Countdown to 2030: tracking progress towards universal coverage for reproductive, maternal, newborn, and child health

*Countdown to 2030 Collaboration**

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*See list of collaborators at end of Review

Correspondence to: Dr Ties Boerma, Centre for Global Public Health, Rady Faculty of Health Sciences, University of Manitoba, 771 McDermot Avenue, Winnipeg, MB R3E 0T6, Canada **ties.boerma@umanitoba.ca**

Building upon the successes of Countdown to 2015, Countdown to 2030 aims to support the monitoring and measurement of women's, children's, and adolescents' health in the 81 countries that account for 95% of maternal and 90% of all child deaths worldwide. To achieve the Sustainable Development Goals by 2030, the rate of decline in prevalence of maternal and child mortality, stillbirths, and stunting among children younger than 5 years of age needs to accelerate considerably compared with progress since 2000. Such accelerations are only possible with a rapid scale-up of effective interventions to all population groups within countries (particularly in countries with the highest mortality and in those affected by conflict), supported by improvements in underlying socioeconomic conditions, including women's empowerment. Three main conclusions emerge from our analysis of intervention coverage, equity, and drivers of reproductive, maternal, newborn, and child health (RMNCH) in the 81 Countdown countries. First, even though strong progress was made in the coverage of many essential RMNCH interventions during the past decade, many countries are still a long way from universal coverage for most essential interventions. Furthermore, a growing body of evidence suggests that available services in many countries are of poor quality, limiting the potential effect on RMNCH outcomes. Second, within-country inequalities in intervention coverage are reducing in most countries (and are now almost non-existent in a few countries), but the pace is too slow. Third, health-sector (eg, weak country health systems) and non-health-sector drivers (eg, conflict settings) are major impediments to delivering high-quality services to all populations. Although more data for RMNCH interventions are available now, major data gaps still preclude the use of evidence to drive decision making and accountability. Countdown to 2030 is investing in improvements in measurement in several areas, such as quality of care and effective coverage, nutrition programmes, adolescent health, early childhood development, and evidence for conflict settings, and is prioritising its regional networks to enhance local analytic capacity and evidence for RMNCH.

Introduction

The Millennium Development Goals (MDGs) era was characterised by an unprecedented decline in child and maternal mortality during 2000–15, even though mortality targets were not met by most countries.[1–4] Concerted action around the MDGs—specific time-bound, measurable, and easy-to-communicate goals—plus major increases in funding for health, including for reproductive, maternal, newborn, and child health (RMNCH) and nutrition, and scale-up of existing and new interventions are crucial factors that contributed to this decline.[5–7] Progress was also driven by reductions in fertility and substantial improvements in underlying determinants, such as poverty and education of adolescent girls.[8–11] Health was prominently featured in three MDGs, two of which were specific to RMNCH. The 2030 agenda for sustainable development, adopted by the UN General Assembly in September, 2015, is much broader than the MDG framework.[12] RMNCH is addressed in three of the 13 targets of the Sustainable Development Goal (SDG) for health (SDG 3), and in several targets in the other 16 SDGs. The need to reduce persistent inequalities in RMNCH between and within countries is explicitly acknowledged, as is the aim of reaching all people with effective and affordable interventions.

The Global Strategy for Women's, Children's and Adolescents' Health (2016–30) was developed to translate the SDG agenda into a comprehensive "survive, thrive, transform" framework for improving women's, children's, and adolescents' health through an inclusive and multisectoral approach.[13,14] The Global Strategy provides a roadmap for the Every Woman Every Child movement,

Key messages

- The 81 Countdown countries have made progress, but are still a long way from universal coverage for most essential interventions for reproductive, maternal, newborn, and child health and nutrition.
- Major investments are needed to achieve Sustainable Development Goal (SDG) targets related to reproductive, maternal, newborn, and child health and nutrition. These investments should be guided by reliable data on intervention coverage and quality of care for all inequality dimensions and in conflict settings.
- To address the broader SDG agenda, measurement improvements should focus on strengthening of vital statistics, understanding drivers of coverage change, and obtaining better data on early childhood development and adolescent health.
- Strengthening of countries' analytic capacity, a priority for the Countdown to 2030, is crucial to improve monitoring and accountability for women's, children's, and adolescents' health.

Fore more on **Every Woman Every Child** see https://www.everywomaneverychild.org/

which mobilises and intensifies international and national action by governments, multilaterals, the private sector, and civil society to address the major health challenges facing women, children, and adolescents around the world. The Global Financing Facility for women, children, and adolescents was also launched in 2015 to ensure scaled and sustained financing through country-driven investment cases.[15]

Countdown to 2030 for Women's, Children's and Adolescents' Health (referred to simply as Countdown) is a multi-institutional network of academics from institutions around the world and representatives from UN agencies and civil society that builds upon the successes of Countdown to 2015.[6,16] A key output of Countdown is a regular review of progress towards RMNCH targets in the 81 countries with the highest burden of maternal, neonatal, and child mortality. According to global estimates for population and mortality, the 81 countries accounted for 47% of the world's population, but 64% of all births, 90% of all child deaths, and 95% of all maternal deaths in 2015.[1,2,17] The Countdown list of priority countries, core indicators, and equity dimensions were revised to address the SDG agenda, and to take into account country progress during the MDG era (appendix). Areas of expansion from Countdown to 2015 include nutrition, quality of care, adolescent girls' reproductive health, and RMNCH in conflict settings.

In this paper, we analyse progress towards improvement of intervention coverage, equity, and drivers of RMNCH in the Countdown countries, summarise key gains, highlight areas for further action, and show how Countdown priorities are evolving in response to the SDGs and universal health coverage (UHC) challenge.

