Fulfilling the Health Agenda for Women and Children

The 2014 Report

Countdown to 2015

Maternal, Newborn & Child Survival

CONFERENCE DRAFT

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Contents

Countdown headlines for 2014

Real progress has been achieved.

- The median annual rate of reduction in under-5 mortality in the *Countdown* countries doubled over 2000–2012 compared with 1990–2000, and child deaths have been almost halved since 1990.
- Three-quarters of *Countdown* countries reduced maternal mortality faster in 2000–2013 than in the 1990s.
- Median national coverage is 75% or higher for several key interventions (at least one antenatal care visit with skilled health personnel, vitamin A supplementation, immunizations and improved source for drinking water).
- Rapid advances in coverage for malaria interventions show the impact of advocacy, investment and sustained effort and provide a model (and a challenge) for lagging interventions.
- High coverage has been reached among the wealthy populations in many *Countdown* countries. Similar levels can be achieved across the whole population. Countries that have closed the equity gap provide a model of success.
- *Countdown* countries continue to expand adoption of key policies that support improved coverage and quality of reproductive, maternal, newborn and child health interventions.
- Total per capita health expenditure in the *Countdown* countries grew more than 10% between 2010 and 2012.
- More than 75% of Countdown countries conducted a nationally representative household survey between 2008 and 2012. Before 2000 few countries had survey data available.

But substantial business remains unfinished.

- Fewer than half of *Countdown* countries will achieve Millennium Development Goal (MDG) 4, and very few will achieve MDG 5.
- Half of *Countdown* countries still have a high maternal mortality ratio (300–499 deaths per 100,000 live births), and 16 countries—all of them in Africa—have a very high maternal mortality ratio (500 or more deaths per 100,000 live births).
- Progress in reducing preventable newborn deaths is much slower than progress in reducing deaths among children under age 5 in many *Countdown* countries. Most newborn deaths occur on the day of birth from intrapartum events, infections or preterm birth complications.
- Preventable and treatable infectious diseases such as pneumonia and diarrhoea remain the leading causes of child deaths, and coverage of treatment interventions remains low in most Countdown countries.
- Nearly half of child deaths are attributable to undernutrition. In 42 of the 62 *Countdown* countries with available data, more than 30% of children are stunted. Poor nutrition also harms women's health and increases women's risk of experiencing a stillbirth or delivering a low-birthweight baby.
- Severe health workforce shortages limit countries' ability to provide high-quality care to women and children. Only seven *Countdown* countries report having enough skilled health professionals to achieve high coverage of essential interventions.
- Not one *Countdown* country has adopted all 10 "tracer" policies that support delivery of proven

interventions across the reproductive, maternal, newborn and child health continuum of care.

- Official development assistance for maternal, newborn and child health in the *Countdown* countries decreased slightly between 2010 and 2011, driven by a 3% reduction in child health aid. Official development assistance for family planning grew substantially in 2011 but remains low. The amount of aid varies widely across countries and is not always proportional to need.

- Only eight *Countdown* countries reported recent data on all coverage indicators recommended by the Commission on Information and Accountability for Women's and Children's Health. Half of *Countdown* countries reported new data from 2011–2012 on only one recommended indicator.

Inequities—between and within countries—mean that too many women and children are being left behind.

- Even for interventions with high coverage in most *Countdown* countries, such as immunizations, some countries reach less than half of their population of women and children.

- Across *Countdown* countries coverage for key interventions along the continuum of care is much higher for the wealthy than for the poor. Stunting is, on average, 2.5 times higher among poor children than among children from wealthier families.

Concerted, emphatic action is needed now to save lives and accelerate progress.

- The next 18 months are critical for accelerating progress towards the MDG targets and for ensuring that work to achieve the next set of goals begins right now.

- Sustainable development requires intensified support to countries that do not achieve the health MDGs and continued effort by and with countries that have.

- Action on improving nutrition and coverage of effective interventions for all population groups in order to end preventable maternal and child deaths must not wait for the post-2015 targets to be finalized. These goals are crucial to any global agenda, and delays in pursuing them are unacceptable and unconscionable.

- Increasing access to high-quality, skilled care around the time of birth will reduce maternal deaths, stillbirths and newborn deaths. Investment in water and sanitation programmes and strategies to increase coverage of treatment interventions for pneumonia and diarrhoea will help end the huge toll of deaths from these two leading killers of children.

- Greater efforts are needed to help countries facing rapid population growth develop innovative approaches, including plans to increase health workforce production, deployment and retention, in order to reach all women and children with essential services.

- We must all act to protect families, women and children from the destructive health impact of war and civil conflict and to help countries rebuild once conflict subsides.

- Countries and their partners must invest in collecting and reporting health data that are fit for purpose, reliable, representative, timely and able to be disaggregated for subnational equity analyses.

Introduction: unfinished business, achievable goals

At the dawn of this new century, the countries of the world agreed on a set of Millennium Development Goals (MDGs)—ambitious and inspired statements of our global commitment to end extreme poverty and meet the needs of the world's poorest. Improving women's and children's health and well-being—and in particular dramatically reducing millions of their preventable and needless deaths—stood at the centre of the framework, as the fourth and fifth of the eight MDGs. The deadline for achieving the goals was set for the end of 2015—exactly 18 months from today.

When that deadline arrives, we will not have achieved the goals related to maternal and child health. Fewer than half of the 75 *Countdown* countries are likely to have succeeded in reducing child mortality by two-thirds from 1990 levels (MDG Target 4.A), only a small fraction will have cut maternal death by three-quarters (MDG Target 5.A), and we will still be far from ensuring universal access to reproductive health (MDG Target 5.B).

This report highlights important progress in many countries and on many pressing health challenges. At the global level, over the 25-year measurement span of the MDGs, maternal and child deaths will have been almost halved. Dramatic progress on HIV interventions, vaccinations and distribution of insecticide-treated nets will have demonstrated the compelling power of high-level commitment, plentiful and consistent funding, and a focus on evidence-based programming to effect dramatic, life-saving change.

The end of 2015 will inaugurate a new era in global health. We will enter that new era with unfinished business that can and must be addressed. As we move forward, setting new goals and establishing new accountability structures, we must renew and redouble our efforts in key areas where progress has been slowest:

- Meeting the vast unmet need for contraception, so that women and families can better control their fertility and their lives.
- Ensuring that there are enough adequately trained health care workers equipped with the supplies needed to provide high-quality care before, during and after pregnancy to make pregnancy and childbirth safer for both mother and baby.
- Improving maternal and newborn survival, including reducing preterm births and stillbirths, by investing in care on the day of birth when the risk of mortality is highest.
- Addressing the infectious diseases, especially pneumonia and diarrhoea, that needlessly kill millions of children because they do not have access to effective treatments, appropriate nutrition, safe water and adequate sanitation facilities.
- Confronting the huge burden of undernutrition that retards both the growth and the life opportunities of far too many children and adolescents in the majority of *Countdown* countries, where more than 30% of children are stunted.

Underlying each of these issues is the harsh reality of many millions of women and children who are being left behind. Overcoming the huge inequities in access to high-quality health care is fundamental to success or failure in meeting the health targets—both pre- and post-2015—that we set for ourselves. Succeeding "on average" too often means failing to reach millions of poor and other disadvantaged women, children and families. Focused, evidence-based health policies and programmes must be targeted to the unreached. The task in front of us is not just about easy wins or low-hanging fruit. It is about the hard work of fulfilling every woman's and child's fundamental right to the highest attainable standard of health.

Today, countries, their development partners and advocates are hard at work building consensus around a new set of objectives, with targets set a generation away. But we have not yet reached the end of 2015. Over the next 18 months we must use available data to drive emphatic, concerted action and sprint to the MDG finish line. A child dies every five seconds; a woman dies in pregnancy or childbirth every two minutes. Our efforts, right now, will save lives today and tomorrow, not just in 10 or 20 years. And a strong and determined run up to 2015 will put countries on a path to success in achieving the next set of goals and making life better for women and children everywhere.

Economic development is a central focus of emerging accountability frameworks. But economic growth will not, on its own, result in lifesaving health care for all. It must be coupled with a core focus on health. Addressing pressing health challenges—in countries that often face a complex mix of climate change, population growth, civil conflict, gender discrimination, high HIV prevalence and other issues—is one of the most effective ways of building human capital and enabling equitable, sustainable economic development.

We face a unique challenge, a compelling opportunity and a pressing obligation to end the heavy toll of millions of preventable women's and children's deaths. We can achieve this, but it will not happen on its own. We, as *Countdown*, challenge ourselves and the global reproductive, maternal, newborn and child health community to make the remaining days in the MDG era and the years beyond 2015 count for women and children. There must be continued, even increased, accelerations in coverage for life-saving interventions and in improving nutrition and making family planning universally available. Coverage must be more equitable. And there must be greater commitment to data evolution that results in more and better data and data use for improving programmes.

These targets do not need to wait for validation through the language of the sustainable development goals—they are a necessary part of any global agenda, and delays are unconscionable. Without consistent commitment and collaborative efforts, built on a strong foundation of evidence, the next generation of women and children will be saddled with the same crippling burden of illness and loss that we face today. Every country can improve women's and children's health and reduce preventable deaths. Countdown will continue to track progress towards these immutable targets at the country level and will hold fast to the principle of accountability by all for the health and development of women and children. With this report, *Countdown* begins the next stage of its work, enabling that progress by spotlighting the successes, the gaps, the programmatic innovations, the inequities and the lessons learned along the way.

Countdown: The 2014 Report

Countdown to 2015 is a global movement to track, stimulate and support country progress towards the health-related Millennium Development Goals, particularly goals 4 (reduce child mortality) and 5 (improve maternal health). Established in 2003 by the Bellagio Study Group on Child Survival,[1] *Countdown* is supra-institutional and includes academics, governments, international agencies, professional associations, donors, nongovernmental organizations and other members of civil society, with *The Lancet* as a key partner. *Countdown* focuses specifically on tracking coverage of a set of evidence-based interventions proven to reduce maternal, newborn and child mortality in the 75 countries where more than 95% of maternal and child deaths occur.

Countdown produces periodic publications, reports and other materials on key aspects of reproductive, maternal, newborn and child health, using data to hold stakeholders to account for global and national action. At the core of *Countdown* reporting are country profiles that present current evidence to assess country progress in improving reproductive, maternal, newborn and child health. The two-page profiles in this report are updated every two years and include key demographic, nutritional status and mortality statistics; coverage levels and trends for proven reproductive, maternal, newborn and child health interventions; and policy, health system, financial and equity indicators. *Countdown* also prepares one-page versions of the profiles showcasing the priority indicators defined by the Commission on Information and Accountability for Women's and Children's Health and equity-specific profiles for each of the 75 priority countries. More information on *Countdown* data sources and methods are included in annexes B–H and at www.countdown2015mnch.org.

This report begins with a summary of *Countdown* results for 2014 based on the data presented in the country profiles. Progress has been impressive in some areas, but unfinished business remains that must be prioritized in the post-2015 framework. The report then assesses the state of the data to support evidence-based decisions in women's and children's health. From there it goes on to describe elements of the *Countdown* process that might inform ongoing efforts to hold the world to account for progress. And finally the report lists concrete action steps that can be taken now to ensure continued progress for women and children in the years ahead.

Progress towards Millennium Development Goals 4 and 5

Improving maternal, newborn and child survival in the *Countdown* countries depends on our ability to work together effectively to reach women and children with essential interventions. Trends in maternal, newborn and child mortality and undernutrition are the bottom line for assessing the impact of global and country efforts to increase equitable coverage of interventions across the reproductive, maternal, newborn and child health continuum of care. This section reviews progress in the 75 countries towards the mortality targets for Millennium Development Goals (MDGs) 4 and 5 and in addressing undernutrition.

Progress in reducing mortality is accelerating—but not fast enough!

Child mortality in *Countdown* countries has declined substantially since 1990, paralleling a global drop from 12.6 million under-5 deaths in 1990 to 6.6 million in 2012.[2] The median annual rate of reduction in under-5 mortality has increased in *Countdown* countries from 1.9% between 1990 and 1999 to 3.8% over 2000–2012 (table 1). But to achieve MDG 4, an annual rate of reduction of at least 4.4% over 1990–2015 was required, which few *Countdown* countries were able to reach and maintain. Only a minority of *Countdown* countries are on track to achieve MDG 4.[3] However, 29 of the 75 *Countdown* countries achieved this high pace of progress over 2000–2012, an encouraging sign of what is possible.[4] Approximately 18,000 children globally still die every day, the vast majority among disadvantaged population groups in *Countdown* countries.[5] The leading causes of post-neonatal child deaths remain preventable infectious diseases—pneumonia, diarrhoea and malaria.[6] Programmes that target these diseases need greater prioritization and sustained commitment.

Slower progress has been achieved in reducing newborn mortality, so the percentage of child deaths that occur in the first four weeks of life is rising. The median share of newborn deaths among under-5 deaths in *Countdown* countries is 39%, with a low of 26% in Niger and a high of 64% in Brazil (see table 1). *Countdown* countries that have rapidly reduced child mortality, such as Brazil, tend to show a growing proportion of deaths in the newborn period. The three leading causes of newborn deaths are intrapartum events, complications of preterm birth and sepsis,[7] all of which can be significantly reduced through increased investment in the quality of care around the time of birth. Such investments can also reduce the staggering number of stillbirths each year (around 2.6 million), more than 90% of which occur in the *Countdown* countries.[8]

Progress towards the maternal mortality target of MDG 5—reducing maternal mortality by three-quarters between 1990 and 2015—has been slower and is harder to measure than progress towards MDG 4. Very few *Countdown* countries will achieve MDG 5.[9] The median annual rate of reduction in the 75 *Countdown* countries over 2000–2013 is 3.1%, with a low of –0.5% in Côte d'Ivoire (where the maternal mortality ratio actually increased) and a high of 8.6% in Rwanda (table 2). It is very good news that 56 *Countdown* countries saw maternal mortality decline faster over 2000–2013 than in the 1990s and that over 2000–2013, 11 countries saw an annual rate of reduction of 5.5% or higher—the rate needed over 1990–2015 to meet the MDG target.

However, the annual rate of reduction was less than 1% in four *Countdown* countries over the past decade, and 16 countries—all in Sub-Saharan Africa—still have a very high maternal mortality ratio (500 or more deaths per 100,000 live births). The median lifetime risk of a maternal death is 1 in 66 in the *Countdown* countries, with a low of 1 in 1,800 in Azerbaijan and China and a high of 1 in 15 in Chad. In comparison, the likelihood that an adult woman will die from maternal causes is 1 in 3,400 in high-income countries.[10] The majority of maternal deaths occur during the intrapartum and immediate postpartum periods from preventable causes such

TABLE 1

Trends in child mortality in the 75 Countdown countries, by average annual rate of reduction, 2000–2012

	Under-five mortality rate						Share of under-5 deaths occurring in neonatal period (%)
	Deaths per 1,000 live births			Average annual rate of reduction (%)			
Country	1990	2000	2012	1990–2012	1990–2000	2000–2012	2012
Rwanda	151	182	55	4.6	–1.9	**10.0**	39
Cambodia	116	111	40	4.9	0.5	**8.5**	47
China	54	37	14	6.1	3.8	**8.1**	61
Malawi	244	174	71	5.6	3.4	**7.5**	34
United Republic of Tanzania	166	132	54	5.1	2.3	**7.4**	40
Liberia	248	176	75	5.4	3.4	**7.1**	36
Senegal	142	139	60	3.9	0.2	**7.1**	42
Brazil	62	33	14	6.6	6.2	**6.9**	64
Peru	79	40	18	6.7	6.9	**6.5**	51
Egypt	86	45	21	6.4	6.4	**6.4**	56
Bangladesh	144	88	41	5.7	4.9	**6.4**	60
Ethiopia	204	146	68	5.0	3.4	**6.3**	43
Uganda	178	147	69	4.3	1.9	**6.3**	33
Democratic People's Republic of Korea	44	60	29	1.9	–3.2	**6.1**	54
Azerbaijan	93	72	35	4.4	2.5	**6.0**	43
Niger	326	227	114	4.8	3.6	**5.8**	26
Nepal	142	82	42	5.6	5.5	**5.7**	57
Zambia	192	169	89	3.5	1.3	**5.4**	34
Bolivia (Plurinational State of)	123	78	41	5.0	4.6	**5.3**	46
Madagascar	159	109	58	4.6	3.8	**5.2**	38
Kyrgyzstan	71	50	27	4.4	3.5	**5.2**	54
Mozambique	233	166	90	4.3	3.4	**5.1**	34
Burkina Faso	202	186	102	3.1	0.8	**5.0**	27
South Sudan	251	181	104	4.0	3.3	**4.6**	35
Eritrea	150	89	52	4.8	5.2	**4.5**	36
Mali	253	220	128	3.1	1.4	**4.5**	33
Indonesia	84	52	31	4.5	4.7	**4.4**	48
Guinea	241	171	101	3.9	3.4	**4.4**	34
Lao People's Democratic Republic	163	120	72	3.7	3.1	**4.3**	38
Benin	181	147	90	3.2	2.0	**4.2**	31
South Africa	61	74	45	1.4	–2.0	**4.2**	34
São Tomé and Príncipe	104	87	53	3.0	1.8	**4.1**	38
Morocco	80	50	31	4.3	4.6	**4.0**	59
India	126	92	56	3.6	3.2	**4.0**	55
Yemen	125	97	60	3.3	2.5	**4.0**	45
Gambia	170	116	73	3.8	3.8	**3.9**	40
Botswana	48	85	53	–0.5	–5.8	**3.9**	54
Guatemala	80	51	32	4.2	4.6	**3.8**	48
Cameroon	135	150	95	1.6	–1.1	**3.8**	30
Mexico	46	25	16	4.8	6.0	**3.7**	44
Uzbekistan	74	61	40	2.8	1.8	**3.7**	34
Tajikistan	105	91	58	2.7	1.4	**3.7**	40
Nigeria	213	188	124	2.5	1.2	**3.5**	32
Kenya	98	110	73	1.4	–1.2	**3.5**	37
Swaziland	71	121	80	–0.5	–5.4	**3.5**	37
Myanmar	106	79	52	3.2	3.0	**3.4**	51
Turkmenistan	90	79	53	2.4	1.4	**3.3**	41
Sudan	128	106	73	2.6	1.9	**3.1**	39
Ghana	128	103	72	2.6	2.1	**3.0**	40
Burundi	164	150	104	2.1	0.9	**3.0**	35

(continued)

TABLE 1 (CONTINUED)

Trends in child mortality in the 75 Countdown countries, by average annual rate of reduction, 2000–2012

	Under-five mortality rate						Share of under-5 deaths occurring in neonatal period (%)
	Deaths per 1,000 live births			Average annual rate of reduction (%)			
Country	1990	2000	2012	1990–2012	1990–2000	2000–2012	2012
Equatorial Guinea	182	143	100	2.7	2.4	**2.9**	34
Haiti	144	105	76	2.9	3.2	**2.7**	34
Gabon	92	86	62	1.8	0.7	**2.7**	41
Viet Nam	51	32	23	3.6	4.7	**2.6**	53
Afghanistan	176	134	99	2.6	2.7	**2.6**	36
Philippines	59	40	30	3.1	3.7	**2.5**	47
Guinea-Bissau	206	174	129	2.1	1.7	**2.5**	36
Côte d'Ivoire	152	145	108	1.6	0.4	**2.5**	38
Djibouti	119	108	81	1.8	1.0	**2.4**	39
Mauritania	128	111	84	1.9	1.5	**2.3**	40
Pakistan	138	112	86	2.2	2.1	**2.2**	50
Iraq	53	45	34	2.0	1.7	**2.2**	56
Sierra Leone	257	234	182	1.6	0.9	**2.1**	27
Comoros	124	99	78	2.1	2.2	**2.0**	40
Togo	143	122	96	1.8	1.6	**2.0**	35
Central African Republic	171	164	129	1.3	0.4	**2.0**	32
Papua New Guinea	89	79	63	1.6	1.3	**1.9**	39
Chad	209	189	150	1.5	1.0	**1.9**	27
Angola	213	203	164	1.2	0.5	**1.8**	28
Congo	100	118	96	0.2	–1.7	**1.7**	34
Democratic Republic of the Congo	171	171	146	0.7	0.0	**1.3**	30
Somalia	177	171	147	0.8	0.4	**1.2**	31
Lesotho	85	114	100	–0.7	–3.0	**1.1**	46
Zimbabwe	74	102	90	– 0.9	–3.2	**1.1**	44
Solomon Islands	39	35	31	1.0	1.0	**0.9**	44

Source: UN Inter-agency Group for Child Mortality Estimation 2013.

as haemorrhage, pre-eclampsia or eclampsia, and infection.[11] Unsafe abortion also exacts a high toll of avoidable maternal deaths in the *Countdown* countries (box 1). Most maternal deaths can be averted by implementing programmes and policies that support women's access to affordable and high-quality family planning, antenatal, delivery and postnatal care. Progress and gaps in intervention coverage across the *Countdown* countries are reviewed in the next section.

TABLE 2

Trends in maternal mortality in the 75 Countdown countries, by average annual rate of reduction, 2000–2013

	Maternal mortality ratio					
	Deaths per 100,000 live births			Average annual rate of reduction (%)		
Country	1990	2000	2013	1990–2013	1990–2000	2000–2013
Rwanda	1,400	1,000	320	6.1	2.8	**8.6**
Cambodia	1,200	540	170	8.1	7.7	**8.4**
Lao People's Democratic Republic	1,100	600	220	6.8	6.1	**7.4**
Equatorial Guinea	1,600	790	290	7.0	6.6	**7.4**
Afghanistan	1,200	1,100	400	4.7	1.4	**7.2**
Ethiopia	1,400	990	420	5.0	3.1	**6.4**
Angola	1,400	1,100	460	4.9	2.9	**6.4**
Nepal	790	430	190	6.0	5.8	**6.1**
Azerbaijan	60	57	26	3.6	0.4	**6.0**
Botswana	360	390	170	3.1	–0.7	**6.0**
Zambia	580	610	280	3.1	–0.5	**5.7**
Bangladesh	550	340	170	5.0	4.6	**5.4**
Sierra Leone	2,300	2,200	1,100	3.3	0.7	**5.3**
Tajikistan	68	89	44	1.9	–2.6	**5.3**
China	97	63	32	4.7	4.2	**5.1**
United Republic of Tanzania	910	770	410	3.5	1.7	**4.8**
India	560	370	190	4.5	4.1	**4.7**
Mozambique	1,300	870	480	4.3	4.1	**4.5**
Myanmar	580	360	200	4.5	4.7	**4.3**
Uganda	780	650	360	3.2	1.9	**4.3**
Eritrea	1,700	670	380	6.2	8.7	**4.2**
Peru	250	160	89	4.4	4.6	**4.2**
Liberia	1,200	1,100	640	2.8	1.2	**4.0**
South Sudan	1,800	1,200	730	3.8	3.6	**4.0**
Nigeria	1,200	950	560	3.1	2.0	**4.0**
Viet Nam	140	82	49	4.4	4.9	**3.9**
Swaziland	550	520	310	2.5	0.6	**3.9**
Morocco	310	200	120	4.1	4.3	**3.9**
Egypt	120	75	45	4.1	4.4	**3.8**
Indonesia	430	310	190	3.5	3.2	**3.8**
Pakistan	400	280	170	3.6	3.3	**3.7**
Bolivia (Plurinational State of)	510	330	200	4.0	4.5	**3.6**
Solomon Islands	320	210	130	3.8	4.1	**3.6**
Djibouti	400	360	230	2.4	1.2	**3.4**
Mali	1,100	860	550	3.1	2.7	**3.4**
Papua New Guinea	470	340	220	3.3	3.2	**3.4**
Chad	1,700	1,500	980	2.3	1.0	**3.2**
Sudan	720	540	360	3.0	2.8	**3.1**
Guinea-Bissau	930	840	560	2.2	1.0	**3.1**
Mauritania	630	480	320	2.9	2.6	**3.1**
Senegal	530	480	320	2.2	1.1	**3.0**
Democratic Republic of the Congo	1,000	1,100	730	1.5	–0.5	**3.0**
Ghana	760	570	380	2.9	2.8	**3.0**
Congo	670	610	410	2.1	1.0	**3.0**
Guinea	1,100	950	650	2.2	1.2	**2.9**
Burkina Faso	770	580	400	2.9	2.8	**2.9**
Malawi	1,100	750	510	3.2	3.7	**2.8**
Zimbabwe	520	680	470	0.4	–2.7	**2.8**
Benin	600	490	340	2.4	2.0	**2.7**

(continued)

TABLE 2 (CONTINUED)

Trends in maternal mortality in the 75 Countdown countries, by average annual rate of reduction, 2000–2013

	Maternal mortality ratio					
	Deaths per 100,000 live births			Average annual rate of reduction (%)		
Country	1990	2000	2013	1990–2013	1990–2000	2000–2013
Kenya	490	570	400	0.8	–1.6	**2.7**
São Tomé and Príncipe	410	300	210	2.8	3.1	**2.6**
Democratic People's Republic of Korea	85	120	87	–0.1	–3.8	**2.6**
Somalia	1,300	1,200	850	1.8	0.8	**2.5**
Lesotho	720	680	490	1.7	0.6	**2.5**
Comoros	630	480	350	2.6	2.6	**2.5**
Mexico	88	67	49	2.5	2.7	**2.4**
Gabon	380	330	240	2.0	1.4	**2.4**
Burundi	1,300	1,000	740	2.3	2.1	**2.4**
Yemen	460	370	270	2.3	2.2	**2.3**
Niger	1,000	850	630	2.0	1.6	**2.3**
Kyrgyzstan	85	100	75	0.5	–1.8	**2.2**
Uzbekistan	66	48	36	2.6	3.0	**2.2**
Central African Republic	1,200	1,200	880	1.3	0.2	**2.2**
Haiti	670	510	380	2.4	2.6	**2.2**
Gambia	710	580	430	2.1	2.1	**2.2**
Turkmenistan	66	81	61	0.3	–2.1	**2.1**
Togo	660	580	450	1.6	1.2	**1.9**
Cameroon	720	740	590	0.9	–0.4	**1.8**
Madagascar	740	550	440	2.3	3.0	**1.7**
Brazil	120	85	69	2.4	3.3	**1.7**
Guatemala	270	160	140	2.8	4.8	**1.3**
South Africa	150	150	140	0.4	–0.2	**0.9**
Iraq	110	71	67	2.0	4.1	**0.4**
Philippines	110	120	120	–0.6	–1.2	**–0.2**
Côte d'Ivoire	740	670	720	0.1	1.0	**–0.5**

Source: Maternal Mortality Estimation Inter-agency Group (World Health Organization, United Nations Children's Fund, United Nations Population Fund, United Nations Population Division and World Bank) 2014.

