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

Countdown to 2030 Collaboration

Abstract

Building upon the successes of Countdown to 2015, the 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 in the world.

To reach the Sustainable Development Goal targets by 2030, the rate of decline in maternal and child mortality and stillbirths, as well prevalence of stunting among children under five years of age, needs to accelerate considerably compared to progress since 2000. Such accelerations are only possible with a rapid scale-up of effective interventions to all population groups within countries, particularly in the highest mortality countries and those affected by conflict, supported by improvements in underlying socio-economic 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 in the coverage of many essential RMNCH interventions was made during the past decade, many countries are still a long way from universal coverage for most essential interventions. Moreover, there is growing evidence of the limited quality of services, limiting the potential impact on RMNCH outcomes. Second, within-country inequalities in intervention coverage are reducing in most countries, to almost none in a few countries, but the pace is too slow. Third, health sector (weak country health systems) and non-health sector drivers (e.g. conflict settings) are major impediments to reaching all with quality services.

Although more data on RMNCH interventions are available now, there are still major data gaps that preclude the use of evidence to drive decision-making and accountability. Countdown to 2030 is investing in improving measurement in several areas, such as quality of care and effective coverage, nutrition programs, adolescent health, early childhood development and evidence for conflict settings, and is prioritizing its regional networks to enhance local analytical capacity and evidence for RMNCH.

Key messages

- The 81 Countdown countries have made progress but are still a long way from universal coverage for most essential interventions for RMNCH and nutrition.
- Major investments are needed to achieve the RMNCH-related SDG targets, which must 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 vital statistics, understanding drivers of coverage change, and better data on early childhood development and adolescent health.
- Strengthening country analytical capacity, a priority for the Countdown to 2030, is crucial to improve monitoring and accountability for women's, children's and adolescents' health.

Introduction

The Millennium Development Goals (MDGs) era was characterized by an unprecedented decline in child and maternal mortality during 2000-2015, even though the mortality targets were not met by most countries.[1 2 3 4] Concerted action around the MDGs - a limited number of time-bound, measurable and easy to communicate goals – plus major increases in funding for health, including for reproductive, maternal, newborn, and child health and nutrition (RMNCH), and scale-up of existing and new interventions are considered critical factors that contributed to this decline.[5 6 7] Progress was also driven by reductions in fertility and significant improvements in underlying determinants such as poverty and adolescent girls' education.[8 9 10 11] Health was prominently featured in three of the 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 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 with effective and affordable interventions.

The Global Strategy for Women's, Children's and Adolescents' Health (2016-2030) in support of Every Woman Every Child 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 multi-sectoral approach.[13 14] The Global Financing Facility (GFF) 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 (Countdown) is a multi-institutional network of academics from institutions around the world and representatives from United Nations (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. Based on global estimates for population and mortality, the 81 countries accounted for nearly half (47%) of the world's population, nearly two-thirds (64%) of all births in the world, and 90% of all child deaths and 95% of all maternal deaths in 2015.[17 1,2] This paper analyzes progress in improving intervention coverage, equity and drivers of RMNCH in the Countdown countries, summarizes key gains, signals areas for further action, and shows how Countdown priorities are evolving in response to the SDGs and universal health coverage (UHC) challenge.

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 A). Areas of expansion from Countdown to 2015 include nutrition, quality of care, adolescent girls' reproductive health, and RMNCH in conflict settings.

Maternal, neonatal and child survival

Under-five and neonatal mortality in the 81 countries declined rapidly during 2000-2015 to 59 and 24 per 1,000 live births respectively in 2015.[18] A major acceleration of the mortality decline is, however, required for countries to reach the SDG under-five and neonatal mortality targets of 25 and 12 per 1,000 live births, respectively especially among the highest mortality countries. The average annual rates of

decline in the 50 highest mortality Countdown countries will need to almost double for under-five mortality and more than double for neonatal mortality during 2015-2030, compared with 2000-2015 (Figure 1). A similar acceleration of the decline is required for stillbirth rates to achieve the global Every Newborn Action Plan for 2030 target of 12 per 1,000 births or fewer. [19 20] Reaching the global maternal mortality SDG target of less than 70 maternal deaths per 100,000 live births (at the country level, the target is two-thirds reduction from 2010 baseline and no country higher than 140 by 2030) requires an equally large acceleration of the annual rate of decline.[21]