Maternal, neonatal, and child survival

From 2000 to 2015, under-5 and neonatal mortality in the 81 Countdown countries fell rapidly, to country averages of 59 and 24 per 1000 livebirths, respectively, in 2015.[18] However, a major acceleration of this mortality decline is required for countries to reach the SDG under-5 and neonatal mortality targets of 25 and 12 per 1000 livebirths, respectively, especially among the countries with the highest mortality. The average annual rates of decline in the 50 Countdown countries with the highest mortality will need to almost double for under-5 mortality and more than double for neonatal mortality during 2015–30 (appendix). A similar acceleration in decline is required for stillbirth rates to achieve the global Every Newborn Action Plan for 2030 target of 12 or fewer per 1000 births.[19,20] Reaching the global maternal mortality SDG target of fewer than 70 maternal deaths per 100 000 livebirths (at the country level, the target is a two-thirds reduction from the 2010 baseline, and no more than 140 deaths per 100 000 livebirths in any country by 2030) requires an equally large acceleration of the annual rate of decline.[21]

Whether the pace of mortality decline has changed after 2015 cannot yet be assessed. Since the final MDG assessment of achievements in September, 2015, 27 of the 81 countries have published new child mortality data (as of January, 2018), mostly from retrospective household surveys that provide data for the years before 2015. The predicted estimates for 2016 do not show a major change in the annual rate of reduction,[18] but a comprehensive account of trends in the initial years of the SDG will be possible only in a few years' time.

The absence of data for causes of child mortality in the 81 countries is striking. Only five countries had good-quality data for cause of death from national civil registration systems.[22] For 2010–14, 14 countries had national data for cause of death in childhood, mostly from verbal autopsy studies, 20 had subnational information only, and 47 countries had no information. Model-based estimates[22,23] suggest that, during 2000–15, under-5 mortality due to vaccine-preventable diseases (such as measles) declined the most, and that deaths due to diarrhoea, pneumonia, and malaria also fell by more than 50% in the Countdown countries.[22,23] The declines in deaths due to neonatal causes were less pronounced. By 2015, the leading causes of under-5 deaths were estimated to be preterm birth complications (17%), pneumonia (13%), intrapartum-related events (11%), and diarrhoea (10%).[22] Data for maternal causes of death are even sparser than those for child mortality. Global estimates suggest that haemorrhage, hypertensive disorders, and sepsis are the three leading causes of maternal death in countries with high mortality, with some regional variations in the proportion of deaths due to these causes.[23,24]

See Online for appendix

Nutritional status

Undernutrition—including fetal growth restriction, stunting and wasting, and deficiencies in micronutrients such as vitamin A, iodine, iron, and zinc—along with suboptimal breastfeeding has been estimated to contribute to 45% of deaths in children younger than 5 years in 2011, and to poor childhood development.[25,26] Levels of stunting in under-5s have dropped substantially in the past decade,[27] but 31 of the 59 Countdown countries with available data from 2012 still have a national prevalence of 30% or higher. We used multilevel models to ascertain long-term trends in stunting in children younger than 5 years and to establish the composite coverage index (CCI) among the poorest and richest quintile in a pooled analysis of countries (appendix). The decline in stunting rates accelerated around 2005 among children in both the richest and poorest households, according to data from 53 Countdown countries. However, we noted no evidence of a reduction in the absolute gap between rich and poor quintiles.

14 countries had a national prevalence of wasting exceeding 10%, including fragile nations such as South Sudan, Chad, Timor-Leste, Pakistan, and Yemen. Wasting is consistently higher among children living in poor

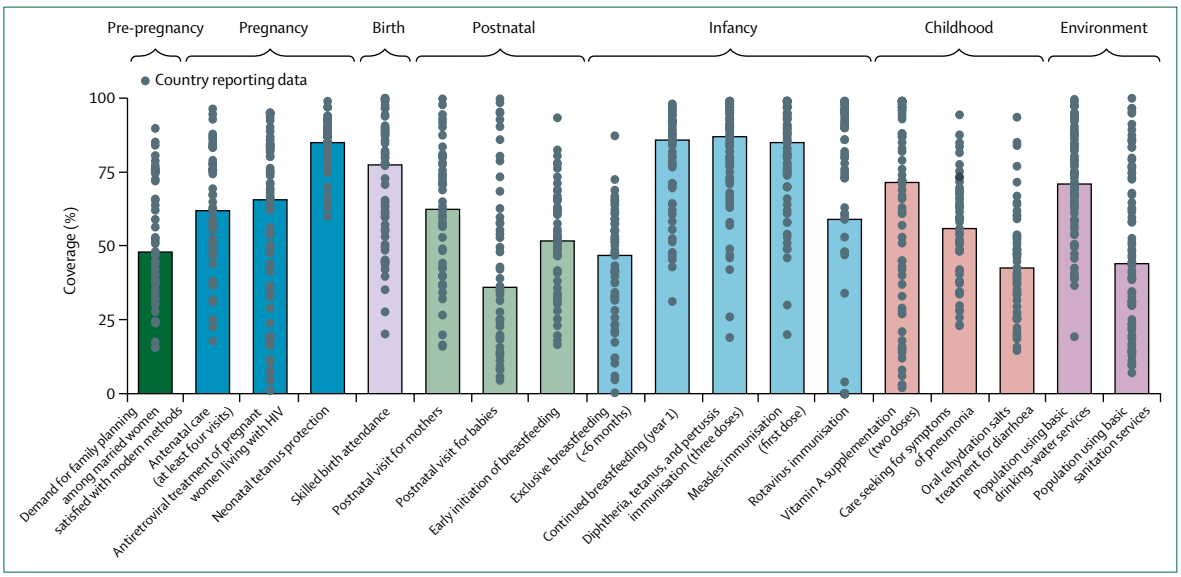

Figure 1: **Coverage of interventions across the continuum of care based on the most recent data since 2012 in Countdown countries with available data**
Bars show median national coverage of interventions, whereas the dots show country-specific data.