BOX 1

Preventing unsafe abortion

About 22 million unsafe abortions occur each year, resulting in thousands of preventable maternal deaths and numerous women left with permanent disabilities.[1] Three-quarters of these unsafe abortions, the vast majority of which occur in developing countries, could be averted through improved access to family planning services. Provision of safe abortion services (to the extent allowed by law) and post-abortion care in countries where safe abortion is legally restricted are also important measures for reducing unnecessary deaths and other complications. Of the 74 Countdown countries with data for 2013, 30 have legislation permitting abortion only to save a woman's life, 4 have legislation permitting abortion to preserve physical health, 26 have legislation permitting abortion to preserve mental or physical health, 2 have legislation permitting abortion for economic or social reasons as well as to preserve a woman's health and survival and 12 have legislation permitting abortion on request. Four countries also have legislation allowing abortion in cases of rape or incest, 3 in cases of foetal impairment and 25 in cases of rape, incest or foetal impairment.

Notes

1. WHO 2011.

Source: Countdown estimates based United Nations Population Division database (http://esa.un.org/poppolicy/about_database.aspx, accessed January 2014).

Nutrition: a building block for progress

Millennium Development Goal Target 1.C includes a focus on child undernutrition as an indicator for monitoring progress in eradicating poverty. The importance of ensuring good nutrition from adolescence through pregnancy and early childhood is being increasingly recognized as a priority for sustainable development.[12] Poor nutrition status harms a woman's own health and is a risk factor for intrauterine growth restriction and other poor obstetrical outcomes.[13] Nearly half of all deaths among children under age 5—or about 3 million deaths a year—are attributable to undernutrition.[14]

Wasting (low weight for height) affects at least 52 million children globally.[15] It indicates acute food shortage or disease, and it sharply increases a young child's risk of death. The median prevalence of wasting in the 61 *Countdown* countries with available data is 7%, with a low of 1% in Peru and a high of 23% in South Sudan. Childhood wasting prevalence exceeds 5%—the threshold set by the World Health Assembly in 2013 for countries to achieve by 2025[16]—in 41 of these countries.

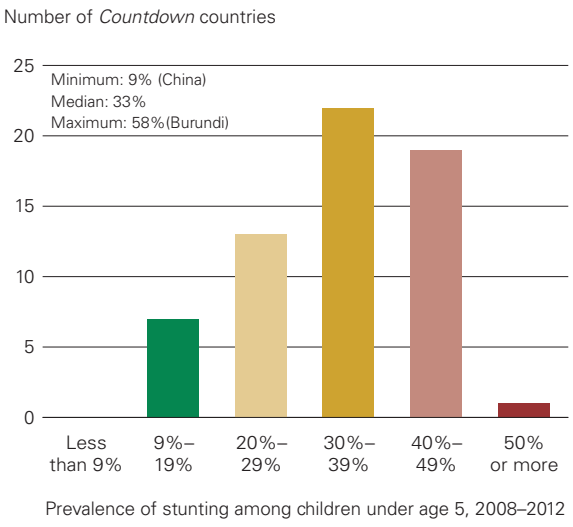
Stunting (inadequate length and height for age) is the most sensitive indicator of the quality of a child's life. Stunting reflects insufficient or low quality diets, poor child care or infection.[17] In 42 of the 62 *Countdown* countries with available data, 30% or more of children are stunted (figure 1).

Stunting is highly concentrated among the poor. On average across the *Countdown* countries, stunting prevalence is 2.5 times higher among the poorest wealth quintile than among the richest (figure 2). Stunting also tends to be more common in rural areas, in disadvantaged population groups and among boys.[18]

Addressing high prevalence of wasting and stunting requires a comprehensive approach

FIGURE 1

In 42 of the 62 Countdown countries with available data, 30% or more of children are stunted

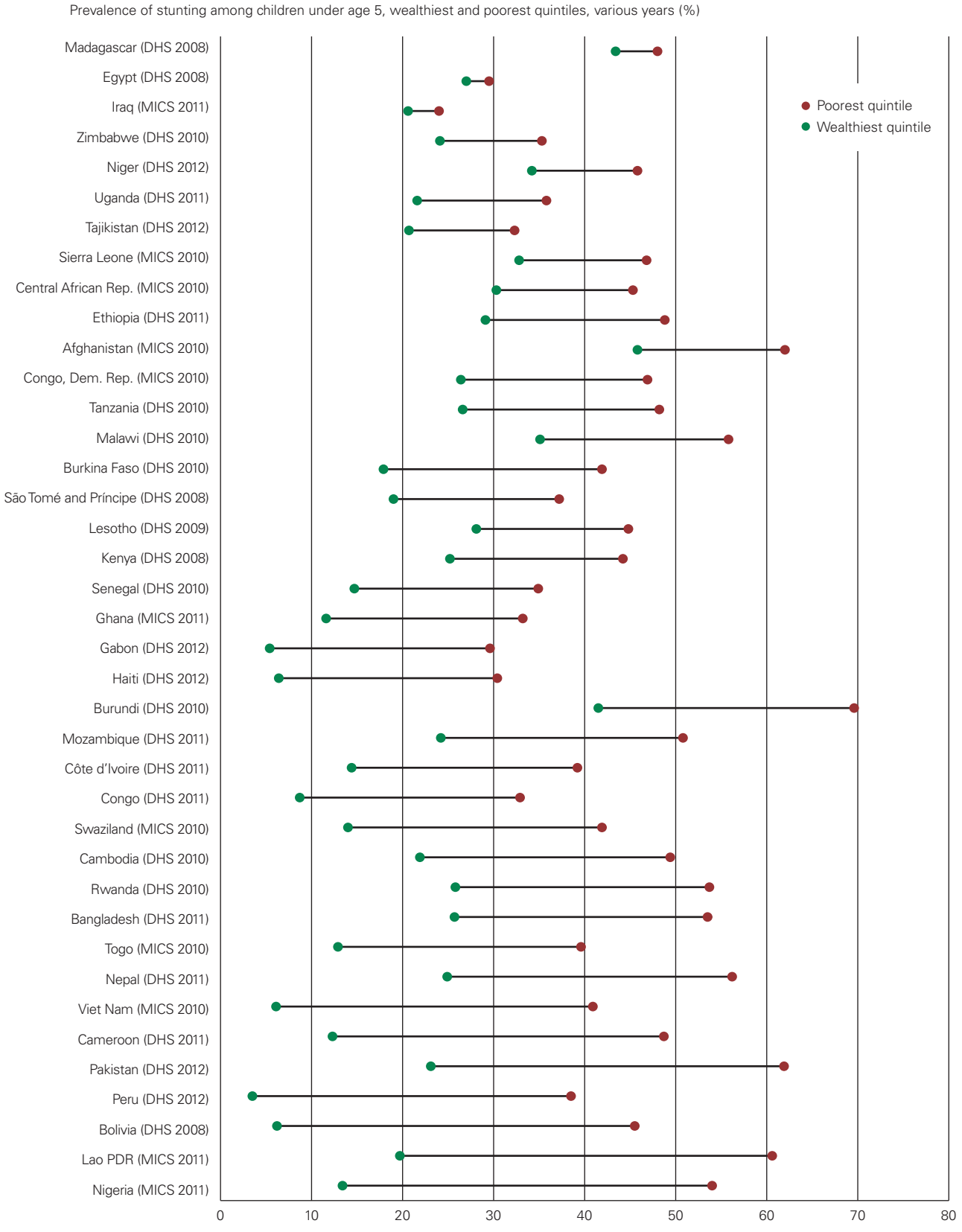


Source: United Nations Children's Fund global databases, April 2014, based on Demographic and Health Surveys, Multiple Indicator Cluster Surveys and other national surveys.

that includes nutrition-specific interventions for women and children, multisectoral efforts to combat food insecurity and improve women's low social status, and increased access to safe water and sanitation facilities.[19] Efforts to improve maternal and child nutrition, especially among those who are not now being reached, must be massively intensified to achieve the global target of reducing stunting prevalence 40% by 2025, set by the World Health Assembly in 2013.[20] Recognition of the crucial role nutrition plays in child health and development, long-term health outcomes, human capital development and economic productivity has seen a welcome expansion in recent years (box 2).

FIGURE 2

On average across the Countdown countries, stunting prevalence is 2.5 times higher among the poorest wealth quintile than among the richest



Source: Demographic and Health Surveys and Multiple Indicator Cluster Surveys.

BOX 2

The first 1,000 days: How interventions in early life can improve adult health and human capital

Good nutrition during the "first 1,000 days"—from the beginning of pregnancy to a child's second birthday—is essential for ensuring a healthy start in life and avoiding early morbidity and mortality.[1] It has also been long recognized that insults and illnesses in early life can cause chronic conditions that last into adulthood. Examples include cerebral palsy as a result of birth hypoxia, paralysis as a consequence of polio, deformities from congenital syphilis and chronic obstructive pulmonary diseases caused by frequent lower respiratory infections in childhood. Recent evidence reveals that the long-term consequences of poor health and undernutrition in early life go well beyond the specific effects of particular conditions.

The first 1,000 days play an important role in the development of several noncommunicable diseases among adults, including diabetes, obesity, hypertension and other cardiovascular diagnoses.[2] They also represent a critical window for the acquisition of human capital, which includes adult height and lean body mass, performance on intelligence tests and school achievement, economic productivity and reproductive performance.[3] Children who are undernourished are more likely to experience poor cognitive development and lower academic achievement. When combined with the shorter stature of adults who were malnourished in early life, poor cognitive development reduces earning potential after entry into the workforce. Girls who are undernourished are also at elevated risk of later entering pregnancy with short stature and low body mass index, increasing the likelihood they will deliver a low-birthweight baby, perpetuating an insidious cycle that entrenches families in poverty.[4] Suboptimal breastfeeding practices are a major contributor to the risk of infectious diseases and may influence adult health, nutrition status and intelligence.[5]

With the emerging evidence of the importance of preconception care and adolescent nutrition for reproductive health and outcomes, other windows of opportunity for intervention along the life course have become evident,[6] but the importance of the first 1,000 days remains unparalleled.

Countdown monitors intervention coverage during pregnancy, the perinatal period and the first years of the child's life (see figure 3 in the main report). Access to these interventions is important not only for short-term survival, but also for reducing morbidity and ensuring optimal nutrition. The recognition of this crucial 1,000-day window of opportunity connects the short-term benefits of these interventions with their long-term effects on health and human capital, thus linking the child survival agenda with the broader agenda of economic and social development.

Notes

1. Black and others 2013; UNICEF 2013a.
2. UNICEF 2013a.
3. Victora 2008.
4. Victora 2008.
5. Horta and Victora 2013.
6. Bhutta and others 2013a.

Coverage along the continuum of care

This section presents levels and trends in the *Countdown* coverage indicators, including measures of equity in coverage. Coverage refers to the proportion of a population in need of an intervention that actually receives it. Intervention coverage is closely related to maternal, newborn and child survival and nutrition. Increases in coverage suggest that countries are successfully implementing effective reproductive, maternal, newborn and child health policies and programmes; failure to increase coverage is a cause for urgent concern.

Countries with high coverage of a basket of key interventions, as measured by the Composite Coverage Index,[21] tend to have lower child mortality, and countries with low coverage tend to have higher child mortality (figure 3). There is a strong correlation between the Composite Coverage Index and child mortality that remains strong even after adjusting for country GDP. The correlation supports *Countdown's* focus on tracking intervention coverage as central to accountability and counters suggestions that money can save lives directly.[22] Financial well-being and maternal education are both of great importance to child health, but their impact is achieved primarily through more proximate interventions that address the causes of ill health and death.

Figure 4 shows median national coverage for 21 interventions, using the most recent available data since 2008. It provides a snapshot of how well the *Countdown* countries are doing in reaching women and children with a core set of effective interventions that should be available to all (table 3 shows the number of countries with available data, medians and ranges for each indicator). A grey dot indicates the national coverage for each reporting country; there is a wide range of variability across countries. Updated results for the remaining *Countdown* coverage indicators (Caesarean section, prevention of mother-to-child transmission of HIV and eligible HIV-positive pregnant women receiving antiretroviral treatment for their own health) are available at www.countdown2015mnch.org.

These interventions are presented along the continuum of care from pre-pregnancy to early childhood, and include improved drinking water sources and sanitation facilities as cross-cutting interventions relevant to women's and children's health. Only *Countdown* countries with a considerable proportion of the population at risk of *Plasmodium falciparum* (the most lethal form of malaria) transmission are included in the analysis of coverage for the malaria indicators.

These results clearly show the critical gaps that remain for care around the time of birth, when the risk of mortality is highest for mother and newborn, and for case management of childhood illnesses. By contrast, median coverage is at least 75% for antenatal care (at least one visit), vitamin A supplementation (two doses), immunization and improved drinking water sources. Yet, even for these high-performing interventions, some countries report coverage well below 50%. At the same time, for every intervention except intermittent preventive treatment of malaria for pregnant women (possibly due to this intervention's relative newness or to changes in protocol and definition), there is at least one country with coverage that exceeds 75%.

The results also show that the enormous life-saving potential of appropriate infant and young child feeding is not being realized. Only a median of about 50% of mothers in *Countdown* countries reported early initiation of breastfeeding for their most recent child, and only 41% reported exclusive breastfeeding. Improvements in the coverage of exclusive breastfeeding remains one of the biggest missed opportunities to reduce child mortality.

These cross-sectional results should be interpreted in light of changes in coverage over time. For countries with representative survey data from both 2000–2007 and 2008–2012, table 4 shows the percentage point change in coverage from the first to the second time period for each intervention and the proportion of the gap between the first

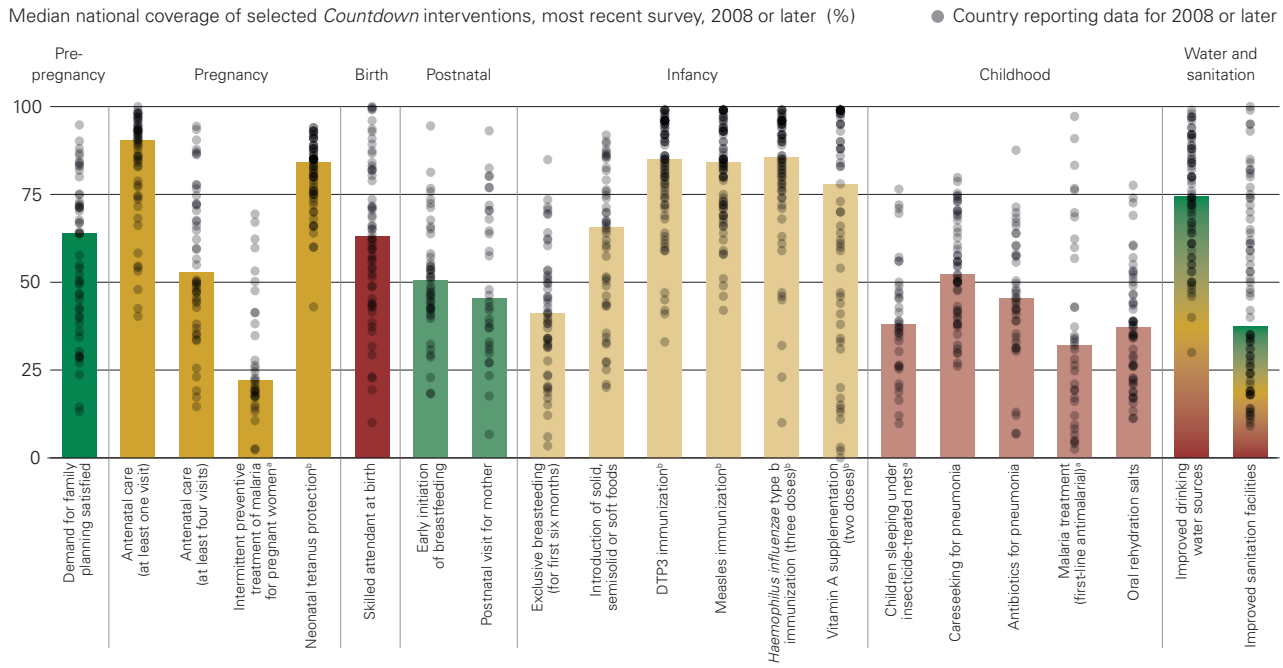
FIGURE 3

Countries with high coverage of key interventions tend to have lower child mortality

Source: Demographic and Health Surveys; UN Inter-agency Group for Child Mortality Estimation 2013.

FIGURE 4

Coverage of interventions varies across the continuum of care



a. Analysis is based on countries with 75% or more of the population at risk of *p. falciparum* transmission and 50% or more cases of malaria caused by *p. falciparum*.

b. Data are for 2012.

Source: Immunization rates, WHO and UNICEF; postnatal visit for mother, Saving Newborn Lives analysis of Demographic and Health Surveys; improved water and sanitation, WHO and UNICEF Joint Monitoring Programme; all other indicators, UNICEF global databases, April 2014, based on Demographic and Health Surveys, Multiple Indicator Cluster Surveys and other national surveys.

TABLE 3

National coverage of *Countdown* interventions, most recent survey, 2008 or later

Indicator	Number of countries with data	Median coverage (%)	Range (%)
Pre-pregnancy			
Demand for family planning satisfied	53	64	13–95
Pregnancy			
Antenatal care (at least one visit)	58	90	40–100
Antenatal care (at least four visits)	48	53	15–94
Intermittent preventive treatment of malaria for pregnant women[a]	34	22	2–69
Neonatal tetanus protection	67	84	43–94
Birth			
Skilled attendant at birth	60	63	10–100
Postnatal			
Early initiation of breastfeeding	47	50	18–95
Postnatal visit for mother	32	45	7–93
Postnatal visit for baby	17	30	5–83
Infancy			
Exclusive breastfeeding	51	41	3–85
Introduction of solid, semisolid or soft foods	47	66	20–92
Diphtheria-tetanus-pertussis (three doses)	75	85	33–99
Measles immunization	75	84	42–99
Haemophilus influenzae type b immunization (three doses)	66	86	10–99
Vitamin A supplementation (two doses)	55	78	0–99
Childhood			
Children sleeping under insecticide-treated nets[a]	36	38	10–77
Careseeking for symptoms of pneumonia	53	52	26–80
Antibiotic treatment for symptoms of pneumonia	40	46	7–88
Malaria treatment (first-line antimalarial)[a]	35	32	3–97
Oral rehydration therapy with continued feeding[b]	45	47	12–76
Oral rehydration salts	55	37	11–78
Water and sanitation			
Improved drinking water sources (total)	72	75	30–99
Improved sanitation facilities (total)	72	38	9–100

a. Analysis is based on countries with 75% or more of the population at risk of *p. falciparum* transmission and 50% or more cases of malaria caused by *p. falciparum*.

b. Indicator is not included in figure 4.

Note: Bolded indicators are those recommended by the Commission on Information and Accountability for Women's and Children's Health.

Source: United Nations Children's Fund global databases, April 2014, based on Demographic and Health Surveys, Multiple Indicator Cluster Surveys and other national surveys.

measurement and 100% coverage that was closed by the time of the second measurement. The proportion of the gap closed metric is useful because it takes into account that coverage may have already been high during the first time period for some indicators (such as immunization and at least one antenatal care visit); looking only at percentage point change would mask any relative progress achieved by the second measurement.

The data in table 4 reveal three primary coverage patterns:

- For some interventions with high and sustained coverage at or over 80%, progress has continued in closing the remaining gap to universal coverage. These interventions include antenatal care (at least one visit) and the three indicators of vaccination coverage.

- For a second group of interventions, measurable progress has been made in absolute terms, but coverage remains low, and a large gap remains between current coverage and 100% coverage. These interventions include intermittent preventive treatment of malaria for pregnant women, children sleeping under insecticide-treated nets and treatment with recommended antimalarials—each of which showed absolute increases of around 20 percentage points

TABLE 4

Changes in national coverage of *Countdown* interventions from 2000–2007 to 2008–2012, by proportion of the coverage gap closed between the two periods

Indicator	Number of countries with data	Median coverage (%)		Change (percentage points)	Proportion of gap closed (%)
		2000–07	2008–12		
Haemophilus influenzae type b immunization (three doses)	24	86	91	5	36
Malaria treatment (first-line antimalarial)[a]	19	5	37[b]	32	34
Antenatal care (at least one visit)	58	85	90	5	33
Children sleeping under insecticide-treated nets[a]	33	10	38	28	31
Antibiotic treatment for symptoms of pneumonia	21	26	47	21	28
Improved drinking water sources	71	66	75	9	26
Measles immunization	74	79	84	5	24
Skilled attendant at birth	60	54	63	9	20
Intermittent preventive treatment of malaria for pregnant women[a]	23	7	25[c]	18	19
Demand for family planning satisfied	39	56	64[d]	8	18
Diphtheria-tetanus-pertussis immunization (three doses)	74	82	85	3	17
Exclusive breastfeeding	47	34	41	7	11
Careseeking for symptoms of pneumonia	50	48	52	4	8
Oral rehydration salts treatment	52	29	35	6	8
Oral rehydration therapy with continued feeding	40	42	46	4	7
Improved sanitation facilities	71	36	40	4	6

a. Analysis is based on countries with 75% or more of the population at risk of *p. falciparum* transmission and 50% or more cases of malaria caused by *p. falciparum.*

b. Includes 2013 Demographic and Health Survey data for Gambia and Liberia.

c. Includes 2013 Demographic and Health Survey data for Gambia, Mali and Senegal.

d. Includes 2013 Demographic and Health Survey data for Pakistan and 2013 Performance Monitoring and Accountability Family Planning Survey data for Ghana.

Note: Table includes only indicators for which trend data are available in the data sets shared by the United Nations Children's Fund to date.

Source: UNICEF global databases, April 2014, based on Demographic and Health Surveys, Multiple Indicator Cluster Surveys and other national surveys.

between the two time periods. These examples show what can be accomplished with focused advocacy, sufficient resources and sustained effort.[23]

- The third group contains interventions for which coverage is inadequate and has not increased significantly since 2000. These interventions include demand for family planning satisfied, the presence of a skilled attendant at birth, exclusive breastfeeding among children under six months of age, use of improved sanitation facilities and appropriate careseeking and treatment for diarrhoea and pneumonia, the two most important infectious causes of death among children under age 5.

We—the global reproductive, maternal, newborn and child health community—are accountable for the gap between the current, insufficient coverage and the universal coverage that we can and must achieve. Box 3 illustrates this challenge by comparing progress for one intervention from the rapid acceleration group (children sleeping under insecticide-treated nets) with one from the stagnant group (oral rehydration salts treatment). It shows that although coverage for insecticide-treated nets increased rapidly in *Countdown* countries from about 2006 to about 2011, coverage for the correct treatment of diarrhoea with oral rehydration salts has stagnated and even declined in some countries.

Countdown has done similar analyses, and drawn similar conclusions, from a comparison of prevention of mother-to-child transmission of HIV (rapid acceleration) and careseeking for symptoms of pneumonia (stagnation). Both HIV and malaria are specifically named in Millennium Development Goal 6 and thus attracted resources for scaling up interventions, whereas diarrhoea and pneumonia interventions are lagging behind, perhaps because they have failed to attract sufficient attention from donors, even though they claim many more child lives than HIV or malaria do. Ensuring that all essential interventions benefit from focused advocacy and adequate financing is our responsibility, and discrepancies in attention and coverage must be redressed.

BOX 3

With adequate focus and financing, coverage can and should accelerate quickly for many proven interventions

The figure below compares the annual percentage point change in coverage of insecticide-treated nets for the prevention of malaria with coverage of oral rehydration salt solution for the prevention of diarrhoea-related dehydration for *Countdown* countries with two data points since 2000. These two interventions, both targeted at leading killers of children, show divergent coverage trajectories, with considerable gains for insecticide-treated nets and small gains and even some reversals with oral rehydration salts solution.

Recent gains in insecticide-treated net coverage in many malaria-endemic countries were achieved through a combination of political commitment, public-private partnerships, strong advocacy and considerable financial investment to support the integration of net delivery with maternal and child health programmes such as immunization.[1]

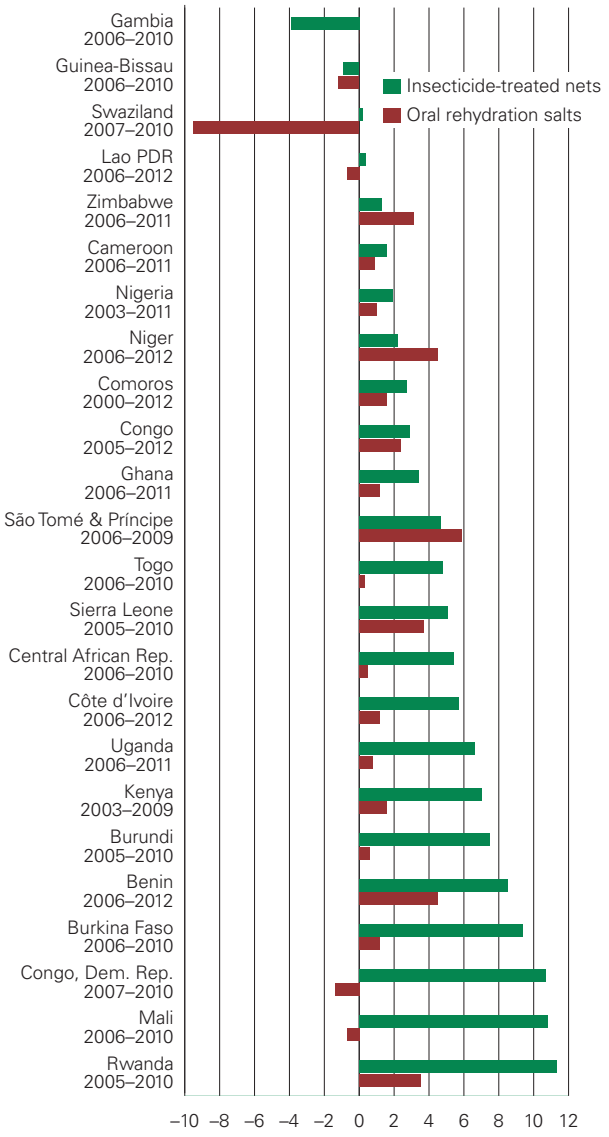
Lessons from the insecticide-treated nets success story should be applied to efforts to scale up oral rehydration salts and other preventive and treatment measures to combat childhood diarrhoea, as well as other leading killers of women and children. One step in this direction was the launch of the Global Action Plan for Pneumonia and Diarrhoea in 2013, which set targets to end preventable child deaths from the two diseases by 2025.[2] The plan calls for coordinating and integrating efforts to address the underlying environmental determinants of pneumonia and diarrhoea and to increase access to treatment.[3]

Notes

1. Walker and others 2013.
2. WHO and UNICEF 2013.
3. Bhutta and others 2013b.

Rapid gains for insecticide-treated nets—why can't we do the same for other interventions?

Average annual percentage point change in coverage over the specified period



Source: United Nations Children's Fund global databases, April 2014, based on Demographic and Health Surveys, Multiple Indicator Cluster Surveys and other national surveys.