It is too early to assess if the pace of mortality decline is changing post-2015. Since the final MDG assessment of achievements in September 2015, just over one-third of the 81 countries published new child mortality data, mostly from retrospective household surveys which provide data for the years prior to 2015. The predicted estimates for 2016 do not show a major change in the annual rate of reduction,[22] but a comprehensive account of trends in the initial SDG years will only be possible in a few years' time.

The lack of data on causes of child mortality in the 81 countries is striking. Only five countries were considered to have good quality cause of death data from national civil registration systems.[23] For 2010-2014, 14 countries had national data on causes of death in childhood, mostly from verbal autopsy studies, another 20 had subnational information only and the remaining 47 countries had no information for 2010-2014. Model-based estimates suggest that during 2000-2015, under-five mortality due to vaccine-preventable diseases such as measles declined the most, and deaths due to diarrhoea, pneumonia and malaria also more than halved in the Countdown countries. [23 24] The declines in mortality due to neonatal causes were less pronounced. By 2015, the leading causes of under-five deaths were estimated to be preterm birth complications (17%), pneumonia (13%), intrapartum-related events (11%) and diarrhoea (10%). Data on maternal causes of death are even sparser than for child mortality. Global estimates suggest that haemorrhage, hypertensive disorders and sepsis are the three leading causes in high mortality countries, with some variations in the proportion due to these causes by region.[25 26]

Nutritional status

Undernutrition – including foetal growth restriction, stunting and wasting, and micronutrient deficiencies such as vitamin A, iodine, iron and zinc – along with sub-optimal breastfeeding has been estimated to contribute to 45% of deaths in children under the age of five years in 2011, and to poor childhood development.[27 28] Levels of stunting in children under five years have dropped considerably in the past decade[29], but about half of Countdown countries with available data still have a national prevalence of 30% or higher. We used multilevel models to ascertain long term trends in stunting in children under 5 years and for the CCI among the poorest and richest quintile in a pooled analysis of countries (Appendix B and C). The decline in stunting rates accelerated around 2005 among children in both richest and poorest households, based on data from 53 Countdown countries (Figure 2). There is, however, no evidence of a reduction in the absolute gap between the rich and poor.

Fifteen countries had a national prevalence of wasting exceeding 10%. The list includes fragile states such as South Sudan, Chad, Timor-Leste, Pakistan and Yemen. Wasting is consistently higher among children living in poorer 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 appear to be a widespread problem, five out of the 56 countries with available data had a prevalence of over 10%. Among women aged 20 and over, median prevalences of underweight (BMI <18.5 kg/m^2) and obesity (BMI > 30) for the 79 countries with available data were 8% (range 1-24%) and 14% (range 5-

41%) respectively, with several countries facing high levels at both ends of the anthropometric status spectrum.

Coverage

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

The analyses focus on assessing progress and inequalities across the RMNCH continuum of care. They include the robust composite coverage index (CCI).[30] The CCI is a weighted average 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 attendant), immunization (BCG, DTP3 and measles vaccinations) and management of child illness (care seeking for suspected pneumonia and diarrhoea) (Appendix B). All coverage and equity computations were done in Stata version 15. 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 rates in the Countdown countries of many essential interventions across the continuum of care - from pregnancy prevention and planning, pregnancy, birth, postnatal, infancy, childhood to environment –are still a long way from universality (Figure 3). Countries in West and Central Africa are prominent among those with the lowest levels of coverage for almost all interventions (Table 1). Median coverage is still below 50% for postnatal care for babies (36%), exclusive breastfeeding (47%), treatment of diarrhea with ORS (43%), population using basic sanitation services (44%), and demand for family planning satisfied with modern methods (48%). Only immunization indicators and continued breastfeeding at 12-15 months have median coverage levels above 80%. These figures translate into large numbers of women and children not reached with essential services (Panel 1).