households than in those living in richer households. At the same time, many Countdown countries are facing increases in overweight and obesity among women and children. Although child overweight does not yet seem to be a widespread problem, five of 56 countries with available data from 2012 had a prevalence of childhood obesity higher than 10%. Among women aged 20 or older, median prevalences of underweight (ie, a body-mass index <18·5 kg/m²) and obesity (>30 kg/m²) for the 79 countries with available data were 8% (range 1–24) and 14% (5–41), respectively, with several countries facing high levels at both ends of the anthropometric spectrum.

Coverage

Household surveys are the main source of data used to compare coverage trends and inequalities between and within countries. We have previously reported on Countdown's data sources and methods (appendix).[6] Data availability for Countdown coverage indicators has improved considerably since 2005, partly because of the increased frequency of surveys done in the context of international household survey programmes—such as the USAID-supported Demographic and Health Surveys and UNICEF-supported Multiple Indicator Cluster Surveys.

Our analyses focus on assessment of progress and inequalities across the RMNCH continuum of care. They include the CCI,[28] a robust weighted mean of the coverage of eight interventions along four stages of the RMNCH continuum of care: reproductive health (family planning), maternal and newborn care (antenatal care and skilled birth attendance), immunisation (BCG, measles, and diphtheria, pertussis, and tetanus vaccinations), and management of child illness (care seeking for suspected pneumonia and diarrhoea; appendix). All coverage and equity computations were done in Stata (version 15.0) or R (version 3.4.0). Results are based on analysis of all available data for the 81 Countdown countries, and country summary measures are presented without population weighting, unless stated otherwise.

National coverage of many essential interventions across the continuum of care—including those related to pregnancy prevention and planning, pregnancy, birth, postnatal care, infancy, childhood, and environment—is still a long way from universality in many Countdown countries (figure 1). Countries in west and central Africa frequently have among the lowest levels of coverage for almost all interventions (appendix). Median coverage is still less than 50% for postnatal care for babies (36%), exclusive breastfeeding (47%), treatment of diarrhoea with oral rehydration salts (43%), population using basic sanitation services (44%), and demand for family planning satisfied with modern methods (48%). Only immunisation indicators and continued breastfeeding at 12–15 months have median coverage levels higher than 80%. These data suggest that large numbers of women and children are not reached with essential services (appendix). For instance, in 2015, 140 million women of reproductive age who were married or in a consensual union were not reached with modern methods of family planning, 28 million births occurred without skilled birth attendance, and 17 million infants did not receive three doses of the diphtheria, pertussis, and tetanus vaccine.

Coverage increased for most interventions, and particularly for newer interventions, such as new vaccines and pregnant women living with HIV receiving anti-retroviral therapy. Progress in the frequency of the presence of a skilled birth attendant at birth was noteworthy

after years of stagnation in many countries, and presents a major opportunity to reduce intrapartum stillbirth and neonatal mortality (table). Several indicators of malaria intervention also showed major increases (eg, use of insecticide-treated bednets; appendix). Less progress was made in coverage of family planning and antenatal care (four or more visits) and treatment of childhood illnesses, and in population using basic sanitation services and infant and young child feeding behaviours.

Many of the coverage indicators tracked by Countdown and routinely monitored by countries are indicative of contact with health services, but provide scant data about the quality of care received.[29,30] Without an adequate level of quality, interventions are unlikely to result in the intended health improvements.[31,32] An increasing number of studies show major gaps in quality of care, including essential inputs to health care (such as diagnostics, medicines, other supplies, and equipment) and the contents of care provided (ie, the process of care provision from health providers), which undoubtedly affects outcomes (ie, effective coverage; appendix). Further work is needed to measure the effect of quality gaps on population health gains and to guide interventions to address these gaps.

	Countries (n)	Median coverage (%)		Change (percentage point)	Proportion of gap closed (%)
		2005–11	2012–17		
Pre-pregnancy					
Demand for family planning satisfied with modern methods (among married women)	41	37	48	11	17
Pregnancy					
Antenatal care (at least four visits)	47	54	59	5	11
Antenatal care among adolescents aged 15–19 years (at least four visits)	20	46	54	8	15
Intermittent preventive treatment for malaria for pregnant women	29	3	11	8	8
Pregnant women living with HIV receiving antiretroviral therapy	71	1	66	65	66
Neonatal tetanus protection	75	77	85	8	35
Birth					
Skilled attendance at birth	56	52	75	23	48
Skilled attendance at birth among adolescents aged 15–19 years	20	52	69	17	35
Institutional deliveries (total)	58	52	72	20	42
Institutional deliveries (public)	41	40	57	17	N/A
Institutional deliveries (private)	41	5	10	5	N/A
Caesarean section (total)	46	5	6	1	N/A
Caesarean section (urban)	41	8	11	3	N/A
Caesarean section (rural)	41	3	4	1	N/A
Postnatal care					
For mothers	34	36	59	23	36
For adolescents aged 15–19 years	16	41	61	20	34
For babies	27	5	42	37	39
Early initiation of breastfeeding	51	46	53	7	13

(Table continues on next page)

Equity

Progress towards universal coverage should be assessed in terms of not only national averages, but also how well such gains benefit all population groups. Survey data were used to classify households into wealth quintiles on the basis of ownership of household assets and housing characteristics.[33] We use the slope index of inequality, which measures the difference in coverage between the richest and poorest extremes of the wealth scale and takes into account the full wealth distribution, to summarise inequality patterns.[34] Wealth quintiles are country-specific, vary according to context, and represent relative socioeconomic position for a given country at a certain time, rather than absolute wealth, all of which should be remembered when comparing wealth-related inequalities between countries.