Assessing country efforts to increase access to services and coverage of interventions requires understanding context. Simple statistics showing the proportion of a population that received an intervention do not always tell the full story.

Box 4 explores how population dynamics can affect progress in intervention coverage, and box 5 describes the destructive impact of conflict. Other key contextual variables that influence coverage patterns and health outcomes include

BOX 4

Demographic change affects coverage change

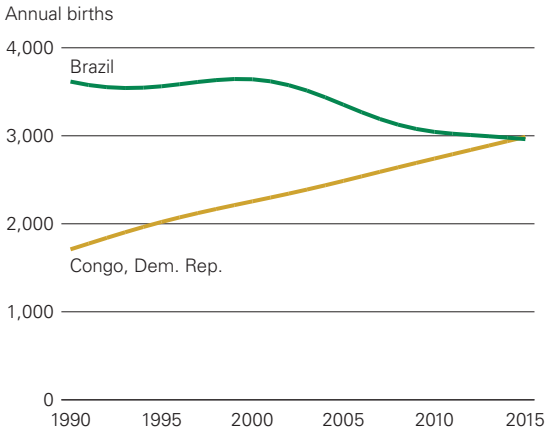
Expressed as proportions, coverage estimates can sometimes mask information on the number of people receiving care and thus must be interpreted in the context of population changes. A rising number of births translates into a parallel rise in the need for reproductive, maternal, newborn and child health services. In contrast, a falling number of births reduces service demand and makes it easier for countries to ensure health coverage for all. Projections show that in the absence of major changes, the highest levels of fertility will persist over the next generation in *Countdown* countries with the lowest per capita incomes and weakest health care infrastructures.[2]

Between 1990–1995 and 2005–2010 the absolute number of annual births increased around 36% in Sub-Saharan Africa but around 6% in South America. Brazil and the Democratic Republic of Congo are two *Countdown* countries from these regions that show how population change affects a country's ability to improve health coverage.

In Brazil the absolute number of births increased slightly from 3.62 million in 1990 to 3.64 million in 2000 and then dropped steadily to 3.04 million in 2010 and is expected to further decrease to 2.96 million by 2015 (see figure). The proportion of births attended by skilled health personnel increased over a similar time period, from approximately 70% in 1991 to 97% in 2006, and is now near 100%. The decline in the number of births means that need for skilled birth attendants is less now than a decade ago, reducing the pressure on the health system to train, deploy and retain this cadre of health care workers and enabling a greater focus on improving the quality of care.

In contrast, the Democratic Republic of Congo has seen steady increases in the number of births, from approximately 1.71 million in 1990 to 2.26 million in 2000 to 2.74 million in 2010—an increase of more than a million births a year over two decades. Meanwhile, the proportion of births attended by a skilled provider increased from 61% in 2001 to 80% in 2010. Had the number of births remained at 2001 levels, coverage of skilled birth attendants in 2010 would likely have been much higher.

Since 1990 the number of births has decreased in Brazil but steadily increased in the Democratic Republic of Congo, yielding different pressures on the health system to ensure access to a skilled provider



Source: UNDESA 2013.

Although the absolute number of annual live births is converging in Brazil and the Democratic Republic of Congo, the population trends in the two countries reflect opposite patterns. Brazil is experiencing fertility declines, while the Democratic Republic of Congo has had sustained high fertility rates. These contrary trends have placed differing pressures on the health system. The Democratic Republic of Congo's laudable 20 percentage point increase in coverage was achieved in a context of massive increases in the number of women and children needing care, showing that progress is possible even in the face of population growth. However, the sustainability of coverage gains as the population continues to grow remains an open question. Brazil's almost universal coverage in skilled delivery care is equally impressive, and the country's continued downward fertility trajectory suggests that the number of women of childbearing age will pose less of a programmatic challenge over time for increasing access to reproductive, maternal, newborn and child health services.

Source: UNDESA 2013.

women's social status, education levels and access to health services; natural disasters and other humanitarian crises; economic development; and environmental factors such as pathogen burden (for example, HIV and tuberculosis prevalence, malaria endemicity, other parasite loads).

BOX 5

Conflict presents additional challenges for reproductive, maternal, newborn and child health

Eight of the 10 Countdown countries with the highest under-5 mortality rates are currently affected by conflict (Afghanistan, Chad, Democratic Republic of Congo, Iraq, Somalia, Sudan, Pakistan and Yemen). Although the direct, short-term effects of armed violence usually receive considerable attention, the indirect and long-term impacts are often overlooked.[1] For example, the collapse of health systems and poor access to health care by populations in conflict regions have significant harmful effects that are not directly related to battle injuries and death. Access to populations is challenging during humanitarian crises. Coverage rates of interventions are often unknown, particularly because the denominator of populations in need is difficult to determine or constantly changing. Children in countries affected by conflict are at increased risk of dying from preventable causes such as measles, malaria, diarrhoeal diseases, respiratory tract infections and malnutrition.[2] Disruptions in the health care infrastructure and increased exposure to stress, food shortages and infectious diseases under conflict conditions also increase women's risk of experiencing a maternal death.[3] Adolescent pregnancy and violence against women are also common in conflict situations, with a negative impact on maternal and newborn health outcomes.[4]

The Syrian Arab Republic provides a troubling example of how conflict can turn back the clock on progress for women and children and strain health systems in neighbouring countries. Since the start of the crisis in 2011, nearly 7 million inhabitants have been displaced, almost half of them children.[5] An estimated 2.5 million people, over two-thirds of them women and children, have taken refuge in neighbouring countries, and this number is expected to reach 4.1 million by the end of 2014 (see map). Population health indicators that were improving before the war[6] are now spiralling downward. The health system has deteriorated, even totally collapsing in some areas. More than 35% of hospitals have been destroyed, and many doctors and other skilled providers have been killed, imprisoned or tortured. Access to safe water has decreased by around two-thirds, increasing the risk of exposure to many infectious diseases. For families that leave Syria, living conditions and availability of health care are highly variable and depend on arrangements in each host country. Refugee women who need services for themselves and their children often face major challenges, including high costs, a scarcity of female providers and lack of transport.

The crisis in the Syrian Arab Republic shows how conflict can strain health systems in neighbouring countries

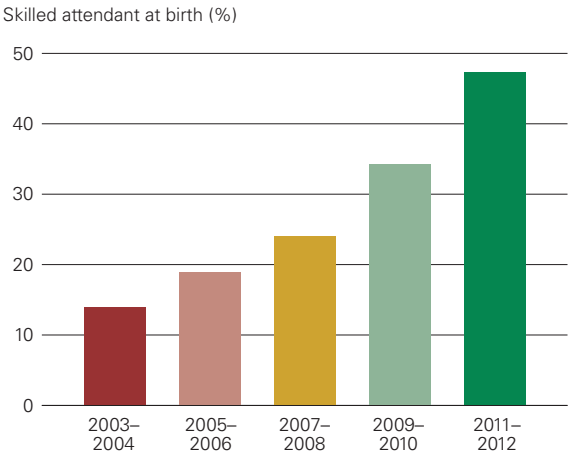
In Afghanistan decades of widespread conflict have ravaged the country. Although it is difficult to estimate with certainty, at least 400,000 people lost their lives due to the conflict. Many medical professionals fled in the 1980s and 1990s, and most medical training programmes ceased to operate. Smouldering and overt conflict, population displacement, the collapse of the health system and landmine injuries contributed to a desperate situation, with the brunt borne by women and children. But Afghanistan has made remarkable progress in women's and children's health since 2001. With increased donor support and national commitments, the country focused on innovations, task-shifting to outreach workers and engagement of civil society organizations for service delivery. The Basic Package of Health Services, introduced in 2003, expanded access to primary health care, and the community midwifery education programme, started in 2002, deployed large numbers of community midwives in target provinces. Coverage of skilled attendant at birth subsequently more than tripled to 47.4% in 2012, up from 14.0% in 2003 (see figure) and immunization coverage has exceeded 75%.

(continued)

BOX 5 (CONTINUED)

Conflict presents additional challenges for reproductive, maternal, newborn and child health

Despite challenges posed by conflict, coverage of skilled attendant at birth in Afghanistan more than tripled over 2003–2012



Source: Multiple Indicator Cluster Survey (2003–2004 and 2009–2010), National Risk and Vulnerability Assessment (2005–2006, 2007–2008) and Afghanistan Health Survey (2005–2006, 2009–2010, 2011–2012).

Experience in both the Syrian Arab Republic and Afghanistan underscores the importance of resilience and targeted strategies in conflict-affected populations. Continued efforts are needed to strengthen the basic health care infrastructure, promote innovation and ensure independent monitoring and accountability. Data collection on health needs and intervention coverage rates must improve, and greater efforts must be made to ensure that internally and externally displaced refugees are included in country statistics. Country governments and the international community must mount—and intensify—a strong and sustained response focused on protective strategies for families, women and children in conflict zones, especially in regions in the grip of chronic conflict across generations.

Notes

1. UNICEF 2013b.
2. CRED 2013.
3. Austin and others 2008.
4. WHO 2012.
5. UN Office for the Coordination of Humanitarian Affairs website (http://syria.unocha.org, accessed 5 February 2014).

Equity: no women and children left behind

Focusing on coverage at the national level can mask large differences in access to services among different population groups within a country. A large part of the unfinished business in reproductive, maternal, newborn and child health is addressing pervasive inequity and ensuring that all women and children receive the services they need, regardless of differences in wealth, gender, ethnic group or geography. This section focuses on two summary metrics of socioeconomic inequity: the Composite Coverage Index and the co-coverage index. Details on how these indices are constructed are available at www.countdown2015mnch.org/reports-and-articles/equity.

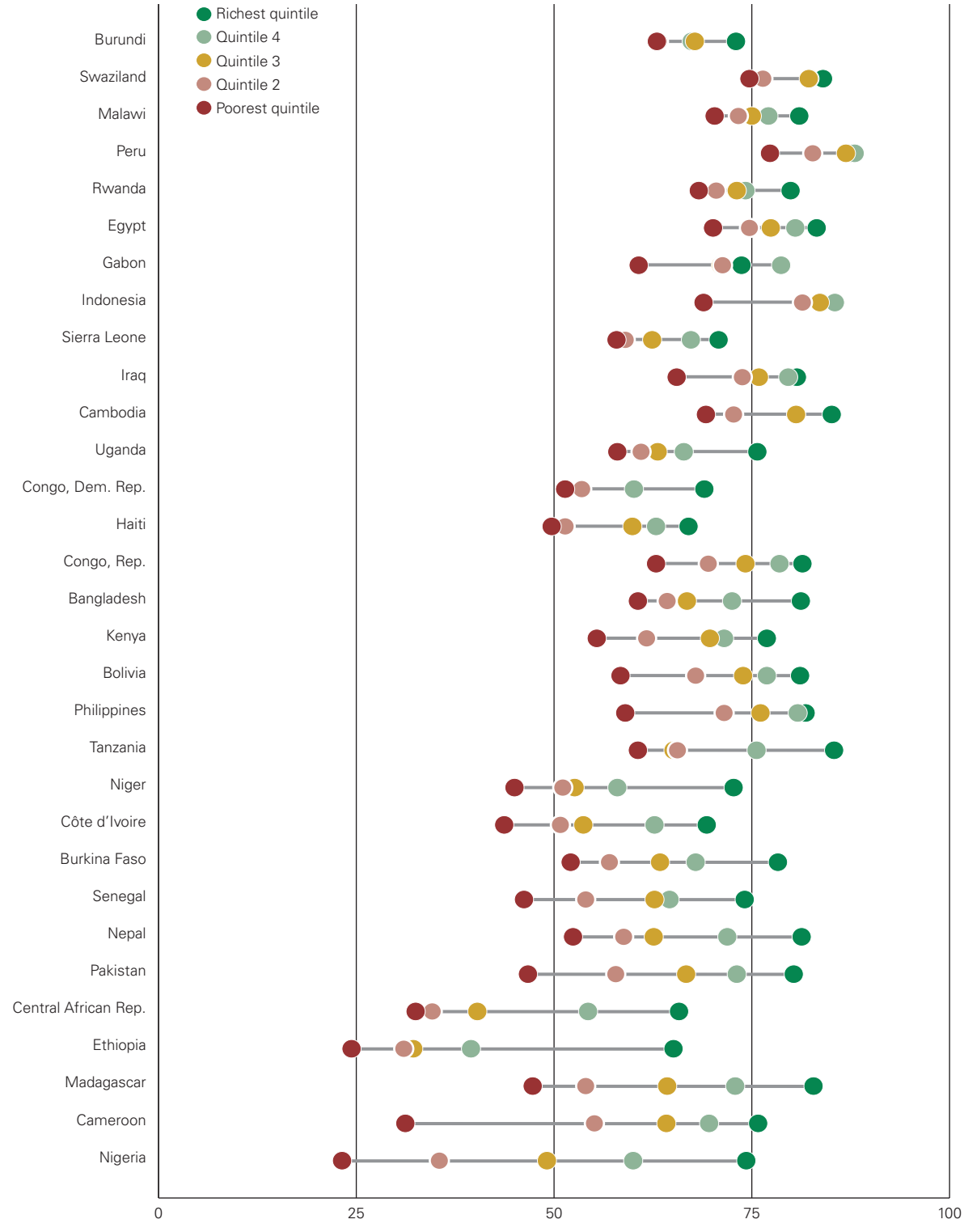
Figure 5 shows the performance of *Countdown* countries with available data in achieving equitable coverage of eight preventive and curative interventions along the continuum of care, using the Composite Coverage Index. The message is clear: In virtually every country the coverage score among the richest—generally above 60%, and often above 80%—far exceeds coverage among the poor. If such high coverage can be achieved among the wealthy, it should be possible to do the same across the whole population. And some countries have been able to do this. In Bolivia, Cambodia and Niger coverage has been increasing faster among the poor than among the rich (figure 6). In Nigeria, in contrast, inequality has remained unchanged over eight years. These examples indicate that rapid progress in reducing coverage inequality is possible in the *Countdown* countries, but that some countries are still lagging behind.

A second set of equity analyses uses the co-coverage index to assess the extent of inequity in the proportions of individual mothers and their children who receive eight well established interventions that have been available in most if not all countries—even the poorest—for at least a decade. Focusing on mothers and children in the poorest 20% of the population, it is striking that in countries such as Somalia, Chad, Yemen, Nigeria, Afghanistan and Ethiopia more than half have received two or fewer of the eight evidence-based interventions (figure 7).

FIGURE 5

In virtually every *Countdown* country with available data, coverage of eight preventive and curative interventions is higher among the richest than among the poor

Composite Coverage Index score for 31 *Countdown* countries with available data, by wealth quintile, 2008–2012

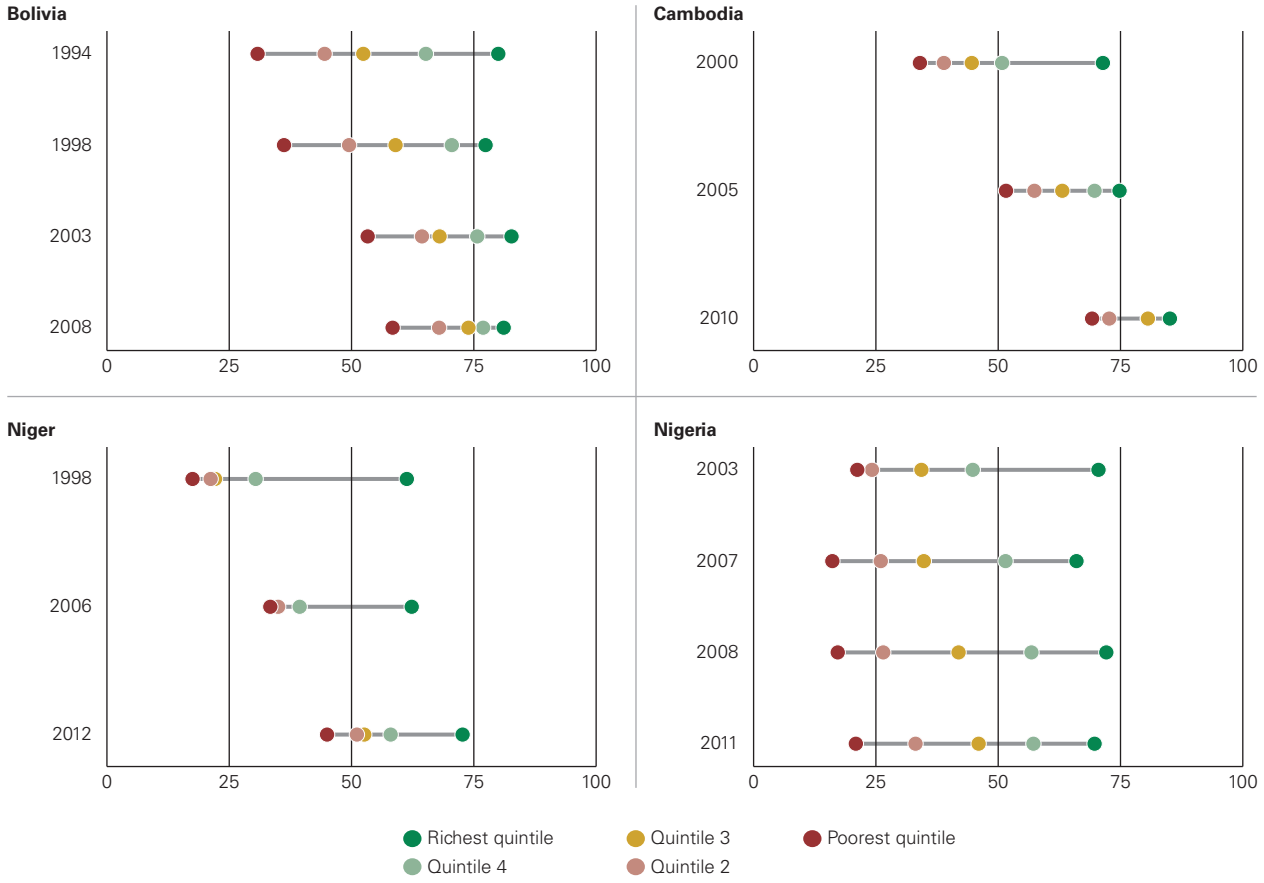


Source: Demographic and Health Surveys and Multiple Indicator Cluster Surveys.

FIGURE 6

Some countries have been able to reduce inequality in coverage between rich and poor

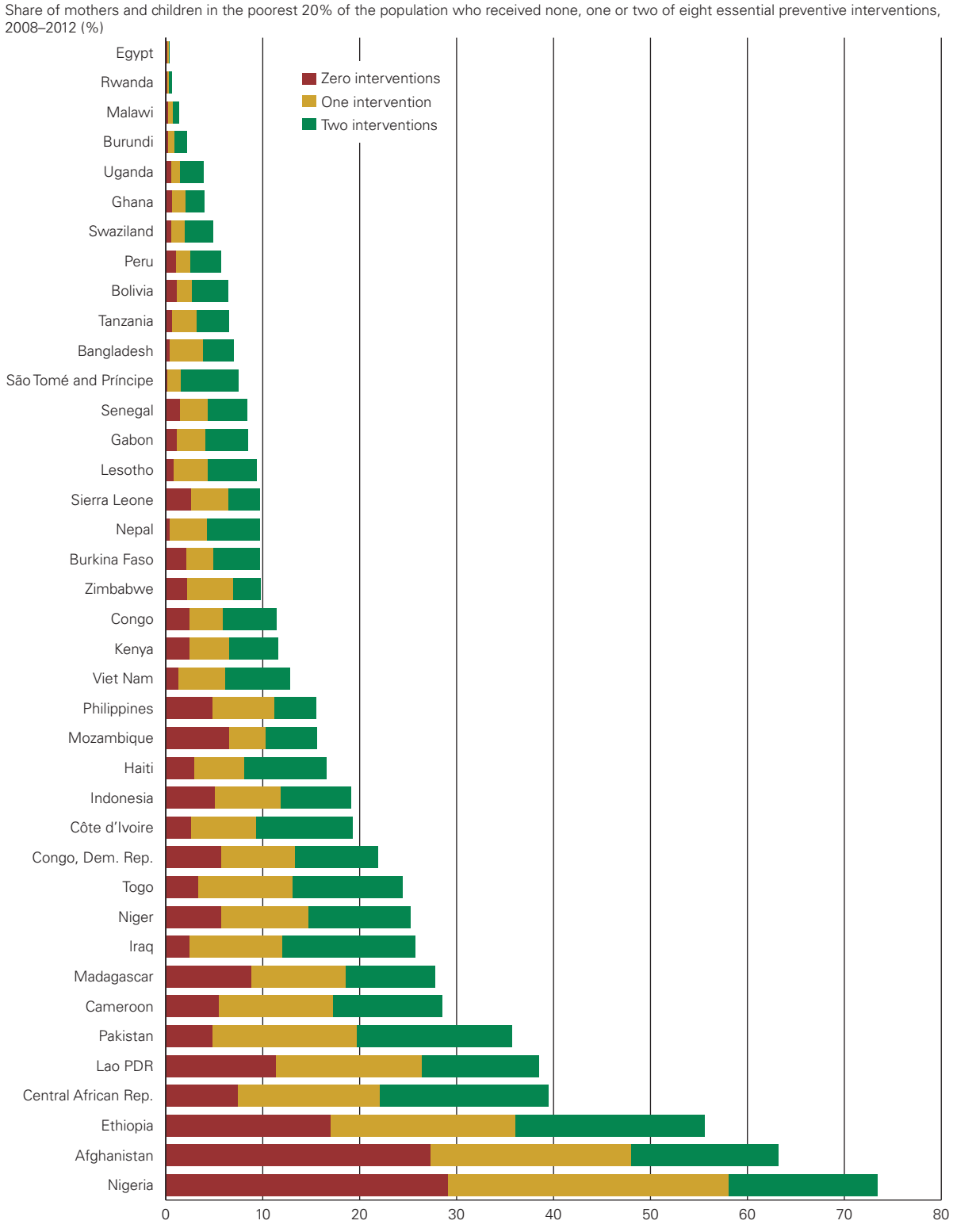
Composite Coverage Index score, by wealth quintile, various years



Source: Demographic and Health Surveys and Multiple Indicator Cluster Surveys.

FIGURE 7

In some countries more than half the mothers and children in the poorest 20% of the population have received two or fewer essential interventions



Note: The length of the bar indicates the percentage of mothers and children who are receiving too few essential interventions. The ideal value is 0, which would indicate that all mothers and children in the poorest 20% of the population are receiving at least three of the eight interventions.

Source: Demographic and Health Surveys and Multiple Indicator Cluster Surveys.

Determinants of coverage and equity—policies, systems and financing

An understanding of intervention coverage is incomplete without attention to legislative frameworks and critical features of health systems, including health financing, human resources, supply chain and referral networks, the quality of service delivery, the acceptability of available services to the population and other factors driving service demand. *Countdown* works closely with those conducting research and programme evaluation in these areas. This section provides updates on country progress in improving determinants of coverage, including service quality (box 6). *Countdown's* conceptual model (shown in annex A) illustrates how these key determinants of coverage can lead to improvements in health and nutrition outcomes.

Supportive policies and a strong health system

A well functioning health system and a set of enabling policies provide a foundation for reaching all women and children with the interventions they need. Box 7 describes country progress in family planning to show how these factors influence coverage change and ultimately fertility and mortality outcomes.

Countdown tracks adoption of 10 tracer policies that ensure access to family planning, provide protection for pregnant women from harmful environmental and labour conditions, authorize midwives to perform life-saving tasks, foster women's ability to breastfeed immediately after birth and up to age 2, boost the delivery of key newborn interventions and stimulate increased uptake of treatment interventions for leading killers of children. *Countdown* also tracks a policy indicator on the legal status of abortion (see box 1). Some policies—such as low-osmolarity oral rehydration salts and zinc for management of diarrhoea, postnatal home visits in the first week of life and specific notification of maternal deaths—have high adoption rates (figure 8). But critical gaps remain, and fewer than half of *Countdown* countries report having policies that allow adolescents access to contraception without parental or spousal consent, maternity protection in accordance with Convention 183 and regulation of the marketing of breastmilk substitutes.

These tracer policies are of relevance to virtually all *Countdown* countries, yet no country has endorsed all 10 tracer indicators, and 22 have adopted five or fewer (figure 9).

Understanding country progress in adopting key policy measures requires assessing changes in the number of countries that have endorsed policies over time. Over 2012–2014 the number of *Countdown* countries that have adopted five of the six key policies for which trend data are available has increased (figure 10). The number of *Countdown* countries that have adopted tracer policies related to maternal death notification and to postnatal home visits in the first week of life, for example, more than doubled between the two reporting years. These positive changes reflect important improvements in government prioritization of women's and children's health in recent years.[24] The stagnation at a very low level in the number of countries that have adopted policies related to maternity protection is an alarm bell that should remind countries to focus more attention on this issue.

However, policy adoption is not sufficient per se in the absence of ample resources and political will for ensuring successful policy and programme implementation. For example, the high adoption of policies on low-osmolarity oral rehydration salts and zinc treatment for diarrhoea (see figure 8) are in sharp contrast to the lack of improvement in oral rehydration salts coverage rates (see box 3).

A major milestone on the pathway to sustainable programme and policy implementation is country development of costed plans for maternal, newborn and child health. Of the 57 *Countdown* countries with available data, 46 have costed plans for maternal health, 42 for newborn health and 36 for child health.

BOX 6

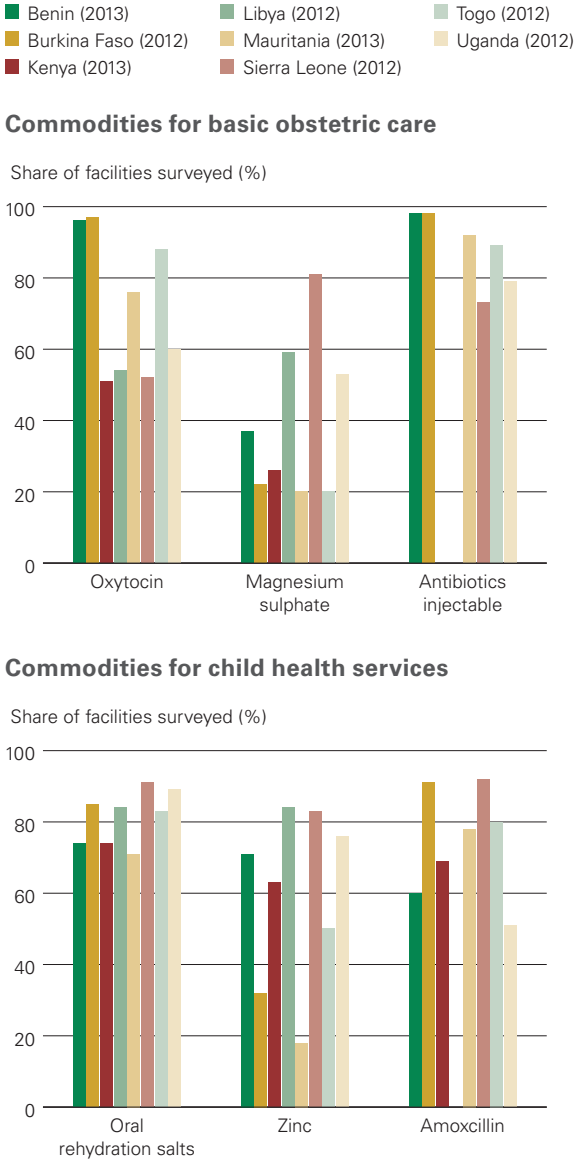
Coverage + Service Quality/Readiness = Impact

Increases in intervention coverage will translate into reduced maternal, newborn and child mortality only if health care providers are able to deliver services at a high level of quality. Measuring and monitoring the quality of care is a complex process that ranges from time-consuming observations of the actual services provided during regular health care contacts to simpler, routine checks on the availability of equipment and supplies needed to deliver the standard of care.

