana	
Uganda	
Guatemala	
Zimbabwe	

Source: UNICEF 2007b

Table 3.11. Countries 'on track' to achieve the Millennium Development Goal targets for water and sanitation

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-Guerin 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).

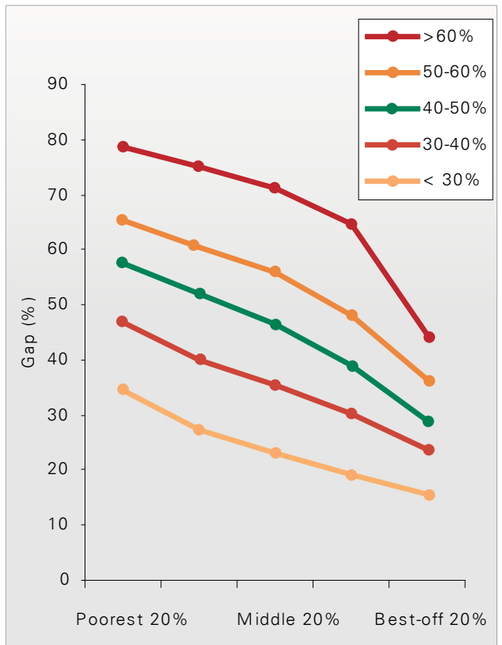
Annex E gives further details on the data sources and methods of analysis. (Some inconsistencies in definitions between the component indicators of the coverage gap measure and *Countdown* indicators should not affect the validity of results as a measure of coverage equity.)

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.

Coverage Gaps by Wealth Quintile



Source: Analysis provided by WHO, 2008

Figure 3.15. Coverage gaps by wealth quintile (countries grouped by overall coverage gap size)

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.

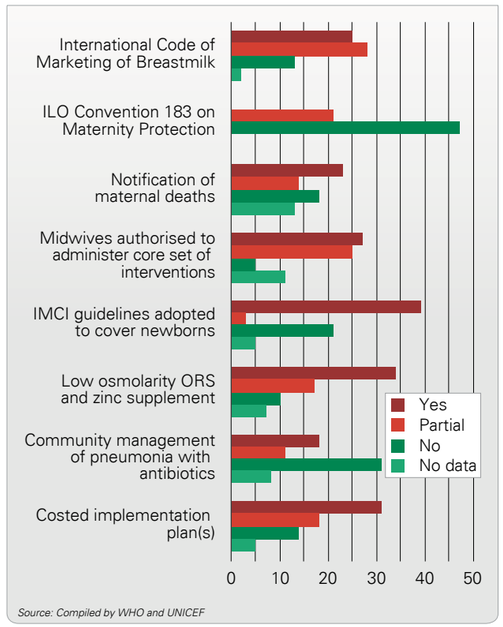
In countries where the coverage gap is the highest – indicating low coverage (the upper red line in figure 3.15) – there is an almost linear relationship between increasing wealth and decreases in the coverage gap except among the least poor, for whom coverage is much greater and the coverage gap much 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.

Adoption Status of Key Health Policies



Source: Compiled by WHO and UNICEF

Figure 3.16. Adoption status of key maternal, newborn and child health policies in the 68 Countdown priority countries

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

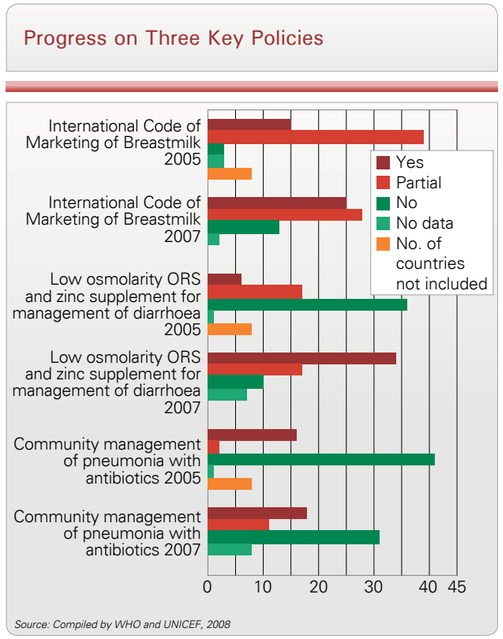


Figure 3.17. Progress in implementing three policies (International Code of Marketing of Breastmilk Substitutes, low osmolarity oral rehydration salts and zinc supplementation and community treatment of pneumonia with antibiotics) in the 68 Countdown priority countries (2005–2007)

on the Code and on later World Health Assembly resolutions.[60]

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 legislation or 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).[61]

The ILO Convention 183 on Maternity Protection

International labour standards on maternity protection are important to protect the health and employment of women.[62] 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.