Coverage increased for most interventions, most steeply for interventions that were relatively new, such as new vaccines and pregnant women living with HIV receiving antiretroviral therapy. Notable is the progress in skilled birth attendant rates after years of stagnation in many countries, presenting a major opportunity to reduce intrapartum stillbirth and neonatal mortality rates (Table 2). Several malaria intervention indicators, also showed major increases (e.g. use of insecticide treated bed nets) (Appendix D includes the list of Countdown countries considered malaria endemic and current coverage levels of the malaria interventions in these countries). Less progress was made in coverage of family planning and antenatal care (four or more visits), infant and young child feeding behaviors, and coverage of treatment of childhood illnesses and population using basic sanitation services.

Many coverage indicators tracked by Countdown, and included in the Every Woman Every Child Global Strategy and SDG frameworks, capture information on contact with health services and do not take into account the quality of services received. There is increasing evidence about major gaps in the quality of care that affect the extent to which interventions can positively impact health (Panel 2).

Equity

Progress towards universal coverage must be assessed not only in terms of national averages, but also on how well such gains benefit all population groups. Survey data were used to classify households into wealth quintiles, based on the ownership of household assets and on housing characteristics.[31] The slope index of inequality, which measures the difference in coverage between the richest and poorest extremes of the wealth scale while taking into account the full wealth distribution, was used to summarize inequality patterns.[32] When comparing wealth-related inequalities between countries it must be kept in mind that the wealth quintiles are country-specific and vary according to context, representing relative socioeconomic position for a given country at a certain time, rather than absolute wealth.

Among 65 Countdown countries with data from 2005, marked differences in the CCI are observed by household wealth with half the poorest quintiles having a CCI below 50%, compared to only 2% for the wealthiest quintile (Table 3). Differences by urban versus rural residence and mother's level of education are also large. Only Panama and Swaziland had coverage of 80% or higher in more than half of the subgroups with data. Fifty of the 62 countries with data on these equity dimensions did not have a single subgroup with 80% or higher coverage.

Countries differ considerably according to the magnitude of wealth-related inequalities in the CCI (Figure 4). 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 – meaning higher coverage among the rich than the poor – in all countries except for Turkmenistan. In 30 countries, the slope index was greater than 20 percentage points. Nine countries showed little inequality, with an index below 10 percent points. Chad was the only country where the CCI was below 50% in even the richest quintile.

The inequalities vary for the eight coverage indicators included in the CCI (Appendix E). Gaps tend to be smaller for the use of oral rehydration solution for diarrhea management and for immunization coverage, compared to coverage of skilled birth attendant or antenatal care (four or more visits). These results confirm earlier findings highlighted by Countdown: 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, geographic regions 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 virtually all RMNCH interventions except for the infant feeding behaviors were lower in indigenous compared to non-indigenous populations. Among adolescent girls aged 15-17 years, 48% had a CCI below 50% (Table 3), compared to 21% of women 20-49 years. Low coverage levels among adolescent girls in need of family planning 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 as they can help program managers target interventions along administrative divisions within a country. Keeping in mind that variation in the number of subnational units limits the comparability of regional inequalities between countries, Figure 5 shows the wide range of geographic disparities that are present within selected countries.

Socioeconomic and urban-rural gaps in coverage are being reduced in many Countdown countries, but there is still a long way to go before universal coverage is achieved (Figure 6). For instance, progress in reaching rural women and children with needed interventions was faster than progress 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. This includes health system as well as socioeconomic, cultural, political and environmental factors. For some key drivers, such as women's empowerment, a positive association with the coverage of RMNCH interventions has been demonstrated.[33] The impact of conflict, both during and after, on women's and children's health can be devastating (Panel 3).