For example, *Countdown* tracks coverage of the presence of a skilled attendant at birth, which is an important measure of how well countries are doing in reaching women with skilled delivery care. But this indicator does not capture information on the specific life-saving services actually provided during and immediately after delivery. Quality assessments of the care around the time of birth conducted in Egypt showed that although 65% of births occurred in facilities, only 8% of babies were born with the assistance of a midwife trained in resuscitation techniques and only 17% were born in facilities with equipment for newborn respiratory support.[1] These findings show the importance of combining estimates of coverage with estimates of service quality (sometimes referred to as "effective coverage") to best monitor health system performance.

An increasing number of *Countdown* countries are conducting assessments of quality and readiness for reproductive, maternal, newborn and child health services. Countries adapt standard tools to their own context, so cross-national interpretations must be made with care. The figures below show selected results collected since 2010 using one of these tools—the World Health Organization Service Availability Readiness Assessments—in eight *Countdown* countries in Sub-Saharan Africa with available data.

Share of facilities surveyed with tracer commodities available on the day of the assessment visit



(continued)

BOX 6 (CONTINUED)

Coverage + Service Quality/Readiness = Impact

Legend

- Benin (2013)
- Burkina Faso (2012)
- Kenya (2013)
- Libya (2012)
- Mauritania (2013)
- Sierra Leone (2012)
- Togo (2012)
- Uganda (2012)

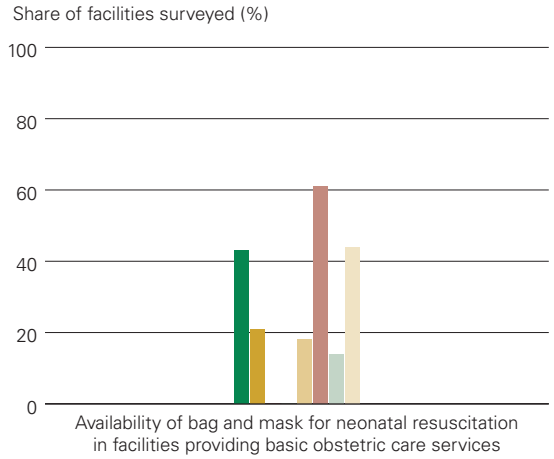
The low availability of many of the commodities in the highlighted countries should be a red flag to decisionmakers. Targeted efforts are needed to strengthen supply chain management systems, so that providers are equipped with the supplies needed to deliver lifesaving reproductive, maternal, newborn and child health services.

Tools enabling the regular collection of rigorous quality of care data need further development. In December 2013 the World Health Organization and the Partnership for Maternal, Newborn and Child Health convened a technical consultation to reach consensus on a core set of tracer indicators to monitor the quality of reproductive, maternal, newborn and child health services at the facility level. The next steps will focus on developing standardized definitions and data collection processes so that these indicators can be used to populate country and subnational scorecards that inform routine programme planning and monitoring.

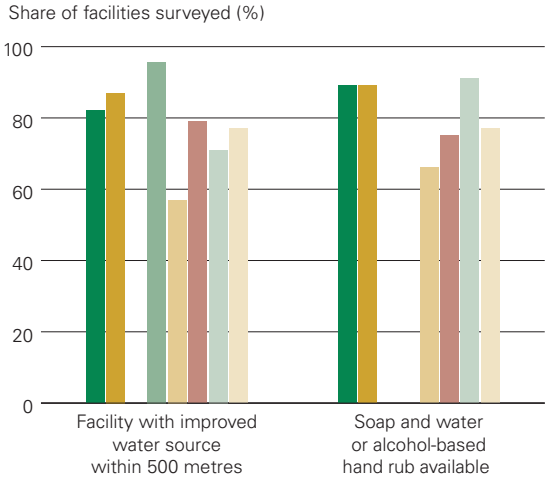
Note

1. Wall and others 2009.

Commodity for neonatal resuscitation



Commodities related to water and sanitation



Source: Service Availability and Readiness Assessment Surveys.

An adequate and well trained health workforce and functioning referral and supply chain mechanisms are essential building blocks of a health system that can effectively and efficiently deliver services to all women and children. Many *Countdown* countries face severe health workforce shortages, including for midwives (box 8). These shortages negatively impact their ability to provide high-quality care. Only 7 of the 56 *Countdown* countries with available data (Botswana, Egypt, Gabon, India, the Philippines, the Solomon Islands and Viet Nam) meet or exceed the threshold of 23 skilled health professionals (doctors, nurses, midwives) per 10,000 population needed to achieve high coverage of essential interventions. The good news is that most Countdown countries with available data are reporting increases in the absolute numbers of doctors, nurses and midwives. However, in some countries these net gains are not enough to keep pace with increased service demands resulting from population growth. Many countries are introducing various strategies to ameliorate their health workforce crises, such as delegating and sharing tasks across various categories of health care professionals and factoring in population dynamics when planning for human resource needs.[25]

BOX 7

Family planning: addressing the unmet need

Family planning is a cost-effective strategy for reducing maternal and newborn mortality by reducing the number of unintended and high-risk pregnancies and averting unsafe abortions (see box 1). Family planning services can also help delay women's age at first pregnancy and lengthen the time interval between pregnancies, both of which improve maternal, newborn and child health and reduce the risk of low birth weight and stillbirth.[1]

Increasing access to and use of family planning services requires sustained political and financial support, accompanied by community-based approaches to improve awareness of and demand for modern contraceptive methods. Legislative frameworks are needed that support the availability of a full range of family planning services, including for adolescents, a rapidly expanding population group in many *Countdown* countries.

The median annual birth rate among adolescent women in *Countdown* countries with available data is 89 births per 1,000 women ages 15–19, with a low of 0.7 in the Democratic People's Republic of Korea and a high of 229 in the Central African Republic. In the 45 *Countdown* countries with data for 2008–2012, the median proportion of women ages 20–24 that had given birth before the age of 18 was 23%, with a low of 3% in Viet Nam and a high of 47% in Chad.

It is important that laws and regulations to reduce adolescent pregnancy and prohibit child marriage are put into place and enforced to expand young women's opportunities and improve their control over their own fertility. But only 15 of the 57 *Countdown* countries with policy data for 2013 have laws or regulations that allow adolescents to access contraception without parental or spousal consent.

Family planning in Bangladesh: Community outreach as a pathway to success!

Bangladesh identified family planning as a health priority more than five decades ago, even before the country's independence from Pakistan. Early programmes in the 1970s–1990s involved recruiting thousands of married women as family welfare assistants to deliver basic family planning services—including oral pills, condoms, counselling and referrals for longer term methods on request—to the doorstep.

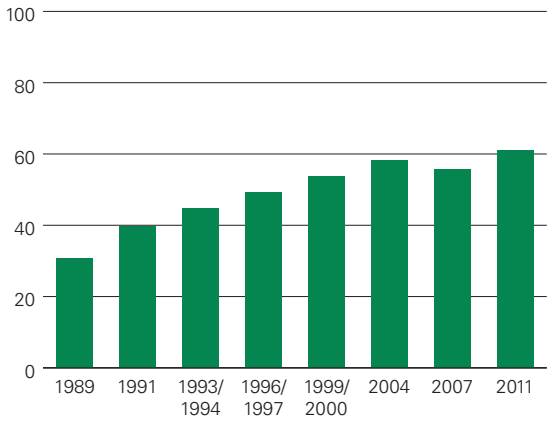
This intense community-based effort contributed to the steady increase in the country's contraceptive prevalence rate, from 8% in the mid-1970s to around 50% by 1999, and to the drop in the total fertility rate, from around 7 children per woman to 3.3 over the same period.

The rising expense of maintaining an extensive family welfare assistants programme due to a tripling in the population of women of childbearing age led to a new approach, adopted at the end of the 1990s, to delivering family planning services through community clinics and the private sector. This helped the country maintain its positive trends in contraceptive prevalence rate and total fertility rate, which continued through 2011 (see figure).

The fertility decline in Bangladesh has also been attributed in part to the expansion of microcredit financing, girls' improved access to education and growing employment opportunities in the textile sector, all of which increased legitimate alternatives to early motherhood.

Delivering family planning services through community clinics and the private sector has helped Bangladesh maintain its positive trends in contraceptive prevalence rate and total fertility rate

Contraceptive prevalence rate (modern and traditional) (%)



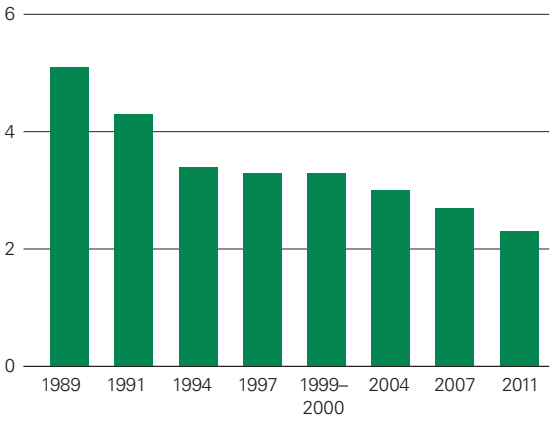
Source: Bangladesh Fertility Survey (1989), Contraceptive Prevalence Survey (1991) and Demographic and Health Surveys (other years).

(continued)

BOX 7 (CONTINUED)

Family planning: addressing the unmet need

Total fertility rate (births per woman)



Source: Bangladesh Fertility Survey (1989), Contraceptive Prevalence Survey (1991) and Demographic and Health Surveys (other years).

However, early marriage and early childbearing are still very prevalent: The median age at marriage among women ages 20–24 is 16.6, and 40% of women in this age group gave birth before age 18.[2] Fertility has declined mostly among women older than age 30, which has been linked to increases in birth spacing intervals through the use of contraception.[3] Geographic differences in fertility patterns that parallel economic development also persist, with higher fertility in the least developed eastern regions than in the west.

The current national family planning programme targets adolescents and regions of the country where higher than average total fertility rates persist and aims to make a greater diversity of contraceptive methods (including long-term methods) more widely available.

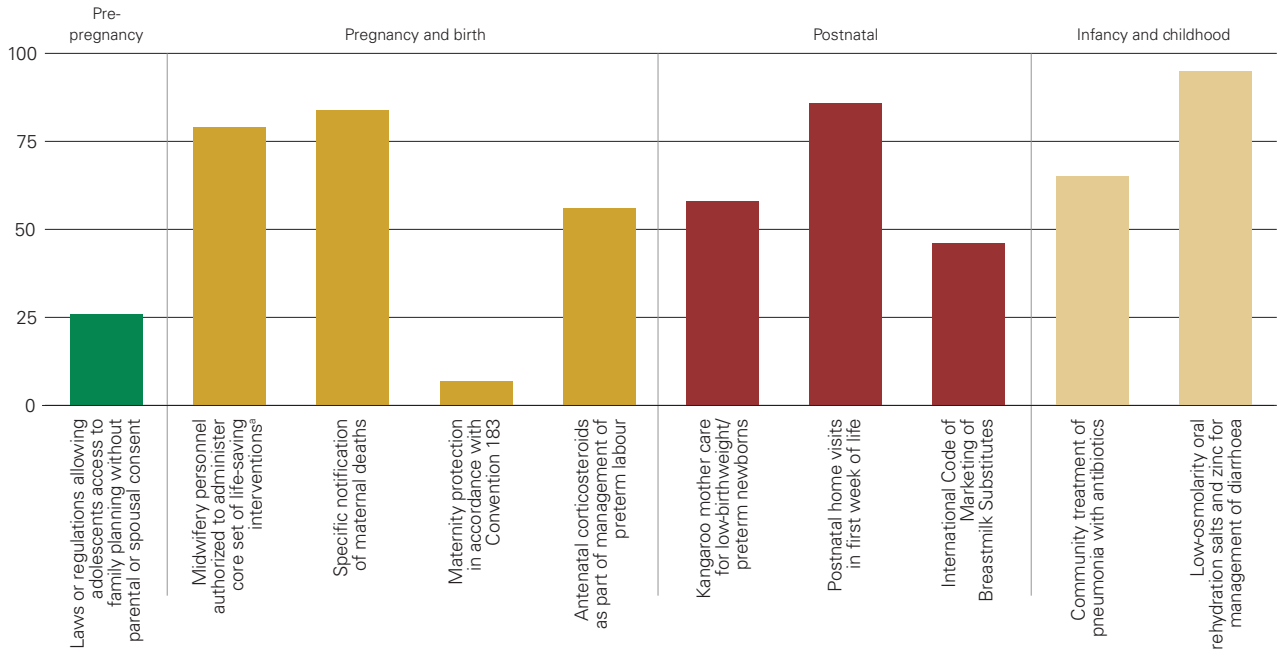
Notes

1. Ahmed and others 2012; Cleland and others 2012; UNICEF, UNFPA and UN Women 2012.
2. CPD 2003; Bangladesh Demographic and Health Survey 2011.
3. Arifeen and others forthcoming.

FIGURE 8

Some tracer policies have high adoption rates in *Countdown* countries, but critical gaps remain

Share of 57 *Countdown* countries with tracer policy in place, 2013–2014 (%)

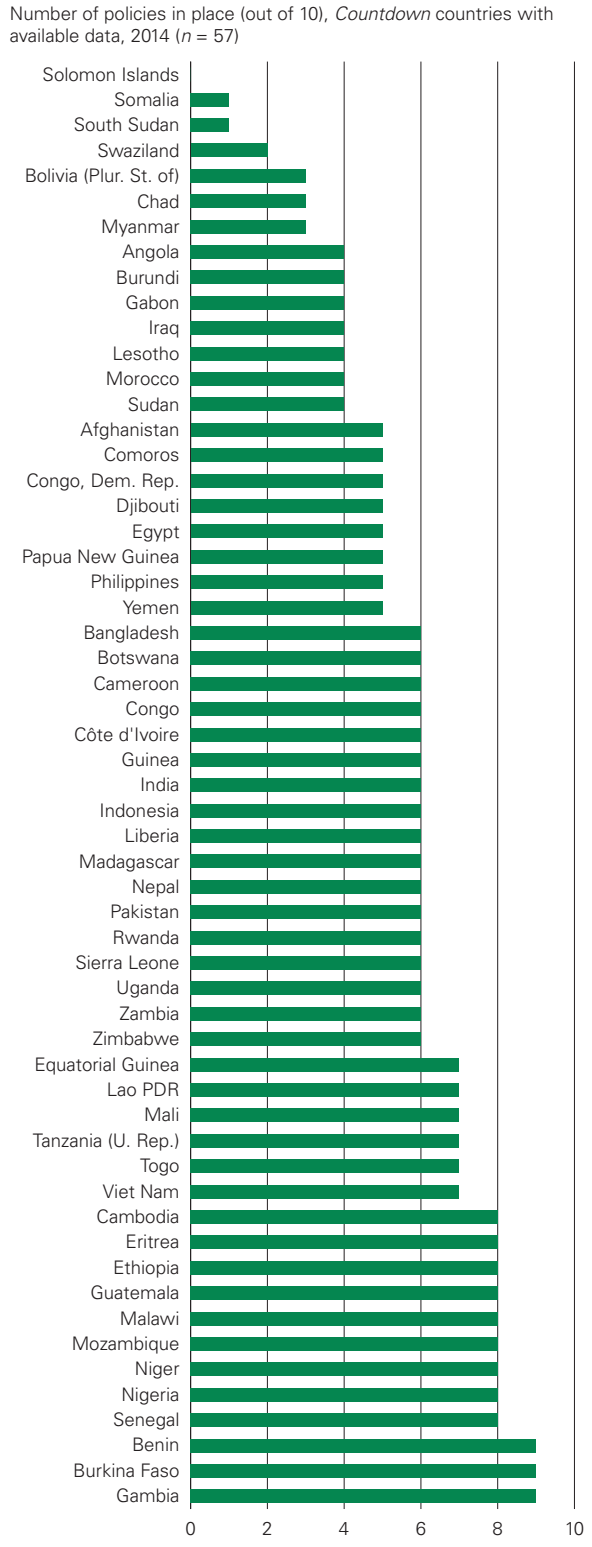


a. Based on 33 countries.

Source: World Health Organization Global Maternal Newborn Child and Adolescent Health Policy Indicator Survey.

FIGURE 9

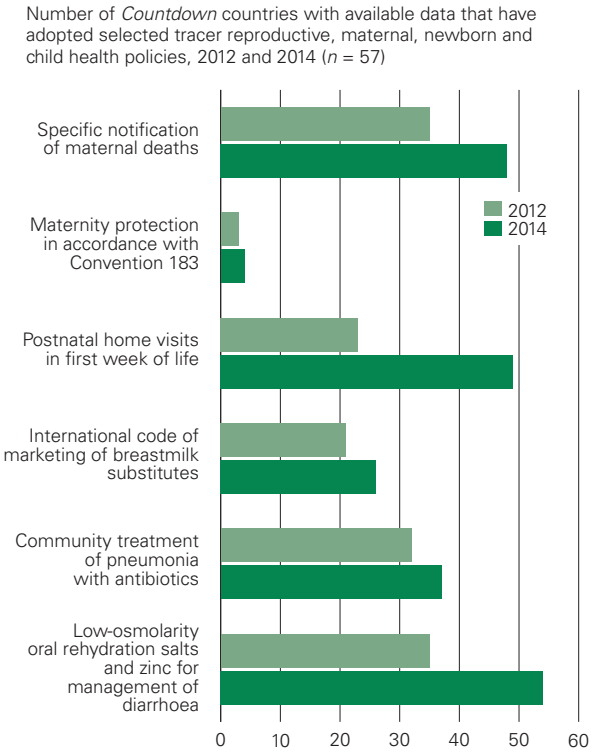
No *Countdown* country with available data has endorsed all 10 tracer indicators, and 22 have adopted five or fewer



Source: World Health Organization Global Maternal Newborn Child and Adolescent Health Policy Indicator Survey.

FIGURE 10

Over 2012–2014 the number of *Countdown* countries that have adopted five of the six key policies for which trend data are available has increased



Source: World Health Organization Global Maternal Newborn Child and Adolescent Health Policy Indicator Survey.

BOX 8

Midwives matter

Almost all *Countdown* countries are facing major workforce challenges in delivering midwifery services, particularly in areas where the burden of maternal mortality and morbidity is highest. Although midwives can perform almost 90% of essential care for women and newborns if adequately trained on the latest evidence-based guidelines, countries have been slow to adopt policies enabling midwives to provide this care. There has been no increase among the 33 *Countdown* countries with available trend data since 2012 in adopting a policy authorizing midwives to administer a core set of life-saving interventions.

Source: UNFPA 2014.

Countdown tracks essential commodities across the continuum of care. The UN Commission on Life-Saving Commodities was established in 2012 to promote the availability and effective use of 13 life-saving commodities for women's and children's health.[26] Including these commodities on the essential medicines list is a steppingstone to ensuring that these commodities are procured and widely distributed. Most *Countdown* countries with available data include the majority of these 13 commodities on their list, with the notable exception of the three prioritized reproductive health commodities, which are included on the list of fewer than half of countries with available data (figure 11).

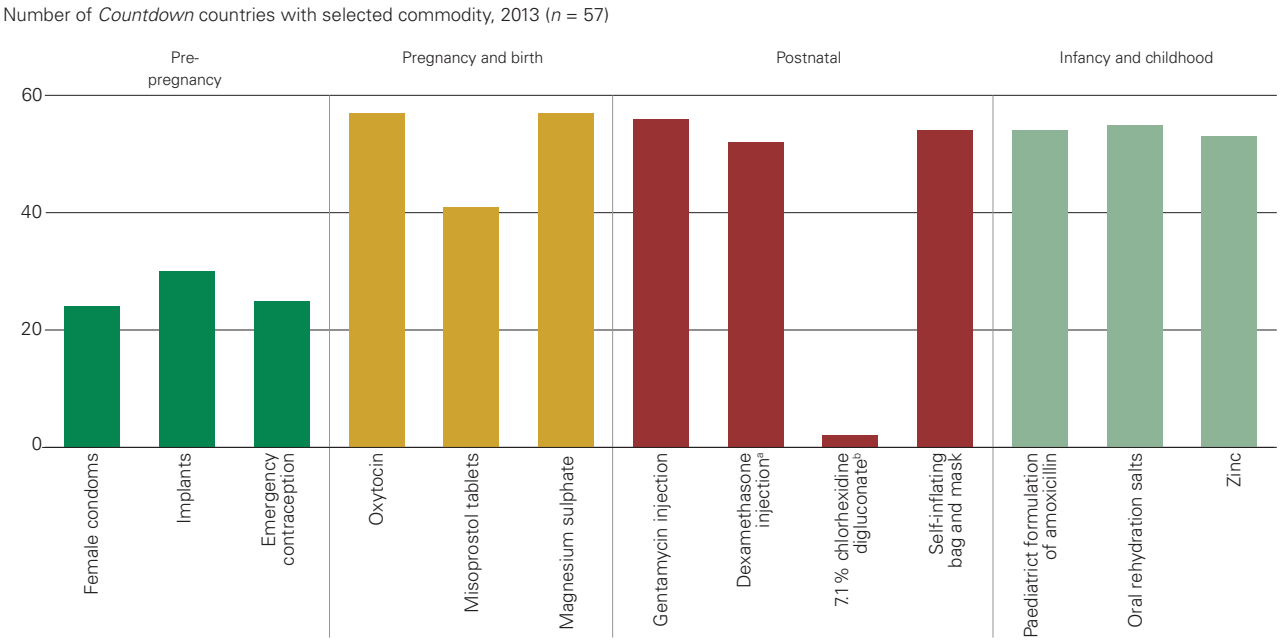
Financing women's and children's health

Countdown tracks information on key indicators of domestic and external spending patterns for reproductive, maternal, newborn and child health. There is evidence of very modest positive trends in these indicators. Across the *Countdown* countries, the per capita total expenditure on health (in current purchasing power parity terms) increased from $200 in 2010 to $222 in 2012. Over the same period there was also a very slight increase in government expenditure on health as a share of total government expenditure, from 9.9% to 10%. Similarly, countries made marginal improvements in reducing the reliance on out-of-pocket payments to finance health, from 43% of total expenditure on health in 2010 to 42% in 2012 (box 9). Increasing government expenditure on health is an important measure for improving access to health care and reducing poverty.

Tracking development partner disbursements to reproductive, maternal, newborn and child health is important for holding partners to account for commitments made and helps identify resource gaps or areas where further investment may be required.

FIGURE 11

Most *Countdown* countries with available data include the majority of the 13 essential commodities on their essential medicines list



a. Refers mainly to other uses (such as for response to allergic reaction). Antenatal corticosteroids in preterm labour are recommended for use in all countries but were not added to the World Health Organization essential medicines list for preterm indication until 2013.

b. Chlorhexidine has been recommended only since 2013, and World Health Organization guidelines suggest use only in high-mortality countries (with a neonatal mortality rate greater than 30 deaths per live births) and home births.

Source: Female condoms, World Health Organization EML database (www.who.int/medicines/publications/essentialmedicines, accessed March 2014); implants and emergency contraception, U.S. Agency for International Development Deliver Project (http://deliver.jsi.com/dhome/whatwedo/commsecurity/csmeasuring/csindicators/csindicatordashboards, accessed March 2014); maternal and newborn lifesaving commodities, World Health Organization Global Maternal Newborn Child and Adolescent Health Policy Indicator Survey 2013.

BOX 9

Out-of-pocket financing—who pays for health care?

In many *Countdown* countries the need to pay for health care out of pocket deters families from seeking care and depletes poor households of already scarce resources.[1] Two types of indicators are commonly recommended to assess the effect of out-of-pocket spending on poverty[2]:

- *Impoverishment.* The proportion of the population impoverished as a result of out-of-pocket payments (for example, the share of the population falling below the purchasing power parity (PPP) $2 poverty line as a result of out-of-pocket expenditures on health in the last month).
- *Catastrophic health expenditure.* The proportion of the population incurring catastrophic health expenditures (for example, the share of the population spending more than a set proportion of nonfood expenditure, such as 25% or 40%, in a given month on direct healthcare payments).

Countdown reviewed the limited published data available on these indicators for the *Countdown* countries (see annex F for data sources and definitions of indicators). Only two *Countdown* countries have data from 2008 or later on the percentage of the population falling below the PPP$2 poverty line as a result of out-of-pocket health expenditure (Bangladesh, 2.7%, and Lao PDR 1.4%), and only seven *Countdown* countries have data on the percentage of households with out-of-pocket expenditure greater than 40% of nonfood spending (ranging from 0.1% in South Africa to 3.7% in Lao PDR). Most information on the impact of out-of-pocket spending is outdated and lacks comparability owing to variations in definitions.

Greater investment is needed to gather reliable data on financial burdens to households resulting from out-of-pocket payments for health care and for reproductive, maternal, newborn and child health services specifically. Promising partnerships, including Equitap in Asia, LAnet-EHS in Latin America and SHIELD in Africa, need to be strengthened and coordinated to ensure comparability of data collected. Work is also under way by the World Bank and the World Health Organization on monitoring financial risk protection.

Notes

1. Brearley and others 2012.
2. WHO and World Bank 2013.

Trend data on official development assistance (ODA) to the *Countdown* countries is available from 2003 for maternal, newborn and child health and from 2009 for reproductive health.[27] This report presents ODA data up to 2011. *Countdown* expects to release ODA data for 2012 later in 2014.

ODA for health was an estimated $19 billion in 2011, an increase of only 1% in real terms over 2010. This amount represents 12.4% of total ODA. In the 75 *Countdown* countries an estimated $8.7 billion went to reproductive, maternal, newborn and child health in 2011, a 1% increase over 2010, and accounted for 44% of ODA to health and 5% of total ODA. Of this amount, $3.9 billion (45%) went to child health, $3.1 billion (36%) went to reproductive health (which includes funding for family planning, sexual health and sexually transmitted infections including HIV) and $1.7 billion (19%) went to maternal and newborn health.[28] ODA to maternal, newborn and child health in the 75 *Countdown* countries decreased by 1% in real terms from 2010, due to a 3% reduction in funding to child health.[29] Funding to maternal and newborn health increased 4% over 2010, and funding to reproductive health increased 5%. The noted reduction in ODA to maternal, newborn and child health in *Countdown* countries in 2011 continues a slowdown detected between 2009 and 2010 relative to previous years.[7]

Assessing who benefits from ODA and whether resources are being allocated according to country need can improve resource allocation and efficiency (box 10).