Among 65 Countdown countries with data since 2005, we noted substantial wealth-related disparities in CCI: half the poorest quintiles had a CCI below 50%, compared with only 2% of the wealthiest quintiles (appendix). Differences between urban and rural populations and according to mother's level of education were also large. Only Panama and Swaziland had CCI coverage of 80% or higher in more than half of the subgroups with data. 50 of the 62 countries with data on these equity dimensions did not have a single subgroup with 80% or higher coverage.

Countries differed substantially according to the magnitude of wealth-related inequalities in the CCI (figure 2). Nigeria was the most unequal country, with a slope index of inequality showing a 64 percentage-point difference between the top and bottom extremes of wealth, followed by Angola with an index of 59. The slope index was positive—ie, coverage was higher among rich than among poor populations—in all countries except for Turkmenistan. In 30 countries, the slope index was greater than 20 percentage points. Nine countries had little inequality, with an index less than 10 percent points. Chad was the only country where the CCI was less than 50% in even the richest quintile.

The inequalities varied for the eight coverage indicators included in the CCI (appendix). Gaps tended to be smaller for the use of oral rehydration solution for diarrhoea management and for immunisation coverage than for coverage of skilled attendance at birth or antenatal care (four or more visits). These results accord with earlier findings highlighted by Countdown—ie, interventions that can be delivered at community level tend to be more equitable than those requiring access to fixed and well-equipped health facilities.[6]

Other dimensions of inequality need to be tracked to best assess progress in reaching all population groups, such as ethnicity, geographical region, or women's age. The initial results of the work of the Countdown regional initiative in Latin America and the Caribbean show that coverage of nearly all RMNCH interventions except for

	Countries (n)	Median coverage (%)		Change (percentage point)	Proportion of gap closed (%)
		2005–11	2012–17		
(Continued from previous page)					
Infancy					
Exclusive breastfeeding (<6 months)	51	34	48	14	21
Continued breastfeeding (at 12–15 months)	51	88	88	0	0
Three doses of diphtheria, pertussis, and tetanus vaccine	81	79	87	8	38
Three doses of *Haemophilus influenzae* type b vaccine	81	0	86	86	86
First doses of measles vaccine	81	76	85	9	38
Three doses of pneumococcal conjugate vaccine	81	0	78	78	78
Rotavirus immunisation	81	0	59	59	59
Childhood					
Two doses of vitamin A supplementation	66	70	72	2	7
Children younger than 5 years sleeping under insecticide-treated nets	30	16	51	35	42
Malaria diagnostics in children younger than 5 years	26	16	28	12	14
Care seeking for symptoms of acute respiratory infection	47	48	55	7	13
Oral rehydration salts for diarrhoea	49	35	42	7	11
Oral rehydration salts plus zinc for diarrhoea	26	0	7	7	7
Environment					
Population using basic drinking-water services	79	63	72	9	24
Population using basic sanitation services	80	37	44	7	11
Population sleeping under insecticide-treated net or sleeping in a house treated with indoor residual spraying	24	12	50	38	43

N/A=not applicable.

Table: **Changes in national coverage of Countdown interventions along the continuum of care, 2005–11 and 2012–17, for countries with available data in both periods, and proportion of the gap closed**

infant feeding behaviours was lower in indigenous than in non-indigenous populations. 48% of adolescent girls aged 15–17 years had a CCI below 50% (appendix), compared with 21% of women 20–49 years. Low coverage of use of modern contraceptives among adolescent girls contributed to the low CCI, more so than coverage of antenatal care and skilled birth attendance. Subnational analyses focused on geographical areas are particularly relevant because they can help programme managers to target interventions along administrative divisions within a country, but variation in the number of subnational units represented in surveys limits comparisons of subnational inequalities between countries (appendix).

Socioeconomic and urban–rural gaps in coverage are falling in many Countdown countries, but there is still a long way to go before universal coverage is achieved (appendix). For instance, progress in reaching rural women and children with needed interventions was faster than that for their urban counterparts in both low-income (annual CCI increases of 1·1 and 0·6 percent points, respectively) and middle-income Countdown countries (0·9 and 0·5 percent points, respectively).

Drivers

The SDGs stress the need to address the drivers or determinants of women's, children's, and adolescents' health, including health system, socioeconomic, cultural, political, and environmental factors. For some key drivers, such as women's empowerment, a positive association with coverage of RMNCH interventions has been shown.[35] The effect of conflict, both during and after, on women's and children's health can be devastating (panel).

Countdown reports on a set of 17 indicators related to four main drivers of coverage of effective interventions: legislative commitments, governance processes, financial investments, and health service delivery inputs. Major legislative gaps exist: 50 of the 74 Countdown countries with available data have no legislation on maternity protection,[50] 23 of 79 countries have no legislation to regulate the marketing of breastmilk substitutes, 37 of 70 countries have no legislation allowing adolescents access to family planning without spousal or parental consent, and 34 of 81 countries have no legislation on fortification of at least one staple food (wheat, rice, or maize).[51] One Countdown country fully restricts abortion, and 31 countries only allow abortion if the woman's life is at risk.[52] Globally, unsafe abortion rates are higher in countries with highly restrictive abortion laws than in those with less restrictive laws.[53]

Policy analysis entails moving beyond assessment of the presence or absence of a policy.[54] Understanding of the political economy of how policy issues are framed, who are the actors that support or block a policy, what organisational mechanisms support the development, review, or implementation of a policy, and whether funding and other service delivery inputs support sustained policy operationalisation are crucial to supporting country efforts to address RMNCH.[55] More in-depth policy analysis helps to explain why, for instance, maternal health or integrated community case management has become a priority for some countries but not others.[56,57] Countdown reports on indicators concerned with governance processes, such as the presence of costed national plans for maternal, newborn, and child health (present in 35 of the 71 countries with data; an additional 19 countries had partly costed plans for one or two of the three components), maternal death surveillance and response, and civil society involvement in national planning and review processes,[58] but often more in-depth information is required to gauge policy implementation.