Midwives authorised to administer a core set of life-saving interventions

Midwives are the primary skilled care providers at birth in many countries. Often, though, 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.[63] Essential care for women and newborns requires that midwives be authorised to administer perenteral antibiotics, perenteral oxytocics and perenteral 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, 27 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.[64] 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 both to a basic emergency obstetric care facility for 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 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.[65] 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 agencies and 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 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 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.[66]

In this *Countdown* cycle, 39 of the 68 priority countries reported having national guidelines covering infants 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 (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.[67] 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

for an intervention.

Community treatment of pneumonia with antibiotics

Pneumonia remains the leading killer of children under five years of age.[68] As table 3.5 shows, coverage levels for careseeking 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 heath facilities.[69]

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). Country 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.

Costed 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 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 comprise 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 percent.

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

Official Development Assistance to Child, Maternal and Newborn Health

	Official development assistance to child health per child (2005 dollars)		Official development assistance to maternal and neonatal health per live birth (2005 dollars)	
Recipient country	**2004**	**2005**	**2004**	**2005**
Afghanistan	5.51	8.6	4.30	8.43
Angola	7.12	11.34	10.28	16.11
Azerbaijan	1.24	3.87	4.61	2.18
Bangladesh	0.84	1.58	8.42	9.56
Benin	9.93	7.36	13.32	3.76
Bolivia	9.67	6.43	22.74	11.04
Botswana	1.50	0.05	2.43	0.45
Brazil	0.12	0.1	1.51	0.16
Burkina Faso	6.06	8.17	7.23	6.72
Burundi	6.19	8.57	5.32	5.73
Cambodia	2.93	6.38	5.46	19.05
Cameroon	4.20	6.87	3.41	4.45
Central African Republic	8.57	6.72	9.14	5.49
Chad	4.34	4.22	3.11	5.41
China	0.39	0.32	0.66	0.4
Congo	12.13	2.42	4.28	2.73
Congo, Democratic Republic of the	6.56	3.21	3.82	2.97
Cote D'Ivoire	3.98	2.9	1.53	1.63
Djibouti	7.42	24.89	18.03	22.27
Egypt	0.72	1.26	0.35	3.3
Equatorial Guinea	10.75	14.28	11.87	12.73
Eritrea	4.47	3.77	4.77	2.36
Ethiopia	2.70	3.56	4.81	9.96
Gabon	11.04	17.09	15.57	20.65
Gambia	7.50	17.79	5.80	11.05
Ghana	12.74	11.24	14.63	12.01
Guatemala	2.04	3.41	10.53	14.49
Guinea	3.65	6.17	2.75	11.34
Guinea-Bissau	5.73	6.27	18.49	11.87
Haiti	8.57	4.18	7.86	15.53
India	0.90	1.1	1.78	3.24
Indonesia	1.15	1.11	4.25	2.8
Iraq	4.08	20.47	3.70	26.87
Kenya	7.71	8.98	6.04	14.7
Korea, Democratic Republic of	1.57	1.75	0.73	0.62
Laos	3.93	8.41	8.66	17.88
Lesotho	9.50	4.77	13.32	5.01
Liberia	12.91	7.81	14.32	7.54
Madagascar	4.90	5.91	8.46	6.95
Malawi	13.0	11.18	13.67	13.57
Mali	6.69	6.51	6.23	13
Mauritania	3.38	3.2	9.74	7.59
Mexico	0.17	0.12	0.81	0.51
Morocco	1.01	1.5	4.31	5.61
Mozambique	14.20	9.4	26.57	20.15
Myanmar	0.28	3.01	0.79	1.82
Nepal	5.25	3	11.96	3.39
Niger	4.15	5.32	2.77	5.32
Nigeria	1.91	2.23	1.12	2.99
Pakistan	3.58	1.88	1.93	4.4
Papua New Guinea	9.21	3.26	30.37	6.42
Peru	3.17	4.9	5.50	12.46
Philippines	0.97	0.4	1.51	1.58
Rwanda	13.91	13.47	14.47	12.68
Senegal	9.56	9.83	11.44	16.73
Sierra Leone	5.79	5.48	5.30	5.64
Somalia	4.87	4.39	4.86	4.19
South Africa	1.82	3.6	4.09	6.21
Sudan	4.86	9.05	7.35	15.21
Swaziland	3.24	15.09	1.56	1.41
Tajikistan	6.55	4.83	5.09	5.19
Tanzania	8.79	15.62	11.87	14.8
Togo	5.07	5.72	6.89	4.63
Turkmenistan	1.82	2.12	4.25	1.01
Uganda	11.09	9.89	6.59	8.4
Yemen	4.45	6.01	11.81	17.49
Zambia	21.24	26.55	22.43	44.77
Zimbabwe	3.61	7.11	8.88	18.32

Source: Compiled by WHO, 2008

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 makes a funding target 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.[70]

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 2005 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 maternal and newborn 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,[71] 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. And 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 answers have been recorded, checked, summarised, shared and interpreted in districts and capital cities throughout the world. If there is a better way to do things, let's do it together – not just as a 'community of practice,' aiming at improving the health of women and children, 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 companion to this section and an essential 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 most promising for many preventive interventions, such as vitamin A supplementation, immunisation (including measles, neonatal tetanus protection, Hib3 and DPT3) 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 indicators requiring behavioural and social 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 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.[72] 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 (30 per cent).[73] 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.[74] 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 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, Kinfu and others (forthcoming).