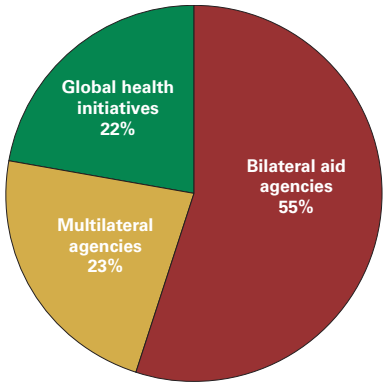
BOX 10

Official development assistance flows for reproductive, maternal, newborn and child health

From whom?

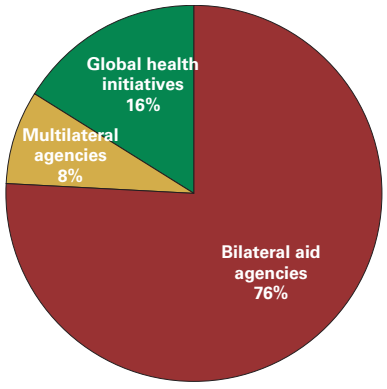
In 2011 ODA from bilateral agencies accounted for more than half of ODA for maternal, newborn and child health in the 75 *Countdown* countries, just under a quarter came from multilateral agencies and another quarter from global health initiatives and foundations (comparable to proportions in 2009 and 2010) (box figure 1). A higher proportion of ODA for reproductive health comes from bilateral donors (76% of all ODA; box figure 2).

Box figure 1. Official development assistance for maternal, newborn and child health in the 75 *Countdown* countries was $5.6 billion in 2011 (in 2012 dollars)



Source: Organisation for Economic Co-operation and Development's Development Assistance Committee's Creditor Reporting System Aid Activities Database.

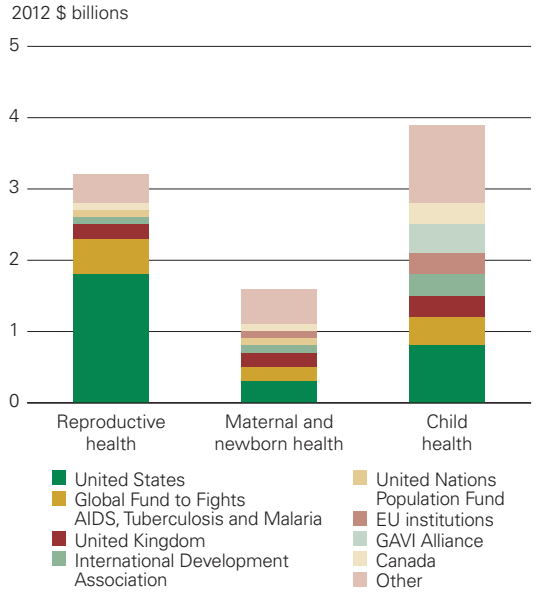
Box figure 2. Official development assistance for reproductive health in the 75 *Countdown* countries was $3.1 billion in 2011 (in 2012 dollars)



Source: Organisation for Economic Co-operation and Development's Development Assistance Committee's Creditor Reporting System Aid Activities Database.

The United States continues to be the largest source of funding to reproductive, maternal, newborn and child health in the *Countdown* countries, followed by the Global Fund to Fight AIDS, Tuberculosis and Malaria (box figure 3). U.S. contributions to reproductive health including HIV exceeded $1.8 billion, nearly four times more than the next largest donor and nearly twice as much as U.S. contributions to maternal, newborn and child health. Across all donors, on average, higher amounts were disbursed to child health ($76 million) than to reproductive health ($60 million) and to maternal and newborn health ($32 million). This pattern is similar to previous years.

Box figure 3. In 2011 the United States continued to be the largest source of funding to reproductive, maternal, newborn and child health in the *Countdown* countries



Source: Organisation for Economic Co-operation and Development's Development Assistance Committee's Creditor Reporting System and Activities Database.

To whom?

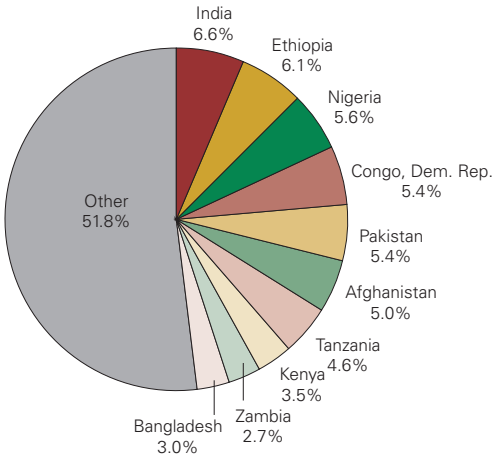
In 2011 approximately 79% of official development assistance for maternal, newborn and child health went to the 75 *Countdown* countries, with India and Ethiopia receiving the most (box figure 4). India also received the highest share of ODA for maternal, newborn and child health in 2009 and 2010. The

(continued)

amount varies widely across countries and is not always in proportion to need.

Seven *Countdown* countries received more than half of ODA to reproductive health, with the highest shares going to South Africa and Kenya (box figure 5). Nigeria, Ethiopia, Tanzania and Kenya received high shares of both ODA to maternal, newborn and child health and to reproductive health.

Box figure 4. Ten *Countdown* countries received just under half of total official development assistance for maternal, newborn and child health in 2011

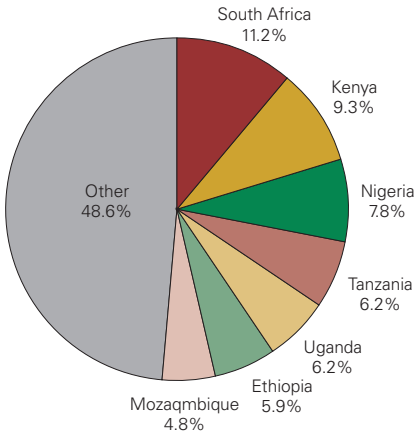


Source: Organisation for Economic Co-operation and Development's Development Assistance Committee's Creditor Reporting System Aid Activities Database.

Official development assistance to maternal, newborn and child health in the context of target population size

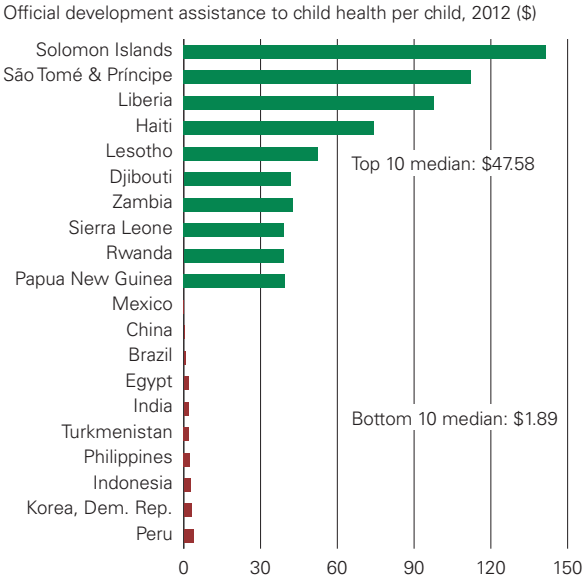
ODA for child and maternal and newborn health varies widely across *Countdown* countries, even after adjusting for the size of the target population. For example, in 2011 median ODA to child health per child ages 0–5 was $1.89 for the 10 countries receiving the least ODA and $47.58 for the 10 countries receiving the most (figure 6). Similarly, for maternal and newborn health, the median was $5.23 per live birth for the 10 countries receiving the least ODA and $115.92 per live birth for the 10 countries receiving the most (figure 7).

Box figure 5. Seven *Countdown* countries received just over half of official development assistance to reproductive health in 2011



Source: Organisation for Economic Co-operation and Development's Development Assistance Committee's Creditor Reporting System Aid Activities Database.

Box figure 6. In 2011 median official development assistance to child health per child ages 0–5 was $1.89 for the 10 countries receiving the least official development assistance and $47.58 for the 10 countries receiving the most



Source: Organisation for Economic Co-operation and Development's Development Assistance Committee's Creditor Reporting System Aid Activities Database.

(continued)

BOX 10 (CONTINUED)

Official development assistance flows for reproductive, maternal, newborn and child health

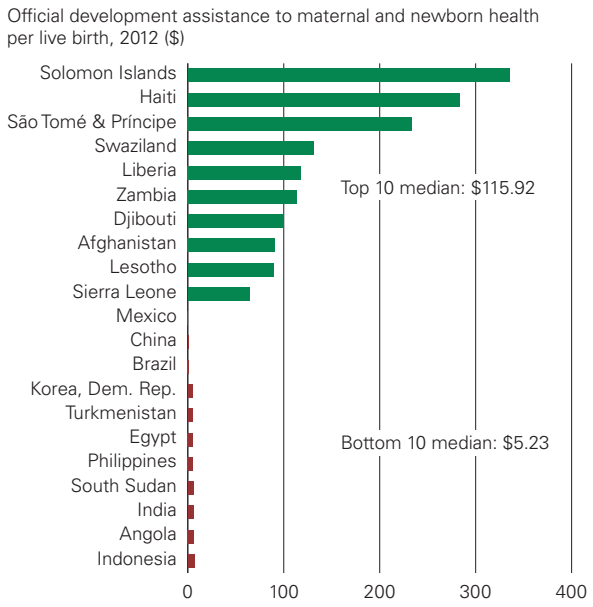
More-populous *Countdown* countries receive more ODA for maternal, newborn and child health than less-populous ones. But adjusting for the size of the target population shows a different picture of aid flows to women's and children's health in the *Countdown* countries. For example, in 2011 Nigeria received the most ODA per country for child health in absolute terms, but the amount received per child ages 0–5 was $8.59 (the 51st highest). In contrast, Solomon Islands received the highest amount per child, $143.45, but much lower total funds (the 54th highest). For maternal and newborn health India received the most ODA overall, but only $6.05 per live birth, compared with $32.58 in Ethiopia, which received the second highest total ODA for maternal and newborn health, and $90.89 in Afghanistan, which received the third highest total ODA.

Funding allocation by focus area

The slight reduction in funding to child health is driven by a reduction in funding to immunization, earmarked malaria funding and basket funding, 40% of which is assumed to go to child health.

The percentage of funding allocated to reproductive health remains driven by response to the HIV epidemic (78%). However, family planning accounts for a growing proportion (14%), a 42% increase over 2010 in real terms, compared with a 2% increase in funding related to HIV (which does not include prevention of mother-to-child transmission or childhood AIDS, which are captured in maternal, newborn and child health totals).

Box figure 7. In 2011 median official development assistance to maternal and newborn health per live birth was $5.23 for the 10 countries receiving the least official development assistance and $115.92 for the 10 countries receiving the most



Source: Organisation for Economic Co-operation and Development's Development Assistance Committee's Creditor Reporting System Aid Activities Database.

Data revolution and evolution: the foundation for accountability and progress

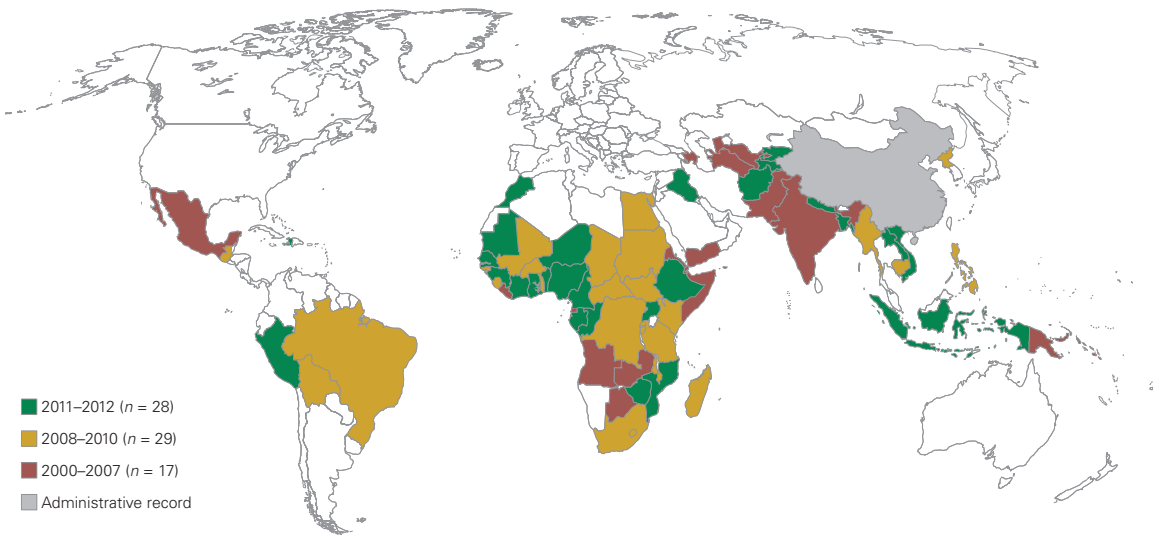
Without data there can be no accountability. Without accountability we risk making no progress for women and children. *Countdown* therefore puts a special focus on data availability, quality and use. Working closely with the independent Expert Review Group of the Commission on Information and Accountability for Women's and Children's Health,[31] *Countdown* advocates for efforts to ensure that all countries have adequate data to make informed decisions about programme priorities for women and children and to monitor the implementation of those programmes. These data include but are not limited to high-quality household surveys. Continued efforts are needed to strengthen civil registration and vital statistics, health management information systems and institutional capacity at the country level to conduct independent evaluations of reproductive, maternal, newborn and child health programmes.

Of the 75 *Countdown* countries, 28 (37%) conducted a nationally representative survey in 2011 or 2012, providing high-quality, recent data to support assessments of progress towards the Millennium Development Goals (map 1). Another 29 countries (39%) conducted such a survey between 2008 and 2010. This represents a major achievement, probably linked to the emphasis on global monitoring of the Millennium Development Goals. Prior to 2000 few of the 75 countries had nationally representative survey data on coverage of interventions for maternal, newborn and child health.

Accurate and consistent data are crucial for governments and their partners to manage health

MAP 1

Of the 75 Countdown countries, 28 (37%) conducted a nationally representative survey in 2011 or 2012, providing high-quality, recent data to support assessments of progress towards the Millennium Development Goals



Note: Based on country reporting on the antenatal care (at least one visit) indicator.

Source: United Nations Children's Fund global databases, April 2014, based on Demographic and Health Surveys, Multiple Indicator Cluster Surveys and other national surveys.

systems effectively, allocate resources according to need, and make and deliver on commitments where the impact will likely be greatest. These data must be:

- *Fit for purpose*, designed to measure a set of standardized indicators that respond to accountability requirements. As new effective interventions are identified and consensus indicators agreed on, further work will be required to develop, validate and incorporate appropriate questions into the core surveys used by countries. The process through which indicators for postnatal care were defined and tested provides a good example of how this process can work (box 11).[32] Similar efforts are needed to define standard coverage measures for other newborn-specific interventions and nutrition interventions that have been scaled up rapidly in the past decade but that lack standard methods for measurement.

- *Reliable*, at least, and ideally also valid, so that they can be used over time and across countries to assess progress. There is an important research agenda on improving coverage measurement for reproductive, maternal, newborn and child health that has already shown that at least one of the core indicators recommended by the commission—antibiotic treatment for childhood pneumonia—cannot be measured accurately through household surveys.[33] *Countdown* has therefore added an indicator on careseeking for symptoms of childhood pneumonia to its reporting on commission indicators. This work on improving coverage measurement is continuing and is closely coordinated with *Countdown*. A particular focus is on unpacking service contact indicators such as antenatal care visits and skilled attendant at delivery to determine how best to generate valid measures of coverage for individual interventions provided through these service delivery platforms.[34]

- *Timely*, providing information on coverage that reflects recent progress and can be used in the short term to improve the performance of reproductive, maternal, newborn and child health programmes.

- *Able to be disaggregated*, to assess inequity and to determine which women and children are not being reached, as a basis for action.[35]

BOX 11

Keeping coverage measurement current: an example from postnatal care

Postnatal care visits for mothers and newborns offer an important opportunity to provide proven interventions that can save the lives of women and children. Despite the sparse and inconsistent data available at the time, *Countdown* began including postnatal care indicators for newborns in its reporting in 2005. This gap in data spurred efforts led by the Newborn Indicators Technical Working Group to refine the indicators and develop standard tools to measure coverage of key newborn interventions.[1] These efforts informed the technical review process of *Countdown*, resulting in the addition over time of three newborn-related policy indicators on postnatal home visits in the first week of life on the *Countdown* 2012 country profiles and antenatal corticosteroids for preterm birth and kangaroo mother care on the *Countdown* 2014 country profiles. The visibility raised by including postnatal care indicators in *Countdown* reporting also sparked the two international household survey programmes that produce the majority of coverage data used in global monitoring, Demographic and Health Surveys and Multiple Indicator Cluster Surveys, to review their data collection efforts on postnatal care. The United Nations Children's Fund, for example, developed a new module on postnatal care visits that was incorporated into the current round of Multiple Indicator Cluster Surveys and has increased the availability of country data on coverage of this service contact. This process has resulted in the development of global consensus on the definition of postnatal care visits and a surge of new data—the number of *Countdown* countries with recent available data on postnatal visit for the baby increased from zero in the 2005 report to six in the 2010 report to 17 in the 2014 report.

Countdown currently tracks a systems indicator on emergency obstetric care and is actively working with partners on revising the list of signal functions that emergency obstetric care facilities must provide in order to include a comprehensive set of signal functions for newborn care.

Notes

1. Moran and others 2013.

The Demographic and Health Surveys and Multiple Indicator Cluster Survey programmes remain the primary source of coverage data for most low- and middle-income countries and have worked hard to coordinate their protocols and target their support to the 75 *Countdown* countries.[36] An important development is that a small but growing number of countries are fielding their own surveys, often using adaptations of the standard protocols, and this increase in national capacity must be supported and expanded while ensuring that indicator definitions reflect international consensus to enable comparisons across countries and over time.

Success must be measured not only through the availability of high-quality, timely data, but also by the extent to which the process is implemented from start to finish by country-based research institutions, including special analyses to respond to questions from policymakers.

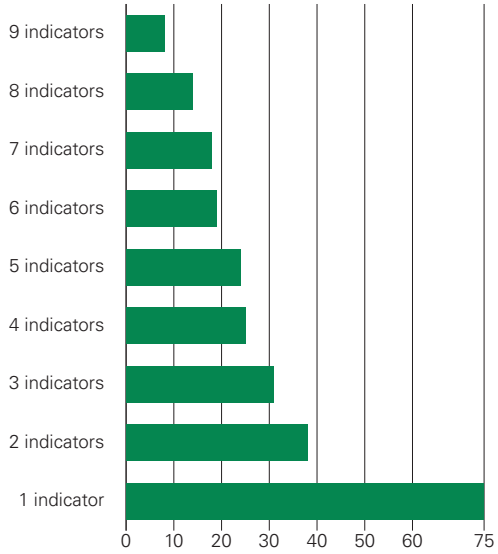
Well designed and well implemented household surveys must remain a central pillar of government systems for programme monitoring and evaluation. But they alone are not enough. Measures of coverage for interventions needed by subsets of women and children, including women with obstetric complications and newborns or children who are ill, are also likely to benefit from efforts to link household surveys to assessments of service providers. Surveys can tell us about coverage, or the proportion of those who need an intervention who have actually received it. Health facility–based data, whether from information systems or facility surveys, can tell us about the quality of care received by those who accessed services. Efforts are under way to meet these challenges and to ensure that standard, fit for purpose indicators are defined, subjected to validation assessments and measured with adequate technical and financial support and institutional capacity building at the country level. Good examples of interdisciplinary groups that engage independent technical experts to address these issues include the Roll Back Malaria Monitoring and Evaluation Reference Group, the Newborn Indicators Technical Working Group and the various interagency working groups tackling measurement issues related to women and children. *Countdown* collaborates closely with these groups.

Those who set global goals must be mindful of the technical demands of coverage measurement when defining indicators that will be used to track progress and assess accountability.[37] Preliminary versions of the post-2015 sustainable development goals documentation included more than 20 targets for the health goal alone.[38] Setting a target implies measurement, and over the years *Countdown* has repeatedly pointed to the unfair demand that countries report on numerous indicators for which no measurement strategy is in place or supported. This message was echoed by the Commission on Information and Accountability for Women's and Children's Health, which defined 11 priority indicators—including 8 coverage measures—and recommended that countries report on them. However, uptake of this recommendation has been limited by the availability of data at the country level. Only 8 of the 75 *Countdown* countries had recent data on all of these coverage indicators in 2011–2012, and 37—half the *Countdown* countries—had data for only one of them (figure 12). The paltry number

FIGURE 12

Half of Countdown countries had data for only 1 of 9 recommended coverage measures in 2011–2012

Number of 75 *Countdown* countries reporting updated data from 2011 or 2012 for one or more of nine coverage indicators recommended by the Commission on Information and Accountability for Women's and Children's Health



Note: Indicators include demand for family planning satisfied (including 2013 data for Ghana and Pakistan), antenatal care (four or more visits), skilled attendant at birth, postnatal care for mother, postnatal care for baby, exclusive breastfeeding, DTP3 vaccine coverage, careseeking for pneumonia and antibiotic treatment for pneumonia. This list does not include two indicators related to HIV, counts postnatal care for mother and baby separately and includes careseeking as well as treatment for pneumonia, so it differs from the list of 11 priority indicators (8 coverage and 3 impact) from the Commission on Information and Accountability for Women's and Children's Health.
Source: United Nations Children's Fund global databases, April 2014, based on Demographic and Health Surveys, Multiple Indicator Cluster Surveys and other national surveys.

of countries able to report recent data on the full set of recommended coverage indicators is a distressing testament to data gaps in the countries where the burden of preventable maternal, newborn and child deaths is highest. Responsibility for filling those gaps, and for defining indicators based on what it is feasible to measure well, is shared by countries and the global reproductive, maternal, newborn and child health community.

Gaps in data on the policy and health systems determinants of coverage also need to be addressed. *Countdown* reporting has drawn attention to some of these gaps and helped stimulate an effort led by the World Health Organization to work at the country level to obtain standardized reports on selected indicators in each area. Intensive efforts are also under way to generate evidence and develop guidance on policies and health systems factors that affect access to essential reproductive, maternal, newborn and child health interventions.[39]

There are critical gaps in resource tracking (see box 9). For the first time in 2014 *Countdown* country profiles include the Commission on Information and Accountability for Women's and Children's Health–recommended resource indicator on reproductive, maternal, newborn and child health expenditures by source of funding, intended to track both domestic and external financial commitments to achieving the goals of the Global Strategy on Women's and Children's Health. More than two years have passed since the 2011 launch of the commission's action agenda, and progress has been slow. According to the World Health Organization, only 4 of the 75 *Countdown* countries can report completely on the recommended financing indicator for recent years, and 2 countries can report partially. However, it is encouraging to note that 18 countries report that development of these indicators is in process and that 25 countries report being in the planning phase.[40]

Robust civil registration systems are still lacking in most *Countdown* countries, requiring the use of modelling to develop mortality and cause of death estimates (see annexes A and H). Most newborns and nearly all stillborn babies are born and die without ever being recorded, a situation that must be corrected in order to improve country capacity to plan for needed services and to monitor progress.

The *Countdown* process—what we have learned so far

In 2014, as *Countdown's* original time horizon approaches, we must look both backwards and forwards to draw lessons that may inform the future landscape for women's and children's health. Many of the same challenges remain. Some—including the broadening of the goals to encompass a more holistic agenda and the explosion of tools and initiatives for monitoring—will be new.

Countdown is fundamentally about accountability. It was conceived in a 2003 meeting at the Rockefeller Foundation's Bellagio Center, resulting in the publication of a series on child survival in *The Lancet* in 2003.[41] The original call was specific to child survival, but was later extended to include the full continuum of reproductive, maternal, newborn and child health:

> … we commit ourselves to ensuring that there is an overall mechanism for improving accountability, re-energising commitment, and recognising accomplishments…
>
> Participants will be those who support child survival, who monitor interventions and delivery strategies, and other concerned individuals and organisations.
>
> … regular opportunities for the world to take stock of progress … and to hold countries and their partners accountable.

Countdown has grown in different dimensions since the first report in 2005. In addition to the shift from child survival to a broader reproductive, maternal, newborn and child health agenda, the number of countries has expanded from 60 to 75, and the number of interventions being monitored from 35 to 73. The 2005 report had 11 institutions' logos on the back cover; the 2014 report has 43. *Countdown* now produces annual reports, with the full report (containing two-page country profiles) in even years and a shorter version (containing one-page country profiles focused on the 11 commission indicators) in odd years. *Countdown* has become a key resource for the global health community.

What are the strengths of *Countdown* that merit special consideration as the accountability and oversight structures are framed for the post-2015 period? First on the list is *Countdown's* reliance on recent, replicable, relevant data on coverage and its determinants at the country level as the driving force, providing an unfiltered lens on progress and results. Second is the essential focus on disaggregating data to reveal inequities. Third, *Countdown* has maintained its commitment to bringing to the table scientists, policymakers, program leaders and advocates from both country and international institutions to review and act on these data. Finally, *Countdown* continues to search for more user-friendly ways to present country-specific data to promote the translation of scientific findings into actions that will prolong and improve the lives of women and children.

Conversely, it is precisely these strengths that have produced some of *Countdown's* biggest challenges. One challenge has been maintaining the plurality of *Countdown* and its supra-institutional governance, while remaining true to the evidence. Achieving evidence-based consensus across 43 institutions has transaction costs, particularly around issues related to selecting the subset of proven interventions to be tracked and upholding an appropriate balance across the reproductive, maternal, newborn and child health continuum of care. A related challenge is maintaining flexibility so that *Countdown* can change in response to new evidence and country needs while adhering to its core principles and processes of work. Another major challenge has been preserving the focus of *Countdown*. As *Countdown* has grown in visibility and influence, there has been continuous pressure to expand the areas of concern. For example, should *Countdown* also

be reporting on child and maternal overweight or obesity? How much emphasis should be given to adolescent health, child development and human capital, maternal morbidity or stillbirths as elements of the continuum of care? How much collaboration is needed with other Millennium Development Goal and topic-specific monitoring initiatives so that each retains its added value yet is an integral part of the whole? Should *Countdown* retain its main focus on intervention coverage, or should it move more into social and environmental determinants of health or put a greater focus on health impact beyond mortality and nutrition? These debates are ongoing and are an important dialogue for ensuring that *Countdown* is responsive to the evidence and integrated into other accountability processes while maintaining a manageable, well defined scope of work so that its messages are clear and actionable.