Financial monitoring includes official development assistance, flows from private foundations, domestic spending on RMNCH, and the affordability of RMNCH services. An assessment of official development assistance and flows from private foundation during 2003–13 for Countdown to 2015 countries showed that funding for

RMNCH increased more than threefold, similar to the increase for the health sector overall.[59] Child health received the largest increase in funding. Tracking domestic spending on RMNCH is crucial and is improving as a result of the System of National Health Accounts 2011.[60–62] WHO now hosts more than 30 RMNCH health accounts based on the System of National Health Accounts,[63] and 12 countries have produced full disease breakdowns.[60] However, overall trends in domestic spending for RMNCH or adolescent health cannot yet be ascertained. Recent data for catastrophic health spending for Countdown countries are few. Out-of-pocket expenditure tended to be high: it exceeded 40% of total health expenditure in 36 of the 78 Countdown countries with available data, and only 12 countries reported out-of-pocket expenditure below 20%.

Data for health service inputs such as infrastructure, supply systems, and the health workforce that allow tracking over time remain scarce. The latest WHO country data showed continued low density of doctors, nurses, and midwives in most Countdown countries. Only 17 of the 68 countries with available data had more than 23 doctors, nurses, and midwives per 10 000 population, the minimum threshold required for high coverage of essential health interventions.[64] The national availability of emergency obstetric care, which was expressed as a percentage of the minimum acceptable number of emergency obstetric care facilities (at least five per 500 000 people, including one comprehensive facility and four basic emergency facilities[65]), was low in 30 countries with data from 2010 forward (median availability 40% [range 13–93]). The poor availability of essential diagnostics and medicines noted in facility surveys shows major deficiencies in supply chain systems, even though the availability of supplies for RMNCH tended to be better than, for instance, the availability of supplies for non-communicable diseases.[66]

The centrality of UHC to the SDG agenda and country strategies has several implications for RMNCH. The UHC prerogative means that health-care packages designed for women, children, and adolescent girls must be inclusive of curative, preventive, and promotive services within a supportive legislative environment. Family planning is not included in health insurance plans in many countries, for example, yet access to family planning is crucial for women and adolescent girls to be able to exercise their sexual and reproductive rights, and to experience better health outcomes. Decisions about which services are included in insurance plans and other health-care delivery strategies require political engagement and alliances to ensure prioritisation and visibility for RMNCH.[67,68]

Coverage in the context of UHC relies on the availability and appropriate use of services that are of sufficient quality. Efforts to increase facility births will not lead to the expected gains in maternal and newborn health unless the quality of care in these facilities is adequate. Quality problems range from a lack of consistent supplies and equipment at health facilities and insufficient referral systems to inadequate training and supervision of health workers and a paucity of respectful maternity care. Harmful practices are another reflection of poor-quality care and can be inadvertently incentivised by UHC financing strategies, such as the inappropriate use of antibiotics,[69] caesarean sections,[70] or hysterectomies.[71]