[2] Graham, Bell and Bullough 2001, pp.97–129; WHO, UNICEF, UNFPA and AMDD 2006.

[3] UNICEF 2007b.

[4] Lawn, Cousens and Zupan 2005.

[5] Ibid.

[6] Stanton, Lawn, Rahman and others 2006.

[7] Black, Allen, Bhutta and others 2008.

[8] World Bank 2006.

[9] United Nations n.d.

[10] Black, Allen, Bhutta and others 2008.

[11] Ibid.

[12] WHO 2006a.

[13] Bhutta, Ahmed, Black and others 2008.

[14] Black, Allen, Bhutta and others 2008.

[15] Blanc and Wardlaw 2005.

[16] UNICEF and WHO 2004.

[17] UNICEF 2007c.

[18] Victora, Adair, Fall and others 2008.

[19] UNICEF n.d.

[20] Measure DHS, MACRO International, Inc. n.d.

[21] Bryce, Coitinho, Darnton-Hill and others 2008.

[22] WHO and UNICEF 2003.

[23] Bhutta, Ahmed, Black and others 2008.

[24] Black, Allen, Bhutta and others 2008.

[25] Bhutta, Ahmed, Black and others 2008.

[26] Black, Allen, Bhutta and others 2008.

[27] Bhutta, Ahmed, Black and others 2008; Bryce, Coitinho, Darnton-Hill and others 2008.

[28] Arimond, Daelmans and Dewey 2008.

[29] UNICEF 2007c.

[30] UNICEF 2007d.

[31] Dabbagh, Gacic-Dobo, Wolfson and others 2007.

[32] UNICEF 2007b.

[33] Ibid.

[34] WHO 2006b.

[35] Waddington, Martin, Walford and others 2005.

[36] WHO 2007a.

[37] UNICEF and Roll Back Malaria 2007.

[38] UNICEF 2007b

[39] Ibid.

[40] UNICEF 2006a; Wardlaw, Salama, Johansson and others 2006.

[41] Bryce, Boschi-Pinto, Shibuya and others 2005; WHO 2007b.

[42] Bryce, Boschi-Pinto, Shibuya and others 2005.

[43] Cleland, Bernstein, Ezeh and others 2006.

[44] WHO and UNICEF 2003.

[45] United Nations 2008a.

[46] WHO 2007a.

[47] UNICEF and Roll Back Malaria 2007.

[48] Graham, Bell and Bullough 2001, pp.97-129; WHO, UNICEF, UNFPA and AMDD 2006.

[49] UNICEF 2007b.

[50] UNICEF, WHO and UNFPA 1997.

[51] Villar, Carroli and Zavaleta 2007.

[52] Lawn, Cousens and Zupan 2005.

[53] Darmstadt, Bhutta, Cousens 2005.

[54] Baqui, Ahmed, Arifeen and others n.d.

[55] Baqui, Ahmed, Arifeen and others 2007.

[56] Lawn, and Kerber 2006.

[57] Tinker, ten Hoope-Bender, Azfar and others 2005; Kerber, de Graft-Johnson, Bhutta and others 2007.

[58] Travis, Bennett, Haines and others 2004.

[59] UNICEF 2007b.

[60] WHO and UNICEF 2003.

[61] Bryce, Terreri, Victora 2006.

[62] ILO 2007.

[63] UNICEF, WHO and UNFPA 1997.

[64] Khan, Wojdyla, Say and others 2006; Ronsmans and Graham 2006.

[65] UNICEF, WHO and UNFPA 1997.

[66] The Young Infants Clinical Signs Study Group 2008.

[67] WHO and UNICEF 2004.

[68] Wardlaw, Salama, Johansson and others 2006.

[69] WHO and UNICEF 2006.

[70] Johns, Sigurbjörnsdóttir, Fogstad and others 2007; Stenberg, Johns, Scherpbier and others 2007; Greco, Powell-Jackson, Borghi and others (forthcoming).

[71] Bryce, Terreri, Victora and others 2006.

[72] Black, Allen, Bhutta and others 2008.

[73] UNICEF 2007b.

[74] Victora, Wagstaff, Armstrong-Schellenberg and others 2003.