Protecting the strengths of the *Countdown* process while addressing these challenges is the work of the future. We believe that there is no one optimal structural arrangement to protect the scientific integrity, programme relevance and independence of *Countdown* and that instead it represents a process of dedication, commitment, compromise and trust. One absolute necessity is to generate and sustain interest and commitment among young epidemiologists, program evaluators, health economists, communications specialists and programme leaders at the global level—particularly those living and working in *Countdown* countries.

Countdown speaks: priorities for the next 500 days and beyond

What do the 2014 findings mean for women and children, both immediately for the 500 days that remain until the end of the Millennium Development Goal era and for the process of defining the post-2015 framework? What actions must be taken? The 2014 *Countdown* results continue to point to the agenda-setting role of the Millennium Development Goals. This power must be harnessed for women and children in the next set of goals as well.

Looking forward to the post-2015 era, the *Countdown* experience and findings point to four absolute necessities related to accountability.

- First, this is the time to be building a foundation of baseline data that can be used to track progress. This was a critical omission in the Millennium Development Goal framework.

- Second, we must work to define an accountability mechanism that will serve women and children going forward. *Countdown* has tried to contribute to that conversation in this report.

- Third, we must back up our accountability rhetoric with real resources that can be used by countries to generate the data they need to participate meaningfully in the process. Too many *Countdown* countries still cannot report annually on key indicators, even after more than a decade of Millennium Development Goal monitoring and more recent efforts around the Commission on Information and Accountability for Women's and Children's Health initiative. Addressing this gap means increasing support for and strengthening country institutional capacity to conduct high-quality household surveys at regular intervals of no more than three years, while working to strengthen vital statistics, tracking of financial resources and assessments of service provision.

- Fourth, these data systems must be designed intentionally to permit disaggregation and examination of equity trends, to identify the women and children who are being missed and to support effective programming to reach them.

Our mandate is to use the coming 18 months to maintain and move forward on achieving high, sustained and equitable coverage with proven interventions that can save women's and children's lives and to strengthen country data systems so that they are able to respond to the future accountability agenda and build better programmes. There are opportunities to save lives now that must not be missed in the process of final assessments related to the Millennium Development Goals and in the current scrambling for places in the sun in the next set of goals. Experience from the Millennium Development Goals reflected in our results show that it took a long while for international agencies and country leaders to translate their global commitments into concrete action and for countries to accelerate coverage gains and mortality reduction. This must not happen on our watch over the coming two to three years. The essential foundation and processes for achieving the next set of goals begins today, with reinvigorated efforts to address the unfinished business of maternal, newborn and child survival. This includes continued recognition of the deep links between women's and children's health and the importance of improving service integration across the reproductive, maternal, newborn and child health continuum of care to maximize the impact, quality and efficiency of care provided.

We, as *Countdown*, challenge ourselves and the global reproductive, maternal, newborn and child health community to make the remaining days in the Millennium Development Goal era and the years beyond 2015 count for women and children. There must be continued, and even increased, accelerations in coverage for life-saving interventions. There must be improvements in the equitable delivery of these interventions,

providing essential services for all. There must be progress in ensuring that the necessary policy, health system and financial supports for these services are in place. And there must be greater commitment to data evolution that results in more and better data and data use for improving programmes. In addition, this transition period must see measureable progress in improving nutrition and in making family planning universally available. These targets do not need to wait for validation through the language of the sustainable development goals—they are a necessary part of any global agenda, and delays are unconscionable. *Countdown* will continue to track progress towards these immutable targets at the country level, and we will hold fast to the principle of accountability by all for the health and development of women and children.

Annex A
About Countdown to 2015 for Maternal, Newborn and Child Survival

Countdown to 2015 for Maternal, Newborn and Child Survival is a global movement to track, stimulate and support country progress towards achieving the health-related Millennium Development Goals, particularly goals 4 (reduce child mortality) and 5 (improve maternal health). Established in 2003,[42] *Countdown* includes academics, governments, international agencies, professional associations, donors, nongovernmental organizations and other members of civil society, with *The Lancet* as a key partner. Members of the *Countdown* community share a common goal of using data to increase accountability for women's and children's health. *Countdown* specifically focuses on tracking coverage of a core set of evidence-based interventions proven to reduce maternal, newborn and child mortality.

What *Countdown* does

Countdown produces periodic publications, reports and other materials on key aspects of reproductive, maternal, newborn and child health, using data to hold stakeholders to account for global and national action.[43] At the core of *Countdown* reporting are two-page country profiles, updated approximately every two years, that present key demographic, nutritional status and mortality statistics; coverage levels and trends for proven reproductive, maternal, newborn and child health interventions; and policy, health system, financial and equity indicators to enable assessment of country progress in improving reproductive, maternal, newborn and child health. *Countdown* plays a central role in the follow-up to the UN Secretary-General's Global Strategy for Women's and Children's Health by annually updating one-page profiles showcasing the 11 indicators selected by the Commission on Information and Accountability for Women's and Children's Health.[44] *Countdown* also prepares equity profiles highlighting disparities in coverage in each of the 75 priority countries.

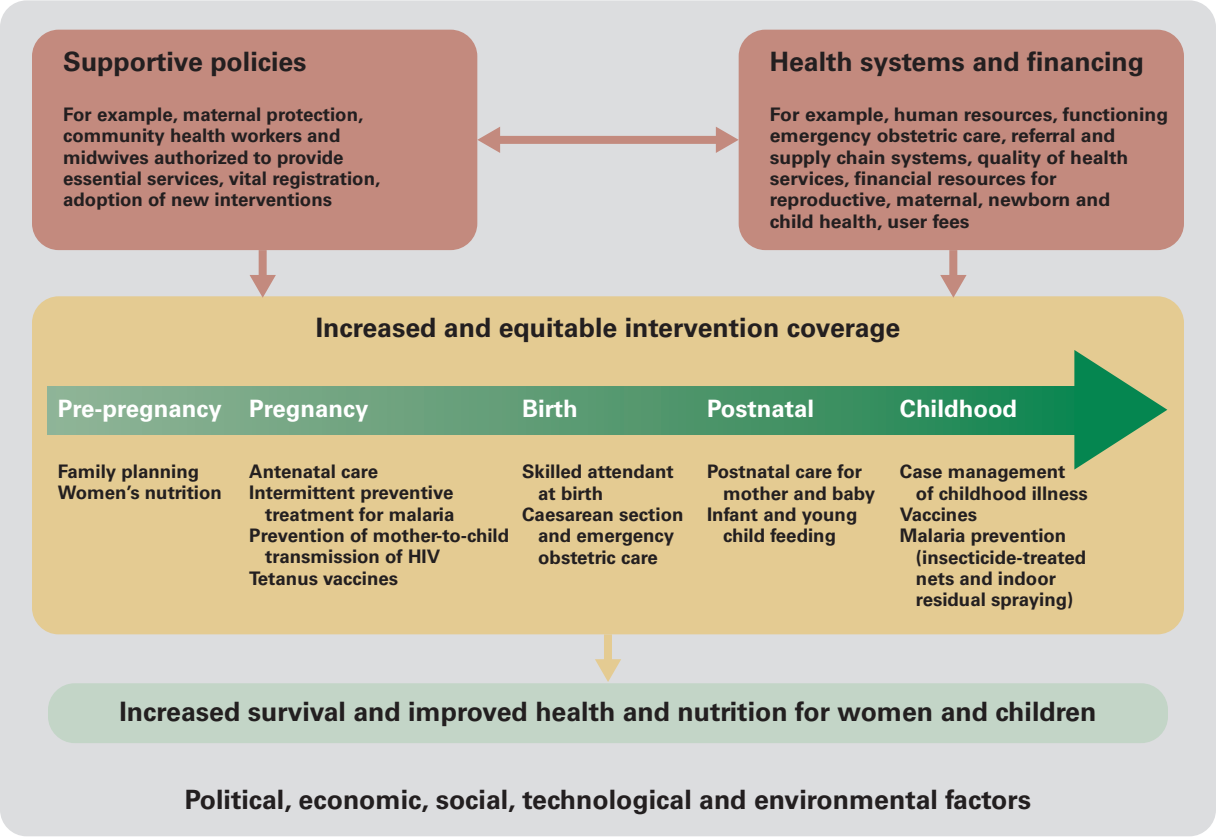
Countdown analyses are guided by a conceptual model (figure A1) consistent with the results-based evaluation framework for health systems strengthening that was developed by a working group of members from *Countdown*, the World Health Organization, the World Bank, the GAVI Alliance and the Global Fund to Fight AIDS, Tuberculosis and Malaria.[45] The model shows the range of indicators included in *Countdown's* four linked datasets on coverage, equity, policies and systems, and financial flows and illustrates possible pathways through which policy, systems and financing measures in a given context impact levels and trends in coverage of proven reproductive, maternal, newborn and child health interventions.

Countdown recognizes the paramount role of social, political, economic, cultural and environmental determinants in shaping population health. Many of these broader determinants influence health outcomes by increasing access, utilization and coverage with available life-saving interventions. Intervention coverage is thus the specific niche occupied by *Countdown* in the array of initiatives aimed at monitoring the Millennium Development Goals.

Countdown harnesses the global learning potential of its datasets through cross-cutting research and country case studies that allow for an in-depth exploration of the "how" and "why" of progress in reproductive, maternal, newborn and child health. These have been completed to date in Niger for child survival[46] and in Bangladesh for maternal survival,[47] with additional work nearing completion in Afghanistan, Pakistan, Ethiopia, Tanzania, Malawi and Peru.

FIGURE A1

Summary impact model guiding Countdown work



Annex B
Summary of *Countdown* data sources and analysis methods

Data sources

Most *Countdown* coverage, equity and nutrition data are from standardized, nationally representative household surveys, primarily Demographic and Health Surveys and Multiple Indicator Cluster Surveys. For national coverage estimates, *Countdown* reviews databases provided by stakeholder organizations, particularly the United Nations Children's Fund but also the United Nations Population Division and Save the Children, and extracts the data for the 75 *Countdown* countries.

Cause of death profiles are abstracted from World Health Organization statistical databases based on work by the Child Health Epidemiology Reference Group. As in past *Countdown* reports, the child mortality estimates are based on the work of the UN Inter-agency Group for Child Mortality Estimation—led by the United Nations Children's Fund and including the World Health Organization, the World Bank, the Population Division of the United Nations Department of Economic and Social Affairs and the United Nations Economic Commission for Latin America and the Caribbean Population Division—and are the official UN estimates for measuring progress towards Millennium Development Goal 4. The maternal mortality estimates are based on the work of an interagency group comprising the World Health Organization, the United Nations Children's Fund, the United Nations Population Fund and the World Bank.

Data for the *Countdown* health systems and policies indicators are abstracted from global databases maintained by the World Health Organization and other groups such as the International Labour Organization, routine monitoring data from UN organizations, national service delivery surveys (for emergency obstetric care data) and surveys administered to government authorities by the World Health Organization with responses validated by UN agencies at the country level. *Countdown* financing data are abstracted from datasets maintained by the Development Assistance Committee of the Organisation for Economic Co-operation and Development.

Analysis methods

Countdown assesses progress at the country level, so it uses the country as the unit of analysis when summarizing results across databases. The summary measure used for the coverage indicators is the median, which gives each of the 75 *Countdown* countries equal weight, and the range, which illustrates the extent of variation across countries. *Countdown* coverage data are compiled and analysed by the Institute for International Programs at the Johns Hopkins University in collaboration with the Countdown Coverage Working Group and the United Nations Children's Fund.

Summary estimates of coverage for 2014 include *Countdown* countries with available estimates for 2008–2012. A small number of data points for 2013 were available in time to be included in this report and are indicated in footnotes. To track coverage trends, subsets of countries with at least two data points for each indicator, one from 2000–2007 and one from 2008–2015, were used. The difference between the two summary point estimates were calculated for each indicator, as well as the proportion of the gap closed between the earlier estimate and 100% coverage.

Countdown tracks coverage ("the proportion of women and children in need of interventions who actually receive them") in preference to measures of "effective coverage" that include estimates of intervention effectiveness, access, use and service quality. Effective coverage metrics are difficult to use in global monitoring because they typically require data that are rarely available in *Countdown* countries and sometimes rely on modelling procedures that must then be unpacked to guide decisionmaking.

Two summary metrics of coverage are used in presenting the results. The first, the Composite Coverage Index, is a weighted average of eight interventions and reflects the performance of each *Countdown* country in achieving coverage along the continuum of care.[48] The second, the co-coverage index, reflects the extent to which individual women and their children are receiving eight well established preventive interventions. These interventions have been available in most if not all countries—even the poorest—for at least a decade.[49]

The equity analyses require that indicators be estimated for subgroups of the country population. Results are presented for selected individual coverage indicators as well as the two summary indices stratified by wealth quintiles.[50] Equity analyses are conducted by the International Center for Equity in Health at the University of Pelotas, Brazil, in collaboration with the *Countdown* Equity Technical Working Group.

Information on country-specific policies and systems indicators related to maternal and newborn health is reviewed and confirmed by technical staff at World Health Organization headquarters and country offices and maintained by the World Health Organization with inputs from the *Countdown* Health Systems and Policies Technical Working Group. The data on financial flows are compiled and analysed by a team at the London School of Hygiene and Tropical Medicine in collaboration with the *Countdown* Financial Flows Technical Working Group.

Additional information

Further detail on *Countdown's* data sources and methods are available in the published literature[51] and on the *Countdown* website (www.countdown2015mnch.org). *Countdown* databases are publicly available for free through the *Countdown* website (http://countdown2015mnch.org/about-countdown/countdown-data).

Annex C
Country profile indicators and data sources, organized by order of presentation in the profile

Indicator		Data source	Global database
Demographics			
Demographics	Total population	United Nations Population Division	United Nations Population Division
	Total under-five population	United Nations Population Division	United Nations Population Division
	Births	United Nations Population Division	United Nations Population Division
	Birth registration	Multiple Indicator Cluster Surveys, Demographic and Health Surveys, other national household surveys, censuses and vital registration systems	United Nations Children's Fund
	Total fertility rate	United Nations Population Division	United Nations Population Division
	Adolescent birth rate	Multiple Indicator Cluster Surveys, Demographic and Health Surveys, Reproductive Health Surveys, other national surveys, civil registration systems and censuses	United Nations Population Division, United Nations Population Fund
Child mortality	Total under-five deaths	The UN Inter-agency Group for Child Mortality Estimation (United Nations Children's Fund, World Health Organization, United Nations Population Division, World Bank)	The UN Inter-agency Group for Child Mortality Estimation (United Nations Children's Fund, World Health Organization, United Nations Population Division, World Bank)
	Neonatal deaths as a proportion of all under-five deaths*	The UN Inter-agency Group for Child Mortality Estimation (United Nations Children's Fund, World Health Organization, United Nations Population Division, World Bank)	The UN Inter-agency Group for Child Mortality Estimation (United Nations Children's Fund, World Health Organization, United Nations Population Division, World Bank)
	Neonatal mortality rate	The UN Inter-agency Group for Child Mortality Estimation (United Nations Children's Fund, World Health Organization, United Nations Population Division, World Bank)	The UN Inter-agency Group for Child Mortality Estimation (United Nations Children's Fund, World Health Organization, United Nations Population Division, World Bank)
	Infant mortality rate	The UN Inter-agency Group for Child Mortality Estimation (United Nations Children's Fund, World Health Organization, United Nations Population Division, World Bank)	The UN Inter-agency Group for Child Mortality Estimation (United Nations Children's Fund, World Health Organization, United Nations Population Division, World Bank)
	Under-five mortality rate*	The UN Inter-agency Group for Child Mortality Estimation (United Nations Children's Fund, World Health Organization, United Nations Population Division, World Bank)	The UN Inter-agency Group for Child Mortality Estimation (United Nations Children's Fund, World Health Organization, United Nations Population Division, World Bank)
	Causes of under-five deaths	World Health Organization, Child Health Epidemiology Reference Group, United Nations Children's Fund	World Health Organization, Child Health Epidemiology Reference Group, United Nations Children's Fund
	Stillbirth rate	Cousens and others 2011	Cousens and others 2011
Maternal mortality	Total maternal deaths	Maternal Mortality Estimation Inter-agency Group (World Health Organization, United Nations Children's Fund, United Nations Population Fund, World Bank)	Maternal Mortality Estimation Inter-agency Group (World Health Organization, United Nations Children's Fund, United Nations Population Fund, World Bank)
	Lifetime risk of maternal death	Maternal Mortality Estimation Inter-agency Group (World Health Organization, United Nations Children's Fund, United Nations Population Fund, World Bank)	Maternal Mortality Estimation Inter-agency Group (World Health Organization, United Nations Children's Fund, United Nations Population Fund, World Bank)
	Maternal mortality ratio (adjusted)*	Maternal Mortality Estimation Inter-agency Group (World Health Organization, United Nations Children's Fund, United Nations Population Fund, World Bank)	Maternal Mortality Estimation Inter-agency Group (World Health Organization, United Nations Children's Fund, United Nations Population Fund, World Bank)
	Causes of maternal deaths (regional)	World Health Organization	World Health Organization
Maternal and newborn health			
Delivery care	**Skilled attendant at delivery***	Multiple Indicator Cluster Surveys, Demographic and Health Surveys, Reproductive Health Surveys, other national surveys	United Nations Children's Fund
AIDS	**Pregnant women living with HIV receiving antiretroviral therapy for their own health***	Country reporting through the Global AIDS Response Progress Report and Universal Access joint reporting process by the World Health Organization, the United Nations Children's Fund and the Joint United Nations Programme on HIV/AIDS and UNAIDS Spectrum estimates	Joint United Nations Programme on HIV/AIDS, United Nations Children's Fund, World Health Organization
	Pregnant women living with HIV receiving antiretroviral drugs for prevention of mother-to-child transmission*	Country reporting through the Global AIDS Response Progress Report and Universal Access joint reporting process by the World Health Organization, the United Nations Children's Fund and the Joint United Nations Programme on HIV/AIDS and UNAIDS Spectrum estimates	United Nations Children's Fund
Antenatal care	Antenatal care (at least one visit)	Multiple Indicator Cluster Surveys, Demographic and Health Surveys, Reproductive Health Surveys, other national surveys	United Nations Children's Fund
	Antenatal care (four or more visits)*	Multiple Indicator Cluster Surveys, Demographic and Health Surveys, Reproductive Health Surveys, other national surveys Demographic and Health Surveys, Reproductive Health Survey, other national surveys	United Nations Children's Fund

Indicator		Data source	Global database
Demand for family planning satisfied	**Demand for family planning satisfied***	Multiple Indicator Cluster Surveys, Demographic and Health Surveys, Reproductive Health Surveys, other national surveys	United Nations Population Fund
Intermittent preventive treatment of malaria during pregnancy	Intermittent preventive treatment of malaria during pregnancy	Multiple Indicator Cluster Surveys, Demographic and Health Surveys, Malaria Indicator Surveys, other national surveys	United Nations Children's Fund
Caesarean section	Caesarian section rate	Multiple Indicator Cluster Surveys, Demographic and Health Surveys, Reproductive Health Survey, other national surveys	United Nations Children's Fund
Neonatal tetanus protection	Neonatal tetanus vaccine	Multiple Indicator Cluster Surveys, Demographic and Health Surveys	United Nations Children's Fund, World Health Organization
Postnatal care	**Postnatal visit for baby***	Demographic and Health Surveys	Special data analysis by Saving Newborn Lives
Postnatal care	**Postnatal visit for mother***	Demographic and Health Surveys	Special data analysis by Saving Newborn Lives
Body mass index	Women with low body mass index	Demographic and Health Surveys	Demographic and Health Surveys, STATCompiler (accessed March 2014)
Equity			
	Demand for family planning satisfied*	Multiple Indicator Cluster Surveys, Demographic and Health Surveys	Special data analysis by Federal University of Pelotas, Brazil
	Antenatal care (at least one visit)	Multiple Indicator Cluster Surveys, Demographic and Health Surveys	Special data analysis by Federal University of Pelotas, Brazil
	Antenatal care (four or more visits)*	Multiple Indicator Cluster Surveys, Demographic and Health Surveys	Special data analysis by Federal University of Pelotas, Brazil
	Skilled attendant at delivery*	Multiple Indicator Cluster Surveys, Demographic and Health Surveys	Special data analysis by Federal University of Pelotas, Brazil
	Early initiation of breastfeeding	Multiple Indicator Cluster Surveys, Demographic and Health Surveys	Special data analysis by Federal University of Pelotas, Brazil
	ITN use among children < 5 years	Multiple Indicator Cluster Surveys, Demographic and Health Surveys	Special data analysis by Federal University of Pelotas, Brazil
	Three doses of combined diphtheria/tetanus/ pertussis vaccine immunization coverage*	Multiple Indicator Cluster Surveys, Demographic and Health Surveys	Special data analysis by Federal University of Pelotas, Brazil
	Measles immunization coverage	Multiple Indicator Cluster Surveys, Demographic and Health Surveys	Special data analysis by Federal University of Pelotas, Brazil
	Vitamin A (past 6 months)	Multiple Indicator Cluster Surveys, Demographic and Health Surveys	Special data analysis by Federal University of Pelotas, Brazil
	Oral rehydration therapy and continued feeding	Multiple Indicator Cluster Surveys, Demographic and Health Surveys	Special data analysis by Federal University of Pelotas, Brazil
	Careseeking for pneumonia	Multiple Indicator Cluster Surveys, Demographic and Health Surveys	Special data analysis by Federal University of Pelotas, Brazil
Child Health			
Immunization	Measles immunization coverage	World Health Organization and United Nations Children's Fund estimates of national immunization coverage	World Health Organization and United Nations Children's Fund estimates of national immunization coverage
	Three doses of combined diphtheria/tetanus/ pertussis vaccine immunization coverage*	World Health Organization and United Nations Children's Fund estimates of national immunization coverage	World Health Organization and United Nations Children's Fund estimates of national immunization coverage
	Haemophilus influenzae type B immunization coverage	World Health Organization and United Nations Children's Fund estimates of national immunization coverage	World Health Organization and United Nations Children's Fund estimates of national immunization coverage
	Rotavirus vaccine coverage	World Health Organization and United Nations Children's Fund estimates of national immunization coverage	World Health Organization and United Nations Children's Fund estimates of national immunization coverage
	Pneumococcal conjugate vaccine coverage	World Health Organization and United Nations Children's Fund estimates of national immunization coverage	World Health Organization and United Nations Children's Fund estimates of national immunization coverage
Pneumonia treatment	Careseeking for symptoms of pneumonia	Multiple Indicator Cluster Surveys, Demographic and Health Surveys, other national surveys	United Nations Children's Fund
	Antibiotic treatment for symptoms of pneumonia*	Multiple Indicator Cluster Surveys, Demographic and Health Surveys, other national surveys	United Nations Children's Fund
Diarrhoeal disease treatment	Oral rehydration therapy and continued feeding	Multiple Indicator Cluster Surveys, Demographic and Health Surveys, other national surveys	United Nations Children's Fund
	Oral rehydration salts	Multiple Indicator Cluster Surveys, Demographic and Health Surveys, other national surveys	United Nations Children's Fund

Indicator		Data source	Global database
Malaria prevention and treatment	Children receiving first-line treatment among those receiving any antimalarial	Multiple Indicator Cluster Surveys, Demographic and Health Surveys, Malaria Indicator Surveys, other national surveys	United Nations Children's Fund
	Insecticide-treated net use	Multiple Indicator Cluster Surveys, Demographic and Health Surveys, Malaria Indicator Surveys, other national surveys	United Nations Children's Fund
Nutrition			
Anthropometry	Underweight prevalence	Multiple Indicator Cluster Surveys, Demographic and Health Surveys, other national surveys	United Nations Children's Fund, World Health Organization, World Bank
	Stunting prevalence*	Multiple Indicator Cluster Surveys, Demographic and Health Surveys, other national surveys	United Nations Children's Fund, World Health Organization, World Bank
	Wasting prevalence	Multiple Indicator Cluster Surveys, Demographic and Health Surveys, other national surveys	United Nations Children's Fund, World Health Organization, World Bank
Infant feeding	Early initiation of breastfeeding	Multiple Indicator Cluster Surveys, Demographic and Health Surveys, other national surveys	United Nations Children's Fund
	Exclusive breastfeeding rate (for first six months of life)*	Multiple Indicator Cluster Surveys, Demographic and Health Surveys, other national surveys	United Nations Children's Fund
	Introduction of solid, semi-solid and soft foods (ages 6–8 months)	Multiple Indicator Cluster Surveys, Demographic and Health Surveys, other national surveys	United Nations Children's Fund
Low birthweight	Low birthweight incidence	Multiple Indicator Cluster Surveys, Demographic and Health Surveys, other national surveys, routine reporting	United Nations Children's Fund
Micronutrient supplementation	Vitamin A two dose coverage	United Nations Children's Fund	United Nations Children's Fund
Water and sanitation			
Water	Improved drinking water coverage	Joint Monitoring Programme for Water Supply and Sanitation (World Health Organization and United Nations Children's Fund)	Joint Monitoring Programme for Water Supply and Sanitation (World Health Organization and United Nations Children's Fund)
Sanitation	Improved sanitation coverage	Joint Monitoring Programme for Water Supply and Sanitation (World Health Organization and United Nations Children's Fund)	Joint Monitoring Programme for Water Supply and Sanitation (World Health Organization and United Nations Children's Fund)
Policies, systems and financing			
Policies	Laws or regulations that allow adolescents to access contraceptives without parental or spousal consent	World Health Organization	Global Maternal Newborn Child and Adolescent Health Policy Indicator Survey 2013 by the World Health Organization Department of Maternal Child and Adolescent Health
	Legal status of abortion	United Nations Population Division policy database	United Nations Population Division policy database http://esa.un.org/poppolicy/about_database.aspx (Accessed January 2014)
	Midwives authorized for specific tasks	World Health Organization	Global Maternal Newborn Child and Adolescent Health Policy Indicator Survey 2013 by the World Health Organization Department of Maternal Child and Adolescent Health
	Maternity protection (Convention 183)	International Labour Organization	International Labour Organization, NORMLEX Information System on International Labour Standards, at: https://www.ilo.org/dyn/normlex/en (Accessed March 2014)
	Maternal deaths notification	World Health Organization	Global Maternal Newborn Child and Adolescent Health Policy Indicator Survey 2013 by the World Health Organization Department of Maternal Child and Adolescent Health
	Postnatal home visits in first week after birth	World Health Organization	Global Maternal Newborn Child and Adolescent Health Policy Indicator Survey 2013 by the World Health Organization Department of Maternal Child and Adolescent Health
	Kangaroo mother care in facilities for low-birthweight and preterm newborns	World Health Organization	Global Maternal Newborn Child and Adolescent Health Policy Indicator Survey 2013 by the World Health Organization Department of Maternal Child and Adolescent Health
	Antenatal corticosteroids as part of management of preterm labour	World Health Organization	Global Maternal Newborn Child and Adolescent Health Policy Indicator Survey 2013 by the World Health Organization Department of Maternal Child and Adolescent Health
	International Code of Marketing of Breastmilk Substitutes	World Health Organization	World Health Organization and United Nations Children's Fund special data compilation
	Community treatment of pneumonia with antibiotics	World Health Organization	Global Maternal Newborn Child and Adolescent Health Policy Indicator Survey 2013 by the World Health Organization Department of Maternal Child and Adolescent Health

Indicator		Data source	Global database
	Low-osmolarity oral rehydration salts and zinc for management of diarrhoea	World Health Organization	Global Maternal Newborn Child and Adolescent Health Policy Indicator Survey 2013 by the World Health Organization Department of Maternal Child and Adolescent Health
Systems	Costed national implementation plans for maternal, newborn and child health available	World Health Organization	Global Maternal Newborn Child and Adolescent Health Policy Indicator Survey 2013 by the World Health Organization Department of Maternal Child and Adolescent Health
	Reproductive lifesaving commodities in essential medicines list: emergency contraceptives, implants and female condoms	U.S. Agency for International Development Deliver Project and World Health Organization	Emergency contraceptives and implants information: U.S. Agency for International Development Deliver Project, http://deliver.jsi.com/dhome/whatwedo/commsecurity/csmeasuring/csindicators/csindicatordashboards (Accessed March 2014) Female condoms information: World Health Organization EML database www.who.int/medicines/publications/essentialmedicines (Accessed March 2014)
	Maternal lifesaving commodities in essential medicines list: oxytocin, misoprostol and magnesium sulfate	World Health Organization	Global Maternal Newborn Child and Adolescent Health Policy Indicator Survey 2013 by the World Health Organization Department of Maternal Child and Adolescent Health
	Newborn lifesaving commodities in essential medicines list: injectable antibiotics, antenatal corticosteroids, chlorhexidine and resuscitation equipment	World Health Organization and the Chlorhexidine Working Group	Global Maternal Newborn Child and Adolescent Health Policy Indicator Survey 2013 by the World Health Organization Department of Maternal Child and Adolescent Health and the Chlorhexidine Working Group
	Child lifesaving commodities in essential medicines list: amoxicillin, oral rehydration salts and zinc	World Health Organization	Global Maternal Newborn Child and Adolescent Health Policy Indicator Survey 2013 by the World Health Organization Department of Maternal Child and Adolescent Health
	Density of doctors, nurses and midwives	World Health Organization	Global Health Observatory 2013
	National availability of emergency obstetric care services	Averting Maternal Death and Disability, United Nations Children's Fund, United Nations Population Fund	Averting Maternal Death and Disability, United Nations Children's Fund, United Nations Population Fund special data compilation
Financing	Per capita total expenditure on health	World Health Organization	Global Health Expenditure Database http://apps.who.int/gho/data/node.main.484?lang=en (Accessed February 2014)
	General government expenditure on health as % of total government expenditure	World Health Organization	Global Health Expenditure Database http://apps.who.int/gho/data/node.main.484?lang=en (Accessed February 2014)
	Out-of-pocket expenditure as % of total expenditure on health	World Health Organization	Global Health Expenditure Database http://apps.who.int/gho/data/node.main.484?lang=en (Accessed February 2014)
	Reproductive, maternal, newborn and child health expenditure by source	World Health Organization	World Health Organization
	Official development assistance to child health per child	Organisation for Economic Co-operation and Development's Development Assistance Committee	London School of Health and Tropical Medicine
	Official development assistance to maternal and neonatal health per live birth	Organisation for Economic Co-operation and Development's Development Assistance Committee	London School of Health and Tropical Medicine

* Indicators in bold are those recommended by the Commission on Information and Accountability for Women's and Children's Health. The commission indicator for under-five mortality includes the proportion of neonatal deaths, also tracked by *Countdown*.