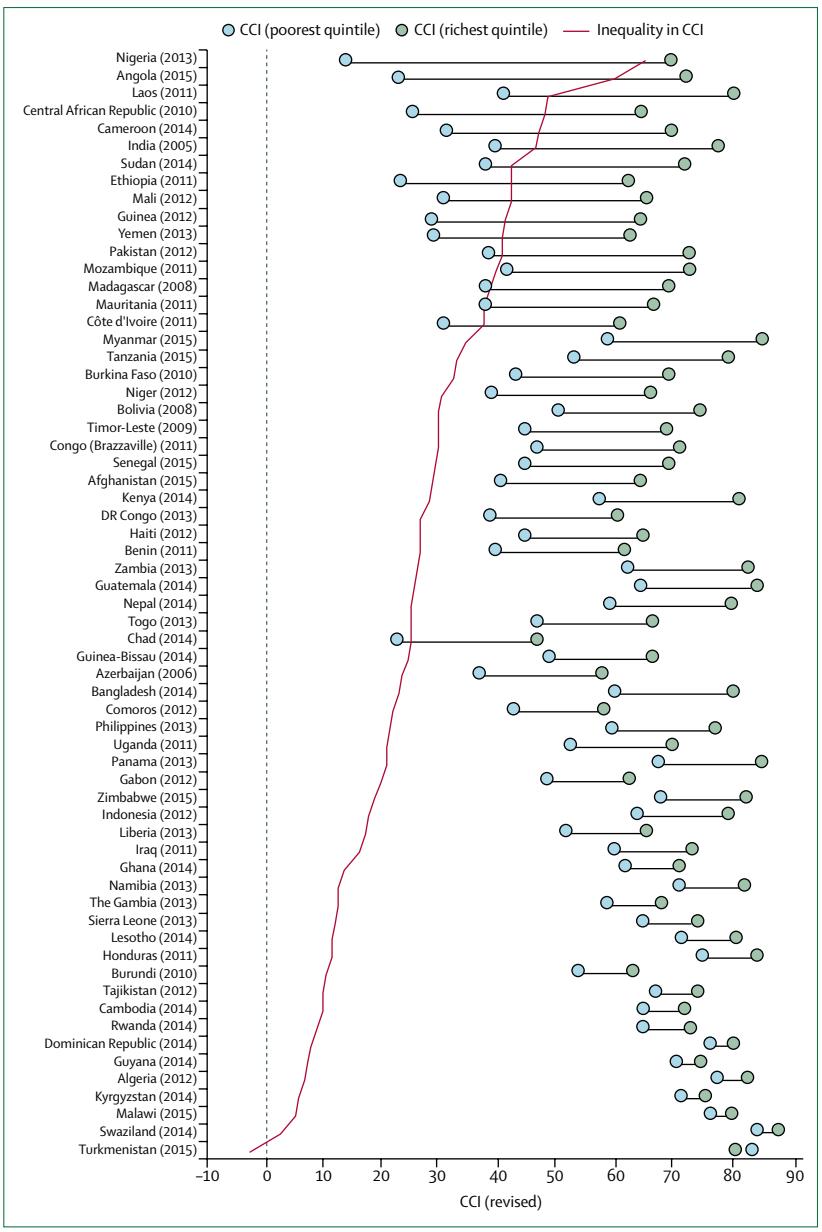

Figure 2: **Countdown countries ranked according to the degree of absolute inequality in CCI, and equiplots of coverage in the poorest and richest wealth quintiles**

All countries have data since 2005 (survey year is included in parentheses). No data were available for Bhutan, Botswana, Djibouti, Equatorial Guinea, Eritrea, Jamaica, Morocco, Nicaragua, North Korea, Papua New Guinea, Paraguay, Solomon Islands, Somalia, South Africa, South Sudan, Suriname, Uzbekistan, and Venezuela. CCI=composite coverage index.

Panel: Women and children in conflict settings

There has been an upsurge in violent conflicts around the world since 2012, and the numbers of combat and civilian deaths have risen.[36] The number of forcibly displaced people increased to 65·6 million (or just under 1% of the world's population) by the end of 2016, 22·5 million of whom were refugees.[37] If battle-related deaths are used as an indicator of the existence and size of conflicts, 32 Countdown countries had at least one conflict during 2011–16. Ten Countdown countries have experienced (or are experiencing) severe conflicts—ie, at least 5000 battle-related deaths during 2011–16 and more than 100 000 refugees, asylum seekers, and internally displaced people in 2016—Afghanistan, Central African Republic, DR Congo, Iraq, Nigeria, Pakistan, Somalia, South Sudan, Sudan, and Yemen. Additionally, Syria, Libya, and Ukraine, none of which are part of Countdown, are classified as having severe conflicts.

For **data for battle-related deaths** see http://ucdp.uu.se/#/encyclopedia

The upsurge in violent conflicts has affected reproductive, maternal, newborn, and child health (RMNCH). Women and children are increasingly affected by the changing nature of conflict from interstate to intrastate and from acute and time limited to longer-term events. Conflicts now occur more frequently in densely populated urban areas, with much graver implications for civilians. Most refugees and internally displaced people are women and children. According to data for 24·4 million displaced people in 2016, 16% were children younger than 5 years, 37% were aged 5–17 years, and 23% were women aged 18 years or older.[37]

For **macro-level analysis** see info.worldbank.org/governance/wgi/index.aspx

Very few reliable data are available for deaths due to violence and warfare among women and children. Evidence for the effect of conflicts on disease burden and health service coverage is piecemeal, and is often dominated by data from relatively stable settings, such as refugee camps in protracted conflict settings, which often have encouraging data compared with those in the host population[38] (eg, for maternal mortality,[39] child malnutrition,[40] and maternal, newborn, and child health coverage[41,42]). There is firm evidence of adverse consequences—such as outbreaks of vaccine-preventable[43] and diarrhoeal diseases,[44] acute malnutrition,[45] and mental health problems[46]—in conflict settings. Women and adolescent girls are at increased risk of becoming victims of sexual violence, which is commonly reported in almost all conflict settings[47] and has major consequences, including unwanted pregnancy, HIV infection, other sexual and reproductive health problems, mental health issues,and social problems, such as stigmatisation and exclusion by families and communities.

Countdown studies in Afghanistan[48] and Syria[49] have shown, despite a paucity of comprehensive data from the most affected areas, the adverse effects of the conflict on the coverage of essential RMNCH interventions. A macro-level analysis of the association between six dimensions of governance (namely, government efficiency, control of corruption, political stability and absence of violence, regulatory quality, rule of law, and voice and accountability) and the composite coverage index in 59 Countdown countries also showed that the strongest predictor of high and equitable coverage was political stability and absence of violence, even after adjustment for the per-person gross domestic product, the Gini coefficient for income concentration, population, and surface area (appendix). None of the other five dimensions of governance was associated with coverage after statistical adjustment.

To help to raise the visibility of the urgent need for more investments in RMNCH in conflict-affected countries, Countdown to 2030 is working in partnership with other institutions to develop better ways of measuring and monitoring coverage of RMNCH interventions in conflict settings.

Progress towards universal coverage: still much to do

Three main conclusions emerge from our analysis of coverage, equity, and drivers of RMNCH in the 81 Countdown countries. First, strong progress in the coverage of many essential RMNCH interventions was made during the past decade, but many countries are still a long way from universal coverage for most essential interventions. Furthermore, there is growing evidence of the low quality of services because of a lack of basic inputs, such as medicines and trained health workers, which limits the potential effect on RMNCH outcomes. Second, inequalities in coverage between the poorest and richest populations can be reduced to almost none, as shown by several countries. Within-country inequalities in coverage have fallen in most countries, but the pace is too slow. In several countries, significant poor–rich, urban–rural, or geographical gaps persist for most RMNCH indicators.

Third, context matters for RMNCH. The strength of health systems where major progress and shifts are needed in terms of policies and strategies (eg, to promote inclusiveness and effectiveness), governance (eg, to develop integrated and intersectoral approaches and to strengthen partnership with, and regulation, of the private sector), financing (eg, a shift to greater reliance on domestic resources while protecting official development assistance flows for women's, children's, and adolescents' health; ensuring financial protection against catastrophic health spending), and health services delivery and systems (eg, stronger health workforce, reliable supply chain system, good-quality services) should always be considered. Additionally, the increasing numbers of women, children, and adolescents in countries affected by conflict or other humanitarian emergencies need special attention, and countries and international agencies need better data to guide their actions under these circumstances. Efforts are needed to

refine further a theory of change on how broader determinants operate at both the micro-level and macro-level in countries to affect RMNCH, and to develop associated multisectoral strategies to address these broader determinants.

These findings show the need for countries to set medium-term coverage targets, such as for 2020 and 2025, for selected indicators of the continuum of care, including an inequality dimension, to closely monitor progress towards UHC and the 2030 SDG targets related to RMNCH. Efforts to achieve the goal of reaching all women, children, and adolescents should also be underpinned by better monitoring of the quality of services, greater use of health facility data for local action, special attention to the numbers of individuals not reached, simple understandable indexes such as the CCI, and use of tools that link coverage data to lives saved and resource allocation.[72]

Measurement and monitoring gaps

An important limitation of our analysis of progress was the poor availability of empirical data in the past 5 years (and especially since 2015) for key indicators and inequality dimensions. Despite major improvements in data collection, there are not enough datapoints to assess whether the rate of improvement in survival or programme performance noted during the MDG era is accelerating or not. Countdown makes only limited use of predictions and aims as much as possible, to allow country data to speak (after adjustments for known biases as required). Thus, periods of time rather than individual years are used to assess trends, with some variability between countries in terms of when the data were collected. Our analyses were also limited by the depth of information available on crucial topics, such as RMNCH coverage in conflict settings, quality of care for essential interventions, and subnational data on health service inputs. Further work is underway to address these measurement gaps, both within and outside Countdown.

Better data are needed to track progress, inform programmes, and ensure accountability at national and local levels. The preferred way to obtain better data for mortality and causes of death is through sample registration systems, which should eventually lead to complete civil registration and vital statistics systems.[73,74] Collection of high-quality population data for stillbirths, early neonatal deaths, and related interventions around the time of childbirth, including measures of quality of care, often requires special efforts, such as longitudinal studies of pregnant women. Population-based surveys should be done on a regular basis, because they are key sources of coverage trends and inequalities because survey data can be disaggregated in several demographic, socioeconomic, and geographical dimensions. Research is needed to develop and validate more indicators that capture the quality of care through surveys.[30] Increasing the sample size of surveys to allow better geographical disaggregation, and investment in the quality and coverage of administrative data, are essential to improve targeting of interventions to women, children, and adolescents from deprived areas. Health facility data, including routine reporting systems and facility surveys, can be used to improve monitoring of RMNCH indicators at local levels, provided that the completeness and accuracy of recording and reporting by facilities is good.[75] Linking of population and health facility surveys is the best available way to measure access to, and quality of, specific services. Studies are needed to establish how best to identify and reach underserved groups, ascertain the quality of care and how to improve it, and reach women and children with services in conflict situations, and how to better understand and collect data for the role of governance processes and legislative frameworks in improving RMNCH.

Transformation of the Countdown

The SDGs call for a comprehensive and integrated health agenda, with UHC at the centre of the health goal. The Every Woman Every Child Global Strategy for Women's, Children's and Adolescents' Health translates the SDG framework into a comprehensive "survive—thrive—transform" framework that goes well beyond RMNCH.[13] Countdown is responding to this new agenda in several ways, while preserving its core features. Countdown will continue to publish independent comprehensive analyses of progress towards the RMNCH-related SDGs, with a focus on coverage, equity, and the drivers of coverage of cost-effective interventions addressing the main causes of maternal, neonatal, and child deaths. In addition to Countdown publications, we will provide analytic inputs to the monitoring of progress and accountability related to the Every Woman Every Child Global Strategy for Women's, Children's and Adolescents' Health 2016–2030, the analyses of the Independent Accountability Panel, and global efforts to monitor nutrition and other priority areas.

Countdown is also investing in improvement of the measurement and analysis of intervention coverage, quality of care, nutrition, equity, key drivers of coverage (such as governance and financing), and RMNCH in conflict settings. These efforts will also include adolescent health, working with the *Lancet* Commission on adolescent health and wellbeing, with an initial focus on sexual and reproductive health and early childhood development. Finally, Countdown is focusing on strengthening of regional and country-specific analytic capacity to improve monitoring and accountability for women's, children's, and adolescents' health in the context of the SDGs and UHC. We are responding to the demand for greater country capacity and evidence for action by working with countries' public health institutions and ministries of health through regional initiatives. Such initiatives are underway in Latin America and the Caribbean, west and central Africa, and eastern and southern Africa, with leadership by regional institutions and close collaboration with UN agencies

For the **Lives Saved tool** see http://www.livessavedtool.org/

For more on **adolescent health and wellbeing** see **The Lancet Commissions** 2016. Published online May 11. http://www.thelancet.com/commissions/adolescent-health-and-wellbeing

and the Health Data Collaborative. Additionally, Countdown is continuing its engagement in country-specific analyses in close collaboration with country institutions, including countries affected by conflict. Crucially, global initiatives—notably the Global Financing Facility, Gavi, and the Global Fund to Fight AIDS, Tuberculosis and Malaria—need to align their financing and implementation efforts behind these efforts to strengthen country analytic capacity.