Annex D
Definitions of *Countdown* coverage indicators

Intervention	Indicator definition	Numerator	Denominator
Maternal and newborn health			
Skilled attendant at delivery*	Percentage of live births attended by skilled health personnel	Number of women ages 15–49 with a live birth in the X years prior to the survey who were attended during delivery by skilled health personnel (doctor, nurse, midwife or auxiliary midwife)	Total number of women ages 15–49 with a live birth in the X years preceding the survey
Treatment of pregnant women living with HIV*	Percentage of eligible pregnant women with HIV who received antiretroviral therapy	Number of pregnant women living with HIV who are receiving lifelong antiretroviral therapy	Estimated number of pregnant women living with HIV[a]
Prevention of mother-to-child transmission of HIV	Percentage of pregnant women living with HIV who received most efficacious regimens of antiretrovirals to prevent mother-to-child transmission of HIV	Number of pregnant women living with HIV who received most efficacious regimens of antiretrovirals to prevent mother-to-child transmission of HIV	Estimated number of pregnant women living with HIV[a]
Antenatal care (at least one visit)	Percentage of women attended at least once during pregnancy by skilled health personnel	Number of women ages 15–49 who were attended at least once during pregnancy in the X years preceding the survey by skilled health personnel (doctor, nurse, midwife, or auxiliary midwife)	Total number of women ages 15–49 with a live birth in the X years preceding the survey
Antenatal care (four or more visits)*	Percentage of women attended four or more times during pregnancy by any provider	Number of women ages 15–49 who were attended four or more times during pregnancy in the X years preceding the survey by any provider	Total number of women ages 15–49 with a live birth in the X years preceding the survey
Demand for family planning satisfied*	Percentage of women ages 15–49, either married or in union, who have their need for family planning satisfied	Women who are married or in union and currently using any method of contraception	Women who are married or in union and who are currently using any method of contraception or who are fecund, not using any method of contraception but report wanting to space their next birth or stop childbearing altogether
Intermittent preventive treatment for malaria during pregnancy	Percentage of women who received intermittent preventive treatment for malaria during their last pregnancy	Number of women ages 15–49 at risk for malaria who received two or more doses of a sulfadoxine-pyrimethamine (Fansidar™) to prevent malaria during their last pregnancy that led to a live birth	Total number of women ages 15–49 with a live birth in the X years preceding the survey
Caesarean section rate	Percentage of live births delivered by Caesarean section	Number of women ages 15–49 with a live birth in the X years preceding the survey delivered by caesarean section	Total number of women ages 15–49 with a live birth in the X years preceding the survey
Neonatal tetanus protection	Percentage of newborns protected against tetanus	Number of mothers with a live birth in the year prior to the survey who received two doses of tetanus toxoid vaccine within the appropriate interval prior to the infant's birth	Total number of women ages 15–49 with a live birth in the year prior to the survey
Postnatal care for mothers*[b]	Percentage of mothers who received postnatal care within two days of childbirth	Number of women ages 15–49 who received postnatal care within two days of childbirth (regardless of place of delivery)	Total number of women ages 15–49 with a last live birth in the x years prior to the survey (regardless of place of delivery)
Postnatal care for babies*	Percentage of babies who received postnatal care within two days of childbirth	Number of babies who received postnatal care within two days of birth	Total number of last-born babies in the X years prior to the survey
Child health			
Measles immunization coverage	Percentage of infants immunized with measles-containing vaccine	Number of children ages 12–23 months who are immunized against measles	Total number of children ages 12–23 months surveyed
Three doses of combined diphtheria/ pertussis/tetanus vaccine immunization coverage*	Percentage of infants who received three doses of diphtheria/pertussis/tetanus vaccine	Number of children ages 12–23 months receiving three doses of diphtheria/ pertussis/tetanus vaccine	Total number of children ages 12–23 months surveyed
Three doses of *Haemophilus influenzae* type B immunization coverage	Percentage of infants who received three doses of *Haemophilus influenzae* type B vaccine	Number of children ages 12–23 months receiving three doses of *Haemophilus influenzae* type B vaccine	Total number of children ages 12–23 months surveyed
Careseeking for symptoms of pneumonia	Percentage of children ages 0–59 months with symptoms of pneumonia taken to an appropriate health provider	Number of children ages 0–59 months with symptoms of pneumonia in the two weeks prior to the survey who were taken to an appropriate health provider	Total number of children ages 0–59 months with symptoms of pneumonia in the two weeks prior to the survey
Antibiotic treatment for symptoms of pneumonia*	Percentage of children ages 0–59 months with symptoms of pneumonia receiving antibiotics	Number of children ages 0–59 months with symptoms of pneumonia in the two weeks prior to the survey receiving antibiotics	Total number of children ages 0–59 months with symptoms of pneumonia in the two weeks prior to the survey
Oral rehydration therapy and continued feeding	Percentage of children ages 0–59 months with diarrhoea receiving oral rehydration therapy and continued feeding	Number of children ages 0–59 months with diarrhoea in the two weeks prior to the survey receiving oral rehydration therapy (oral rehydration salts packet, pre-packaged oral rehydration salts fluid, recommended homemade fluid or increased fluids) and continued feeding	Total number of children ages 0–59 months with diarrhoea in the two weeks prior to the survey

Intervention	Indicator definition	Numerator	Denominator
Oral rehydration salts treatment	Percentage of children ages 0–59 months with diarrhoea receiving oral rehydration salts	Number of children ages 0–59 months with diarrhoea in the two weeks prior to the survey receiving oral rehydration salts	Total number of children ages 0–59 months with diarrhoea in the two weeks prior to the survey
First line antimalarial treatment	Percentage of children ages 0–59 months receiving first-line antimalarial treatment	Number of children ages 0–59 months who had a fever in the two weeks prior to the survey who received first line treatment according to national policy	Total number of children ages 0–59 months who had a fever in the two weeks prior to the survey who received any antimalarial drugs
Insecticide-treated net use	Percentage of children ages 0–59 months sleeping under an insecticide-treated mosquito net	Number of children ages 0–59 months sleeping under an insecticide-treated mosquito net the night before the survey	Total number of children ages 0–59 months surveyed
Nutrition			
Early initiation of breastfeeding	Percentage of newborns put to the breast within one hour of birth	Number of women with a live birth in the X years prior to the survey who put the newborn infant to the breast within 1 hour of birth	Total number of women with a live birth in the X years prior to the surveyed
Exclusive breastfeeding (for first 6 months of life)*	Percentage of infants ages 0–5 months who are exclusively breastfed	Number of infants ages 0–5 months who are exclusively breastfed	Total number of infants ages 0–5 months surveyed
Introduction of solid, semi-solid and soft foods (ages 6–8 months)	Percentage of infants ages 6–8 months who receive solid, semi-solid or soft foods	Number of infants ages 6–8 months who received solid, semi-solid or soft foods during the previous day	Total number of infants ages 6–8 months surveyed
Vitamin A supplementation	Percentage of children ages 6–59 months who received two doses of vitamin A during the calendar year	Estimated number of children ages 6–59 months who received two doses of vitamin A during the calendar year	Total number of children ages 6–59 months
Water and sanitation			
Use of improved drinking water sources	Percentage of the population using improved drinking water sources (piped on premises or other improved drinking water sources)	Number of household members using improved drinking water sources (including piped on premises, public standpipe, borehole, protected dug well, protected spring, rainwater collection)	Total number of household members
Use of improved sanitation facilities	Percentage of the population using improved sanitation facilities	Number of household members using improved sanitation facilities (including connection to a public sewer, connection to a septic system, pour-flush latrine, simple pit latrine, or a ventilated improved pit latrine)	Total number of household members

* Indicators in bold are those recommended by the Commission on Information and Accountability for Women's and Children's Health. The commission indicator for under-five mortality includes the proportion of neonatal deaths, also tracked by *Countdown*.

a. More details on the HIV estimates methodology can be found at www.unaids.org.

b. As used for postnatal care in the graph on coverage along the continuum of care on the first page of each country profile.

Annex E
Definitions of health policies, systems and finance indicators

Indicator	Definition	Criteria for ranking
Policy indicators		
Family planning for adolescents	Laws or regulations allow adolescents (married or unmarried) to access contraception without parental or spousal consent.	Yes = legislation is available that allows adolescents to access contraception without parental or spousal consent. Partial = legislation is available that allows either married adolescents to access contraception without spousal consent or allows unmarried adolescents to access contraception without parental consent. No = no legislation is available that allows adolescents to access contraception without parental or spousal consent.
Legal status of abortion	Legal grounds under which abortion is allowed.	Abortion allowed on the following grounds: I = to save a woman's life. II = to preserve physical health and above. III = to preserve mental health and above. IV = for economic and social reason and the above. V = on request and above. R = in case of rape or incest. F = in case of foetal impairment. — = data are not available.
Midwives authorized for specific tasks	Midwifery personnel are authorized to deliver basic emergency obstetric and newborn care.	Number of the seven lifesaving interventions tasks authorized: • Parental antibiotics. • Parenteral oxytocin. • Parental anticonvulsants. • Manual removal of placenta. • Removal of retained products of conception. • Assisted vaginal delivery. • Newborn resuscitation.
Maternity protection (Convention 183)	Country has ratified International Labour Organization Convention 183 or has passed national legislation that is in compliance with the three key provisions of the convention (14 weeks of maternity leave, paid at 66% of previous earnings by social security or general revenue)	Yes = International Labour Organization Convention 183 ratified (maternity leave of at least 14 weeks with cash benefits of previous earnings paid by social security or public funds). Partial = International Labour Organization Convention 183 not ratified but previous maternity convention ratified (maternity leave of at least 12 weeks with cash benefits of previous earnings paid by social security or public funds). No = no ratification of any maternal protection convention.
Maternal deaths notification	National policy has been adopted requiring health professionals to notify any maternal death to a responsible national body.	Yes = national policy adopted and implemented. Partial = national policy adopted but no systematic implementation. No = no national policy adopted.
Postnatal home visits in the first week after birth	National policy recommending home visits to mother and newborn in the first week after childbirth by a trained provider have been adopted and implemented.	Yes = national policy or guidelines recommending postnatal home visits adopted and implemented. No = no national policy or guidelines on postnatal home visits adopted.
Kangaroo mother care for low birthweight newborns	National policy recommends kangaroo mother care for low-birthweight newborns.	Yes = national policy recommends kangaroo mother care for low-birthweight newborns. No = national policy does not recommend kangaroo mother care for low-birthweight newborns.
Antenatal corticosteroids for preterm labour	National policy recommends antenatal corticosteroids for preterm labour.	Yes = national policy recommends use of antenatal corticosteroids for preterm labour. No = national policy does not recommend use of antenatal corticosteroids for preterm labour.
International Code of Marketing of Breastmilk Substitutes	National policy has been adopted on all provisions stipulated in International Code of Marketing of Breastmilk Substitutes.	Yes = all provisions stipulated in International Code of Marketing of Breastmilk Substitutes adopted in legislation. Partial = voluntary agreements or some provisions stipulated in International Code of Marketing of Breastmilk Substitutes adopted in legislation. No = no legislation and no voluntary agreements adopted in relation to the International Code of Marketing of Breastmilk Substitutes.
Community treatment of pneumonia with antibiotics	National policy or guidelines authorizing case management of pneumonia in the community by a trained provider has been adopted and implemented.	Yes = national policy or guidelines adopted on the identification and treatment of pneumonia by trained providers in the community. No = no national policy or guidelines on the identification and treatment of pneumonia by trained providers.

Indicator	Definition	Criteria for ranking
Low-osmolarity oral rehydration salts and zinc for management of diarrhoea	National policy on management of diarrhoea with low osmolality oral rehydration salts and zinc has been adopted and implemented.	Yes = national policy or guidelines adopted on use of low osmolality oral rehydration salts and zinc for management of diarrhoea. No = no national policy or guidelines adopted on use of low osmolality oral rehydration salts and zinc for management of diarrhoea
Systems indicators		
Costed national implementation plan for maternal, newborn and child health	National plan for scaling up maternal, newborn and child health interventions is available and costed.	Yes = costed plan or plans to scale up maternal, newborn and child health interventions available at the national level. Partial = costed plan available for either maternal and newborn health or child health. No = no costed implementation plan for maternal, newborn and child health available.
Reproductive lifesaving commodities in essential medicines list	Emergency contraceptives, implants and female condoms are in the essential medicines list.	Number of the three listed commodities that are included in the essential medicines list.
Maternal lifesaving commodities in essential medicines list	Oxytocin, misoprostol and magnesium sulfate are in the essential medicines list.	Number of the three listed commodities that are included in the essential medicines list.
Newborn lifesaving commodities in essential medicines list	Injectable antibiotics, antenatal corticosteroids, chlorhexidine and resuscitation equipment are in the essential medicines list.	Number of the four listed commodities that are included in the essential medicines list.
Child lifesaving commodities in essential medicines list	Amoxicillin, oral rehydration salts and zinc are in the essential medicines list.	Number of the three listed commodities that are included in the essential medicines list.
Density of health workers	Proportion of physicians, nurses and midwives who are available per 10,000 population.	Percentage
National availability of emergency obstetric care services	At least five emergency obstetric care facilities per 500,000 people, including one comprehensive and four basic emergency obstetric care facilities. (The breakdown of comprehensive and basic by population and geographic area is available in country assessment reports but not included in the Countdown.)	Availability is expressed as a percentage of the minimum acceptable number of emergency obstetric care facilities. The minimum acceptable number of emergency obstetric care facilities (comprehensive and basic) is calculated by dividing the population by 500,000 and multiplying by 5. The percentage of recommended minimum number of emergency obstetric care facilities is calculated by dividing the number of functioning emergency obstetric care facilities by the recommended number and multiplying by 100. To qualify as a fully functioning basic or comprehensive emergency obstetric care facility, a facility must provide a standard set of signal functions
Finance indicators		
Per capita total expenditure on health		Numerical
General government expenditure on health as a share of total government expenditure		Numerical
Out-of-pocket expenditure as a share of total expenditure on health		Numerical

Annex F
Technical annex for the Health Systems and Policies Technical Working Group and the Financing Technical Working Group

Health systems and policies indicators

Most of the policy indicators compiled by the *Countdown* Health Systems and Policies Technical Working Group are the result of a biannual survey implemented by the World Health Organization's Department of Maternal, Newborn, Child and Adolescent Health. Indicators are developed as a composite measure summarizing the presence and implementation of a given policy. If a policy is endorsed and implemented, the value of the indicator is marked as "Yes". If the policy is not endorsed, the value of the indicator is marked as "No". If the policy is endorsed but lacks implementation, the value of the indicator is marked as "Partial". For policies such as midwifery personnel authorized to deliver basic emergency obstetric and newborn care or reproductive, maternal, newborn and child health lifesaving commodities in essential list of medicines, the value of the indicator is the number of policy components endorsed or present in the policy document. Respondents to the survey are ministry of health officials responsible for maternal, newborn, child and adolescent health in their country. The information reported is independently validated by the World Health Organization country office and at least one other UN organization that operates in the country. Data analysis and compilation are done by the World Health Organization. Data reported are collected from the 2013–2014 survey. The legal status of abortion indicator is a result of the analysis of legal grounds under which abortion is legally allowed, as per the information reported in the United Nations Population Division policy database.

The Health Systems and Policies Technical Working Group regularly reviews the evidence base for all the systems and policy measures that *Countdown* tracks. For example, a small working group has been formed to review the signal functions related to the indicator on emergency obstetric care, including on care for newborns.

Financing indicators

The *Countdown* Financing Working Group analysed 2011 official development assistance disbursements in the Organisation for Economic Co-operation and Development's Development Assistance Committee's Creditor Reporting System aid activities database using previously implemented methods.[52] Data were downloaded on 3 April 2014 and included 242,382 records of aid disbursement.

All records were reviewed to correct for errors in the classification of health expenditures within the database. Records were manually coded against a framework defining reproductive, maternal, newborn and child health activities. Broadly, maternal and newborn health activities were defined as those that aim to restore, improve or maintain the health of women and their newborn during pregnancy, childbirth and the postnatal period, and child health activities were defined as those that aim to restore, improve or maintain the health of children ages 1 month to 5 years. Additional activities considered as reproductive health include family planning and those related to sexual health and sexually transmitted infections, including HIV. Based on these codes, each record was given an allocation factor between 0% and 100%, representing the proportion of expenditures spent on reproductive, maternal, newborn and child health. Allocation factors were established after reviewing the literature and current financial (for example, general government expenditure on health as a percentage of total government expenditure), epidemiological (for example, percentage of a population group with HIV) and population estimates (for example, percentage of population under age 5). Official development assistance from all 27 bilateral organizations, 22 multilateral organizations and 3 global health initiatives (including the Bill and Melinda Gates Foundation) to the *Countdown's* priority countries was analysed and reported in two indictors: official development assistance to child health per child and official development assistance to maternal and neonatal health per live birth.

Comparison of results with those of the Institute for Health Metrics and Evaluation

Recent data from the Institute for Health Metrics and Evaluation report that development assistance to maternal, newborn and child health grew just under 18% in real terms between 2010 and 2011 among all recipient countries (not just the 75 *Countdown* countries), from $5.2 billion to $6.1 billion (in 2011 prices).

When considering official development assistance to all recipient countries (not just *Countdown* countries), *Countdown* estimates a 3% increase in real terms, from $6.9 billion to $7.1 billion (in 2012 prices).

These differences in estimates may reflect differences in methods used by the two resource tracking initiatives, which could explain the variation in findings (see table F1 for examples of differences). First, the Institute for Health Metrics and Evaluation estimates development assistance to health, which is defined more broadly than official development assistance to include all financial and in-kind contributions from global health channels that aim to improve health. Further, the *Countdown* analysis relies on the data reported in the Creditor Reporting System, which is restricted to donors that report to the system. The Institute for Health Metrics and Evaluation's wider range of data sources account for 67% of the data analysed (Joe Dieleman, personal communication). For *Countdown* other, non-purpose-specific funding modalities and general health systems strengthening support that can be attributed to maternal, newborn and child health are picked up through the manual coding process. The Institute for Health Metrics and Evaluation conducts an automated keyword search. The Institute for Health Metrics and Evaluation

TABLE F1

Overview of key differences in methods to resource tracking between *Countdown* and the Institute for Health Metrics and Evaluation

Methods	*Countdown*	Institute for Health Metrics and Evaluation	Expected effect on estimates
What is being tracked?	Official development assistance.	Development assistance to health.	Institute for Health Metrics and Evaluation > *Countdown*
Donors	Donors reporting to the Creditor Reporting System.	Donors reporting to the Creditor Reporting System plus nongovernmental organizations, US private foundations, and the Pan American Health Organization.	Institute for Health Metrics and Evaluation > *Countdown*
Recipient countries	75 *Countdown* priority countries and all countries receiving official development assistance captured in the Creditor Reporting System.	Low- and middle-income countries as defined by the World Bank.	Institute for Health Metrics and Evaluation > *Countdown*
Data sources	Organisation for Economic Co-operation and Development's Creditor Reporting System.	Creditor Reporting System plus donor databases, annual reports, and audited financial statements; nongovernmental organization databases; and communication with donors.	Institute for Health Metrics and Evaluation > *Countdown*
Approach to coding	Manual, line by line coding of the entire Creditor Reporting System database according to predefined methods. Includes in maternal, newborn and child health spending HIV and malaria spending that is related to maternal, newborn and child health.	Automated keyword search of the health and population sector codes. Allocates 100% of United Nations Children's Fund and United Nations Population Fund spending to maternal, newborn and child health spending and 100% of Joint United Nations Programme on HIV/AIDS spending to reproductive health spending. Health focus areas are mutually exclusive so that projects that are for maternal, newborn and child health and another health focus area get divided between the multiple health focus areas.[a]	*Countdown* > Institute for Health Metrics and Evaluation
Categorization of health focus areas	Family planning included in reproductive health.	Family planning included in maternal, newborn and child health.	Institute for Health Metrics and Evaluation > *Countdown* for MNCH
Aid modality and health systems	Allocates a share of pooled funding and health systems funding to maternal, newborn and child health.	Does not include pooled funding or health systems funding that is not explicitly earmarked for maternal, newborn and child health.	*Countdown* > Institute for Health Metrics and Evaluation
Data adjustments	Disbursements as reported in the Creditor Reporting System. No adjustments made.	For projects where the Creditor Reporting System does not report disbursement data, commitment data are adjusted to reflect disbursements.	Institute for Health Metrics and Evaluation > *Countdown*

a. The Institute for Health Metrics and Evaluation tracks a wide range of health focus areas (such as maternal, newborn and child health; HIV; and malaria). To avoid double counting, it divides projects across these areas, so a project addressing malaria in mothers and children would be divided between the maternal, newborn and child health and the malaria health focus areas. *Countdown* would include such projects as maternal, newborn and child health.

allocates certain donors' contributions, such as the United Nations Children's Fund, in full to maternal, newborn and child health, whereas *Countdown* relies on manual coding to allocate only projects with direct relevance to maternal, newborn and child health.

Technical note on box 9

The evidence used for the *Countdown* countries in box 9 on out-of-pocket financing for health came from published, publicly available sources (table F2 and figures F1 and F2). Other estimates for the *Countdown* countries may be available in the grey literature, including UN reports. The aim of box 9 is to highlight the need for improvements in the collection, analysis and dissemination of data on financial risk protection.

TABLE F2

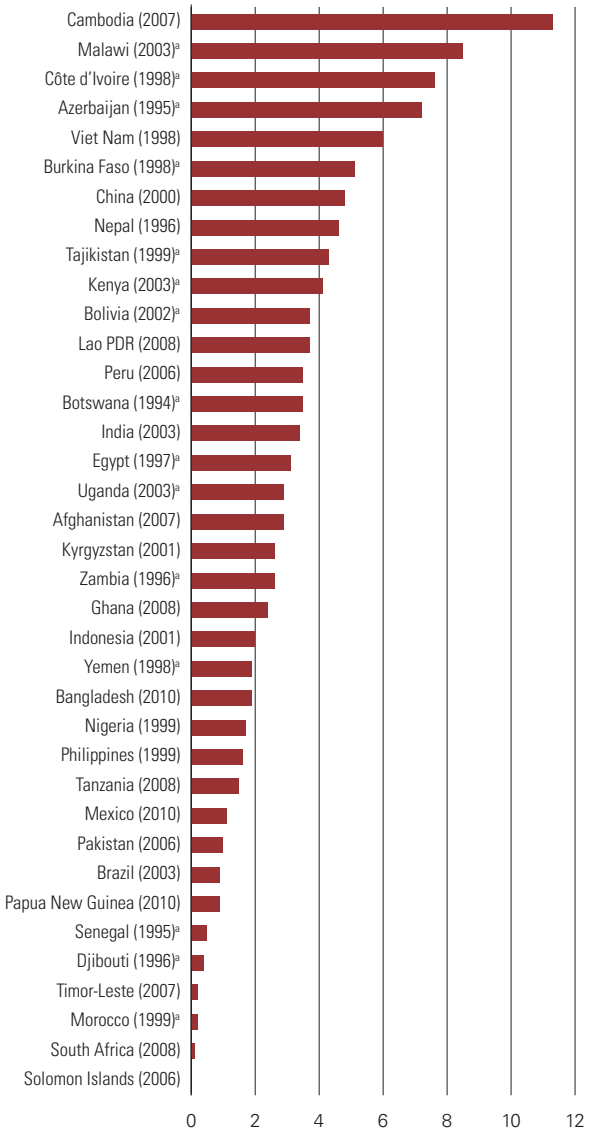
Estimates and sources of available data on catastrophic expenditure, *Countdown* countries

Reference	Indicator	Year	*Countdown* countries with data
van Doorslaer and others 2007	Share of population spending more than 40% of nonfood expenditure in a given month on direct health care payments	1994–2002	Bangladesh, China, India, Indonesia, Kyrgyzstan, Nepal, Philippines, Viet Nam
Xu and others 2007	Share of population spending more than 40% of nonsubsistence expenditure in a given month on direct health care payments	1990– 2003	32 *Countdown* countries
van Doorslaer and others 2006	Share of population falling below PPP$2.15 poverty line as a result of out-of-pocket expenditure on health in past month	1998–2001	Bangladesh, China, India, Indonesia, Kyrgyzstan, Nepal, Philippines, Viet Nam
Rannan-Eliya and others 2012	Share of population spending more than 40% of nonfood expenditure in a given month on direct health care payments Share of population falling below PPP$2.15 poverty line as a result of out-of-pocket expenditure on health in past month	2005–2010	Bangladesh, Cambodia, Lao PDR, Pakistan, Papua New Guinea, Timor-Leste
Knaul, Wong and Arreola-Ornelas 2012	Share of population spending more than 40% of nonfood expenditure in a given month on direct health care payments	2003–2010	Brazil, Mexico, Peru
Mills and others 2012	Share of population spending more than 40% of nonfood expenditure in a given month on direct health care payments	2008	Ghana, South Africa, Tanzania
Ichoku and Fonta 2009	Share of population spending more than 40% of nonfood expenditure in a given month on direct health care payments	1999	Nigeria
Countdown and World Bank studies (unpublished)	Share of population spending more than 40% of nonfood expenditure in a given month on direct health care payments Share of population falling below PPP$2.15 poverty line as a result of out-of-pocket expenditure on health in past month	2007–2010	Afghanistan, Solomon Islands

FIGURE F1

Households with out-of-pocket health expenditure greater than 40% of nonfood spending

Share of households spending 40% or more of nonfood expenditures on health (%)



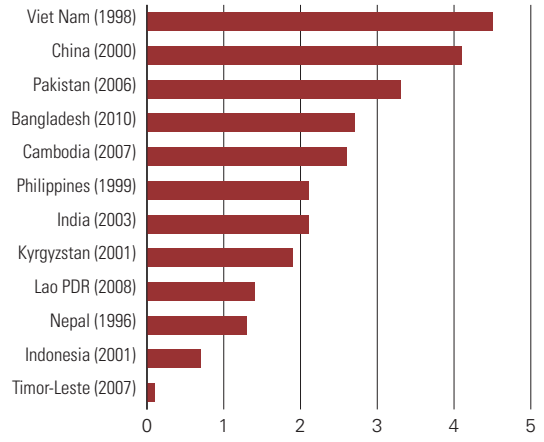
a. Estimate from Xu and others (2007) using similar but not strictly comparable definition.

Source: See table F2.

FIGURE F2

Households falling below international poverty line of PPP$2.15 a day as a result of out-of-pocket health expenditure

Share of people falling below poverty line of PPP$ 2.15 per day as a result of out-of-pocket payments for health care (%)



Source: See table F2.

Annex G
Countdown countries prioritized for malaria intervention coverage analysis

Table G1 organizes the *Countdown* countries according to a set of criteria related to malaria transmission risk:

- The left column includes 43 countries where at least 75% of the total population is at risk of malaria transmission and where a substantial proportion (50% or more) of malaria cases is due to *Plasmodium falciparum*. Only the countries meeting these criteria were included in the analyses for the malaria indicators in this report.

- The right column includes nine countries where 50–74% of the population is at risk of malaria transmission and where a substantial proportion (50% or more) of malaria cases is due to *Plasmodium falciparum.* When available, malaria intervention coverage data are included in the *Countdown* profiles.

TABLE G1

Countdown countries by malaria transmission risk

Countries where at least 75% of the population is at risk of malaria and where a substantial proportion (50% or more) of malaria cases is due to *Plasmodium falciparum* (*N* = 43)		Countries where 50–74% of the population is at risk of malaria and where a substantial proportion (50% or more) of malaria cases is due to *Plasmodium falciparum* (*N* = 9)
Angola	Madagascar	Botswana
Benin	Malawi	Cambodia
Burkina Faso	Mali	Djibouti
Burundi	Mauritania	Ethiopia
Cameroon	Mozambique	Indonesia
Central African Republic	Niger	Lao People's Democratic Republic
Chad	Nigeria	Myanmar
Comoros	Papua New Guinea	Yemen
Congo	Philippines	Zimbabwe
Congo, Dem. Rep.	Rwanda	
Côte d'Ivoire	São Tomé and Príncipe	
Equatorial Guinea	Senegal	
Eritrea	Sierra Leone	
Gabon	Solomon Islands	
Gambia	Somalia	
Ghana	South Sudan	
Guinea	Sudan	
Guinea-Bissau	Tanzania, United Republic	
Haiti	Togo	
India	Uganda	
Kenya	Zambia	
Liberia		

Source: Country profiles from WHO (2013).

Annex H
Details on estimates produced by interagency groups used in the *Countdown* report—mortality, immunization, and water and sanitation

Mortality

Countdown to 2015 aims to stimulate progress towards Millennium Development Goals 4 and 5, so it relies on UN interagency estimates on child and maternal mortality that are produced for official Millennium Development Goal reporting. These estimates are used to monitor progress at the global level because they are made comparable across countries and over time by applying standard methods to generate country, regional and global estimates. The UN mortality estimates are generated based on national data but may not always correspond precisely to the results from the most recent available data source or to country official estimates due to differences in the methods applied.

Child mortality. The child mortality estimates in this report (neonatal mortality rate, infant mortality rate, under-5 mortality rate and under-5 deaths) are based on the work of the UN Inter-agency Group for Child Mortality Estimation (UN IGME), which includes the United Nations Children's Fund, the World Health Organization, the United Nations Population Division and the World Bank. The UN IGME estimates are the official UN estimates for measuring progress towards Millennium Development Goal 4 (reduce child mortality). The UN IGME compiles available data from all possible nationally representative sources for a country, including household surveys, censuses and vital registration systems, and uses a model to fit a regression line to the data to produce the mortality estimates. Estimates are updated every year after a detailed review of all newly available data points. The review may result in adjustments to previously reported estimates as new data become available and provide more information on past trends.

The data inputs, methods and full time series of the UN IGME estimates for all countries are available at www.data.unicef.org and www.childmortality.org.

Maternal mortality. Maternal mortality estimates for 1990–2013 are based on the work of the Maternal Mortality Estimation Inter-agency Group, which comprises the World Health Organization, the United Nations Children's Fund, the United Nations Population Fund and the World Bank. Maternal mortality data—more sparse than child mortality data—are from sources such as vital registration systems, surveys and censuses. Maternal mortality estimates from these sources are subject to serious misclassification and underreporting. These data are therefore adjusted to account for these errors, and multilevel regression models are fit to predict levels and trends in maternal mortality between 1990 and 2013. Covariates used in the models include gross domestic product per capita, general fertility rate and skilled birth attendance. For more information, see WHO and others (2014).

Immunization

The immunization data published in this report are based on the work of the World Health Organization and the United Nations Children's Fund. The estimates should not be confused with other sources of information, such as Demographic and Health Surveys, Multiple Indicator Cluster Surveys or administratively reported data from ministries of health. The World Health Organization and United Nations Children's Fund use data reported by national immunization programmes as well as surveys and other sources to obtain estimates of national immunization coverage each year. A draft report is sent to each country for review and comment. Final reports are published in July with coverage estimates for the preceding calendar year. All new evidence, such as final survey reports received after publication, are taken into consideration during production of the following year's estimates. For each country's final report for 2012 as well as methods, data sources and brief description of trends, see www.data.unicef.org.

Water and sanitation

The drinking water and sanitation coverage estimates are produced by the World Health Organization–United Nations Children's Fund Joint Monitoring Programme for Water Supply and Sanitation. The estimates are the official UN estimates for measuring progress towards the Millennium Development Goal targets for drinking water and sanitation. They use a standard classification of what constitutes coverage.

The Joint Monitoring Programme does not report the findings of the latest nationally representative household survey or census. Instead, it estimates coverage using a linear regression line that is based on coverage data from all available household sample surveys and censuses. For specific country data, see www.childinfo.org and www.wssinfo.org.

Notes

1. The Bellagio Study Group on Child Survival 2003.
2. UN Inter-agency Group for Child Mortality Estimation 2013.
3. Wang and others forthcoming; UN IGME 2013.
4. UN Inter-agency Group for Child Mortality Estimation 2013.
5. UNICEF Division of Policy and Strategy 2013.
6. WHO 2014.
7. WHO 2014.
8. Lawn and others 2010; Requejo, Newby and Bryce 2012.
9. Kassebaum and others forthcoming; WHO and others 2014.
10. WHO and others 2014.
11. Kassebaum and others forthcoming; Say and others 2014.
12. *Lancet* 2008, 2013.
13. Black and others 2013; Bhutta and others 2013a.
14. *Lancet* 2013.
15. *Lancet* 2013.
16. WHO Executive Board 2013.
17. *Lancet* 2008; UNICEF 2013a.
18. Bhutta and others 2013a.
19. Ruel, Alderman and the Maternal and Child Nutrition Study Group 2013; Gillespie and others 2013.
20. Bhutta and others 2013a.
21. The Composite Coverage Index is a weighted score reflecting coverage of eight interventions along the continuum of care. For more details, see www.countdown2015mnch.org/reports-and-articles/equity.
22. Wang and others forthcoming.
23. Walker and others 2013.
24. Darmstadt and others forthcoming.
25. Global Health Workforce Alliance and WHO 2013.
26. UN Commission on Life-Saving Commodities for Women and Children 2012.
27. Hsu and others 2013.
28. Differences with the data reported by the Institute for Health Metrics and Evaluation are discussed in annex G.
29. Note that three additional donors now report to the Creditor Reporting System, accounting for an additional $3.9 million to maternal, newborn and child health and $760,000 to reproductive health.
30. Hsu and others 2012. [add to reference list]
31. Independent Expert Review Group, Commission on Information and Accountability for Women's and Children's Health 2013.
32. Moran and others 2013.
33. Campbell and others 2013; Hazir and others 2013.
34. Bryce and others 2013.
35. Barros and Victora 2013.
36. Hancioglu and Arnold 2013.
37. Requejo, Newby and Bryce 2013.
38. Sustainable Development Solutions Network 2014.
39. Partnership for Maternal, Newborn & Child Health and WHO 2014.
40. Data prepared by World Health Organization.
41. The Bellagio Study Group on Child Survival 2003.
42. The Bellagio Study Group on Child Survival 2003.
43. Bhutta and others 2010.
44. Commission on Information and Accountability for Women's and Children's Health 2011.
45. Monitoring and Evaluation Working Group of the International Health Partnership and Related Initiatives n.d.; Bryce and others 2011.
46. Amouzou, Habi and Bensaïd 2012.
47. El Arifeen and others forthcoming.
48. Barros and Victora 2013.
49. Victora and others 2005.
50. Filmer and Pritchett 2001.
51. Requejo, Victora and Bryce 2014.
52. Powell-Jackson and others 2006; Hsu, Berman and Mills 2013; Hsu and others 2012.

References

Ahmed, S., Q. Li, L. Liu, and others. 2012. "Maternal Deaths Averted by Contraceptive Use: An Analysis of 172 Countries." *Lancet* 380(9837): 111–125.

Amouzou, A., O. Habi, and K. Bensaïd. 2012. "Reduction in Child Mortality in Niger: A Countdown to 2015 Country Case Study." *Lancet* 380(9848): 1169–78.

Austin J., S. Guy S., L. Lee-Jones, and others. 2008. "Reproductive Health: A Right for Refugees and Internally Displaced Persons." *Reproductive Health Matters* 16(31): 10–21.

Barros, A.J.D., and C.G. Victora. 2013. "Measuring Coverage in MNCH: Determining and Interpreting Inequalities in Coverage of Maternal, Newborn, and Child Health Interventions." *PLOS Medicine* 10(5): e1001390. doi:10.1371/journal.pmed.1001390

The Bellagio Study Group on Child Survival. 2003. "Knowledge into Action for Child Survival." *Lancet* 362(9380): 323–27.

Bhutta, Z., M. Chopra, H. Axelson, and others. 2010. *Countdown to 2015 Decade Report (2000-10): Taking Stock of Maternal, Newborn, and Child Survival. Lancet* 375(9730): 2032–44.

Bhutta, Z., J. Das, A. Rizvi, and others. 2013a. "Evidence-based Interventions for Improvement of Maternal and Child Nutrition: What Can Be Done and at What Cost?" *Lancet* 382(9890): 452–77.

Bhutta, Z., J. Das, N. Walker, and others. 2013b. "Interventions to Address Deaths from Childhood Pneumonia and Diarrhoea Equitably: What Works and at What Cost?" *Lancet* 381(9875): 1417–29.

Black, R., C. Victora, S. Walker, and others. 2013. "Maternal and Child Undernutrition and Overweight in Low-income and Middle-income Countries." *Lancet* 382(9890): 427–51.

Brearley, L., S. Mohamed, V. Eriyagama, and others. 2012. *Impact of Maternal and Child Health Private Expenditure on Poverty and Inequity: Review of the Literature on the Extent and Mechanisms by which Maternal, Newborn, and Child Healthcare Expenditures Exacerbate Poverty, with Focus on Evidence from Asia and the Pacific*. Manila: Asian Development Bank.

Bryce, J., F. Arnold, A. Blanc, and others. 2013. "Measuring Coverage in MNCH: New Findings, New Strategies, and Recommendations for Action." *PLOS Medicine* 10(5): e1001423. doi:10.1371/journal.pmed.1001423.

Bryce J.B., C.G. Victora, T. Boerma, and others. 2011. "Evaluating the Scale-up for Maternal and Child Survival: A Common Framework." *International Health* 3(3): 139–46.

Campbell, H., S. el Arifeen, T. Hazir, and others. 2013. "Measuring Coverage in MNCH: Challenges in Monitoring the Proportion of Young Children with Pneumonia Who Receive Antibiotic Treatment." *PLOS Medicine* 10(5): e1001421. doi:10.1371/journal.pmed.1001421.

Cleland, J., A. Conde-Aqudelo, H. Peterson, and others. 2012. "Contraception and Health." *Lancet* 380(9837): 149–56.

Commission on Information and Accountability for Women's and Children's Health. 2011. *Keeping Promises, Measuring Results.* Geneva: World Health Organization.

Cousens, S., H. Blencowe, C. Stanton, and others. 2011. "National, Regional, and Worldwide Estimates of Stillbirth Rates in 2009 with Trends since 1995: A Systematic Analysis." *Lancet* 377(9774): 1319–30.

CPD (Centre for Policy Dialogue). 2003. "Bangladesh's Population Policy: Emerging Issues and Future Agenda." CPD-UNFPA Paper

Series 23. Dhaka. http://cpd.org.bd/pub_attach/unfpa23.pdf. Accessed 28 June 2013.

CRED (Centre for Research on the Epidemiology of Disasters). 2013. *People Affected by Conflict 2013: Humanitarian Needs in Numbers.* Brussels: Université catholique de Louvain. http://cred.be/sites/default/files/PubID303ConflictReport.pdf. Accessed 6 February 2014.

Darmstadt, G.L., M.V. Kinney, M. Chopra, and others. Forthcoming. "Who Has Been Caring for the Baby?" *Lancet*.

El Arifeen, S., K. Hill, K. Ahsan, and others. Forthcoming. "Maternal Mortality in Bangladesh: A Countdown to 2015 Country Case Study." *Lancet*.

Filmer, D., and L.H. Pritchett. "Estimating Wealth Effects without Expenditure Data-or Tears: An Application to Educational Enrollments in States of India." *Demography* 38(1): 115–32.

Gillespie, S., L. Haddad, V. Mannar, and others. 2013. "The Politics of Reducing Malnutrition: Building Commitment and Accelerating Progress." *Lancet* 382(9891): 552–69.

Global Health Workforce Alliance and WHO (World Health Organization). 2013. *A Universal Truth: No Health without a Workforce.* Geneva: World Health Organization.

Hancioglu, A., and F. Arnold. 2013. "Measuring Coverage in MNCH: Tracking Progress in Health for Women and Children Using DHS and MICS Household Surveys." *PLOS Medicine* 10(5): e1001391. doi:10.1371/journal.pmed.1001391

Hazir, T., K. Begum, S. el Arifeen, and others. 2013. "Measuring Coverage in MNCH: A Prospective Validation Study in Pakistan and Bangladesh on Measuring Correct Treatment of Childhood Pneumonia." *PLOS Medicine* 10(5): e1001422. doi:10.1371/journal.pmed.1001422.

Horta, B., and C.G. Victora. 2013. *Long-term Effects of Breastfeeding: A Systematic Review.* Geneva: World Health Organization; 2013.

Hsu, J., P. Berman, and A. Mills. 2013. "Reproductive Health Priorities: Evidence from a Resource Tracking Analysis of Official Development Assistance in 2009 and 2010." *Lancet* 381(9879): 1772–82.

Hsu, J., C. Pitt, G. Greco, and others. 2012. "Countdown to 2015: Changes in Official Development Assistance to Maternal, Newborn, and Child Health in 2009-10, and Assessment of Progress since 2003." *Lancet* 380(9848): 1157–68.

Ichoku, H.E., and W.M. Fonta. 2009. "Catastrophic Healthcare Financing and Poverty; Empirical Evidence from Nigeria." *Journal of Social and Economic Development* 11(2): 1–16.

Independent Expert Review Group, Commission on Information and Accountability for Women's and Children's Health. 2013. *Every Woman, Every Child: Strengthening Equity and Dignity.* The Second Report of the independent Expert Review Group (iERG) on Information and Accountability for Women's and Children's Health. Geneva: World Health Organization.

Kassebaum, N.J., A. Bertozzi-Villa, M.S. Coggeshall, and others. Forthcoming. "Global, Regional, and National Levels and Causes of Maternal Mortality during 1990–2013: A Systematic Analysis for the Global Burden of Disease Study 2013." *Lancet*.

Knaul, F.M., R. Wong, and H. Arreola-Ornelas, eds. 2012. *Household Spending and Impoverishment.* Financing Health in Latin America Volume 1. Cambridge, MA: Harvard University Press.

Lancet. 2008. Series on Maternal and Child Nutrition. January 2008.

———. 2013. Series on Maternal and Child Nutrition. June 2013.

Lawn, J.E., H. Blencowe, R. Pattinson, and others. 2011. "Stillbirths: Where? When? Why? How to Make the Data Count?" *Lancet* 377(9775): 1448–63.

Maternal Mortality Estimation Inter-agency Group (World Health Organization, United Nations Children's Fund, United Nations Population Fund, United Nations Population Division and World Bank). 2014. *Trends in Maternal Mortality: 1990 to 2013.* Geneva: World Health Organization.

Mills, A., J.E. Ataguba, J. Akazili, and others. 2012. "Equity in Financing and Use of Health Care in Ghana, South Africa, and Tanzania: Implications for Paths to Universal Coverage." *Lancet* 380(9837): 126–33.

Monitoring and Evaluation Working Group of the International Health Partnership and Related Initiatives. n.d. "Common Framework for Monitoring Performance and Evaluating

Progress in the Scale-up for Better Health." www.internationalhealthpartnership.net/CMSfiles/documents/a_proposed_common_framework_EN.pdf.

Moran, A., K. Kerber, D. Sitrin, and others. 2013. "Measuring Coverage in MNCH: Indicators for Global Tracking of Newborn Care." *PLOS Medicine* 10(5): e1001415. doi:10.1371/journal.pmed.1001415.

Partnership for Maternal, Newborn & Child Health and WHO (World Health Organization). 2014. *A Policy Guide for Implementing Essential Interventions for Reproductive, Maternal, Newborn and Child Health (RMNCH): A Multisectoral Policy Compendium for RMNCH.* Geneva: World Health Organization.

Powell-Jackson, T., J. Borghi, D.H. Mueller, E. Patouillard, and A. Mills. 2006. "Countdown to 2015: Tracking Donor Assistance to Maternal, Newborn, and Child Health." *Lancet* 368(9541): 1077–87.

Rannan-Eliya, R.P., C. Anuranga, J. Chandrasiri, R. Hafez, R. Wickramasinghe, and J. Jayanthan. 2012. "Impact of maternal and child health private expenditure on poverty and inequity: Evidence from National Household Surveys of Healthcare Use and Expenditures" Manila: Asian Development Bank.

Requejo, J., J. Bryce, and C. Victora, and others. 2012. *Building a Future for Women and Children: The 2012 Report.* Paris: United Nations Children's Fund; and Geneva: World Health Organization.

Requejo, J.H., H. Newby, and J. Bryce. 2013. "Measuring Coverage in MNCH: Challenges and Opportunities in the Selection of Coverage Indicators for Global Monitoring." *PLOS Medicine* 10(5): e1001416. doi:10.1371/journal.pmed.1001416.

Requejo, J., C. Victora, and J. Bryce, on behalf of the scientific review group of Countdown to 2015. 2014. "Data Resource Profile: Countdown to 2015: Maternal, Newborn and Child Survival." *International Journal of Epidemiology.* Doi: 10.1093/ije/dyu034.

Ruel, M., H. Alderman, and the Maternal and Child Nutrition Study Group. 2013. "Nutrition-sensitive Interventions and Programmes: How Can They Help to Accelerate Progress in Improving Maternal and Child Nutrition?" *Lancet* 382(9891): 536–51.

Say, L., D. Chou, A. Gemmill, and others. 2014. "Global Causes of Maternal Death: A WHO Systematic Analysis." *Lancet Global Health* 2(6): e323–33.

Sustainable Development Solutions Network. 2014. "Indicators for Sustainable Development." Draft report. Paris. Available at unsdsn.org/wp-content/uploads/2014/02/140214-SDSN-indicator-report-DRAFT-for-consultation1.pdf.

UN Commission on Life-Saving Commodities for Women and Children. 2012. *Commissioners' Report.* New York: United Nations.

UNDESA (United Nations Department of Economic and Social Affairs). 2013. *World Population Prospects: The 2012 Revision.* DVD edition. New York: United Nations.

UN Inter-agency Group for Child Mortality Estimation. 2013. *Levels and Trends in Child Mortality: Report 2013.* New York: United Nations Children's Fund.

UNFPA (United Nations Population Fund). 2014. *State of the World's Midwifery 2014.* New York.

UNICEF (United Nations Children's Fund). 2013a. *Improving Child Nutrition: The Achievable Imperative for Global Progress.* New York: United Nations Children's Fund.

———. 2013b. "Protecting Children, Safeguarding Their Development from Conflict, Violence and Disasters." Joint press release, 13 March. www.unicef.org/media/media_68183.html. Accessed 3 February 2014.

UNICEF (United Nations Children's Fund), Division of Policy and Strategy. 2013. *Committing to Child Survival: A Promise Renewed.* Progress Report 2013. New York: United Nations Children's Fund.

UNICEF (United Nations Children's Fund), UNFPA (United Nations Population Fund), and UN Women (United Nations Entity for Gender Equality and the Empowerment of Women). 2012. "Joint Statement: International Day of the Girl Child 2012." 10 October. www.unwomen.org/en/news/stories/2012/10/joint-statement-international-day-of-the-girl-child-2012/.

van Doorslaer, E., O. O'Donnell, R.P. Rannan-Eliya, and others. 2006. "Effect of Payments for Health Care on Poverty Estimates in 11 Countries in Asia:

An Analysis of Household Survey Data." *Lancet* 368(9544): 1357–64.

———. 2007. "Catastrophic Payments for Health Care in Asia." *Health Economics* 16(11): 1159–84.

Victora, C.G., L. Adair, C. Fall, and others. 2008. "Maternal and Child Undernutrition: Consequences for Adult Health and Human Capital." *Lancet* 371(9609): 340–57.

Victora, C.G., B. Fenn, J. Bryce, and others. 2001. "Co-coverage of Preventive Interventions and Implications for Child-survival Strategies: Evidence from National Surveys." *Lancet* 366(9495): 1460–66.

Walker, N., G. Yenokyan, I.K. Friberg, and others. 2013. "Patterns in Coverage of Maternal, Newborn, and Child Health Interventions: Projections of Neonatal and Under-5 Mortality to 2035." *Lancet* 382(9897): 1029–38.

Wall, S., A.C.C. Lee, S. Niermeyer, and others. 2009. "Neonatal Resuscitation in Low-resource Settings: What, Who, and How to Overcome Challenges to Scale Up?" *International Journal of Gynecology & Obstetrics* 107(Suppl.): S47–S64.

Wang, H., C.A. Liddell, M.M. Coates, and others. Forthcoming. "Global, Regional, and National Levels of Neonatal, Infant, and Under-5 Mortality during 1990–2013: A Systematic Analysis for the Global Burden of Disease Study 2013." *Lancet*.

WHO (World Health Organization). 2011. *Unsafe Abortion: Global and Regional Estimates of the Incidence of Unsafe Abortion and Associated Mortality in 2008.* Geneva: World Health Organization.

———. 2012. *Born Too Soon: The Global Action Report on Preterm Birth.* Geneva: World Health Organization.

———. 2013. *World Malaria Report*. Geneva: World Health Organization.

———. 2014. *World Health Statistics 2014.* Geneva: World Health Organization.

WHO (World Health Organization) Executive Board. 2013. "Maternal, Infant and Young Child Nutrition: Report by the Secretariat." EB134/15, 20 November. Geneva. Available at http://apps.who.int/gb/ebwha/pdf_files/EB134/B134_15-en.pdf?ua=1. Accessed 29 May 2013.

WHO (World Health Organization) and UNICEF (United Nations Children's Fund). 2013. *Ending Preventable Child Deaths from Pneumonia and Diarrhoea by 2025: The Integrated Global Action Plan for Pneumonia and Diarrhoea (GAPPD).* Geneva: World Health Organization; and New York: United Nations Children's Fund.

WHO (World Health Organization) and World Bank. 2013. "Monitoring Progress towards Universal Health Coverage at Country and Global Levels: A Framework." Joint WHO–World Bank Group Discussion Paper. World Health Organization, Geneva.

Xu, K., D.B. Evans, G. Carrin, and others. 2007. "Protecting Households from Catastrophic Health Spending." *Health Affairs* 26(4) 972–83.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