Our first global analysis in the SDG era shows both how Countdown will continue to address the RMNCH and nutrition agenda in the 81 countries with the highest mortality and how Countdown has begun to address the broader agenda of women's, children's, and adolescents' health in the context of UHC. RMNCH should capitalise on the opportunities provided by the SDGs. This analysis presents compelling evidence of progress and major persistent gaps and inequalities in the coverage of essential RMNCH interventions, and justifies a continued prioritisation of RMNCH within the context of UHC and the SDGs and their challenging 2030 targets. At the same time, a broader and more integrated approach is needed as countries face a much wider range of challenges for improvement of women's, children's, and adolescents' health and nutrition. Countdown to 2030 is a unique global platform that can help to address these challenges through fostering collaboration between several constituencies in a range of subject areas and through focusing on tracking progress, improving measurement, and strengthening country capacity for evidence generation and use.

Contributors

TB, JR, CGV, AA, AG, and AJDB prepared the initial draft of the paper and responded to reviewers' comments. All other authors contributed to the paper through the Countdown collaboration mechanisms, reviewed findings, and contributed to the interpretation. All authors approved the final version of the paper.

Countdown to 2030 Collaborators

Ties Boerma (University of Manitoba), Jennifer Requejo (Johns Hopkins Bloomberg School of Public Health), Cesar G Victora (Federal University of Pelotas), Agbessi Amouzou (Johns Hopkins Bloomberg School of Public Health), Asha George (University of the Western Cape), Irene Agyepong (University of Ghana), Carmen Barroso (Independent Accountability Panel), Aluisio J D Barros (Federal University of Pelotas), Zulfiqar A Bhutta (Aga Khan University; The Hospital for Sick Children), Robert E Black (Johns Hopkins Bloomberg School of Public Health), Josephine Borghi (London School of Hygiene & Tropical Medicine), Kent Buse (UNAIDS), Liliana Carvajal Aguirre (UNICEF), Mickey Chopra (World Bank Group), Doris Chou (WHO), Yue Chu (Johns Hopkins Bloomberg School of Public Health), Mariam Claeson (Global Financing Facility), Bernadette Daelmans (WHO), Austen Davis (Norwegian Agency for Development Cooperation), Jocelyn DeJong (American University of Beirut), Theresa Diaz (WHO), Shams El Arifeen (International Center for Diarrheal Disease Research), Fernanda Ewerling (Federal University of Pelotas), Monica Fox (Johns Hopkins Bloomberg School of Public Health), Stuart Gillespie (International Food Policy Research Institute), John Grove (WHO), Tanya Guenther (Save the Children USA), Annie Haakenstad (Harvard T H Chan School of Public Health), Ahmad Reza Hosseinpoor (WHO), Sennen Hounton (UN Population Fund), Luis Huicho (Centro de Investigación en Salud Materna e Infantil; Centro de Investigación para el Desarrollo Integral y Sostenible; Universidad Peruana Cayetano Heredia; Universidad Nacional Mayor de San Marcos), Troy Jacobs (US Agency for International Development), Safia Jiwani (Johns Hopkins Bloomberg School of Public Health), Youssouf Keita (Johns Hopkins Bloomberg School of Public Health), Rajat Khosla (WHO), Margaret E Kruk (Harvard T H Chan School of Public Health), Nana Taona Kuo (Every Woman Every Child Team), Catherine Kyobutungi (African Population and Health Research Center), Ana Langer (Harvard T H Chan School of Public Health), Joy E Lawn (London School of Hygiene & Tropical Medicine), Hannah Leslie (Harvard T H Chan School of Public Health), Mengjia Liang (UN Population Fund), Blerta Maliqi (WHO), Alexander Manu (Liverpool School of Tropical Medicine), Honorati Masanja (Ifakara Health Institute), Tanya Marchant (London School of Hygiene & Tropical Medicine), Purnima Menon (International Food Policy Research Institute), Allisyn C Moran (WHO), Oscar J Mujica (Pan American Health Organization), Devaki Nambiar (Public Health Foundation of India), Kelechi Ohiri (Harvard T H Chan School of Public Health), Lois A Park (Johns Hopkins Bloomberg School of Public Health), George C Patton (University of Melbourne), Stefan Peterson (UNICEF), Ellen Piwoz (Bill & Melinda Gates Foundation), Kumanan Rasanathan (UNICEF), Anita Raj (University of California, San Diego), Carine Ronsmans (London School of Hygiene & Tropical Medicine), Ghada Saad-Haddad (American University of Beirut), Mariam L Sabin (Partnership for Maternal, Newborn & Child Health), David Sanders (University of the Western Cape), Susan M Sawyer (University of Melbourne), Inacio Crochemore M Silva (Federal University of Pelotas), Neha S Singh (London School of Hygiene & Tropical Medicine), Kate Somers (Bill & Melinda Gates Foundation), Paul Spiegel (Johns Hopkins Bloomberg School of Public Health), Hannah Tappis (Johns Hopkins Bloomberg School of Public Health), Marleen Temmerman (Aga Khan University), Lara M E Vaz (Save the Children USA), Rajani R Ved (National Health Systems Resource Center), Luis Paulo Vidaletti (Federal University of Pelotas), Peter Waiswa (Makerere University), Fernando C Wehrmeister (Federal University of Pelotas), William Weiss (Johns Hopkins Bloomberg School of Public Health; US Agency for International Development), Danzhen You (UNICEF), Shehla Zaidi (Aga Khan University).

Declaration of interests

We declare no competing interests.

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