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. There are major legislative gaps: 68% of the74 Countdown countries with available data have no legislation on maternity protection[34], 29% the 79 countries with data have none on adoption of legislation to regulate the marketing of breastmilk substitutes, 53% of the 70 countries with recent data have no legislation allowing adolescents access to family planning without spousal or parental consent, and 38% of the 81 countries have no legislation on fortification of at least one staple food (wheat, rice, maize).[35] One country fully restricts abortion and 31 countries only allow abortion if the woman's life is at risk.[36] Globally, unsafe abortion rates have been found to be higher in countries with highly restrictive abortion laws compared to those with less restrictive laws.[37]

Policy analysis entails moving beyond assessing the presence or absence of a policy.[38] Understanding 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 critical to supporting country efforts to address RMNCH.[39] This helps explain why, for instance, maternal health or integrated community case management became a priority for some countries but not others.[40 41] Countdown reports on indicators concerned with governance processes such as the presence of costed national plans for maternal, newborn and child health (present in 49% of the 71 countries with data), maternal death surveillance and response, and civil society involvement in national planning and review processes,[42] but often more in-depth information is required to gauge policy implementation.

Financial monitoring includes official development assistance (ODA), flows from private foundations, domestic spending on RMNCH and the affordability of RMNCH services. An assessment of ODA and private foundation flows for the period 2003-2013 for Countdown to 2015 countries showed that funding to RMNCH increased more than threefold, similar to the health sector overall.[43] Child health received the largest increase in funding. Tracking domestic spending on RMNCH will be critical and is improving based on the System of National Health Accounts (SHA) 2011.[44 45 46] WHO now hosts more than 30 SHA-based RMNCH health accounts[47], and 12 countries have produced full disease breakdowns.[48] It is however too early to gauge the big picture on trends in domestic spending for RMNCH or adolescent health. As of now, there are only limited recent and comparable data on catastrophic health spending for Countdown countries. Out-of-pocket expenditures tend to be high, exceeding 40% of total health expenditure in more than half of Countdown countries, and only 12 countries reported out-of-pocket expenditures below 20%.

Comparable data on health service inputs such as infrastructure, supply systems and the health workforce that allow tracking over time are still limited. The latest WHO country data show continued low density of doctors, nurses and midwives in most Countdown countries. Only one quarter of the 81 countries have densities above 23 doctors, nurses and midwives per 10,000 population, a threshold used as a minimum required for high coverage of essential health interventions.[49] The national

availability of emergency obstetric care (EmOC) (expressed as a percentage of the minimum acceptable number of EmOC facilities which is at least five EmOC facilities per 500,000 people including one comprehensive and four basic emergency obstetric facilities[50]) was low in 30 countries with data from 2010 forward (median EmOC availability 40%, range 13% to 93%). The poor availability of essential diagnostics and medicines observed in facility surveys is evidence of major deficiencies in country supply chain systems, even though the availability of supplies for RMNCH tends to be better than, for instance, for noncommunicable diseases.[51]

The centrality of UHC, as part of the SDG agenda and country strategies, has multiple 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 critical for women, including adolescent girls, to be able to exercise their sexual and reproductive rights, and to experience better health outcomes. Decisions regarding what services are included in insurance plans and other health care delivery strategies require political engagement and alliances to ensure prioritization and visibility for RMNCH.[52] [53]

Coverage in the UHC context relies on the availability and appropriate use of services that are of sufficient quality (Panel 2). 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. These problems range from a lack of consistent supplies and equipment at health facilities, insufficient referral systems, inadequate training and supervision of health workers, to lack of respectful maternity care. Harmful practices are another reflection of poor quality of care and can be inadvertently incentivized by UHC financing strategies, such as the inappropriate use of antibiotics,[54] caesarean sections[55] or hysterectomies.[56]

Universal coverage for RMNCH interventions: 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. Moreover, there is growing evidence of the limited quality of services, due to lack of basic inputs such as medicines and trained health workers, thus limiting the potential impact on RMNCH outcomes. Second, inequalities in coverage between the poorest and the richest can be reduced to almost none, as shown by several countries. Within-country inequalities in coverage are reducing 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. This includes the strength of health systems where major progress and shifts are needed in terms of policies and strategies (e.g. to promote inclusiveness and effectiveness), governance (e.g., to develop integrated and intersectoral approaches, and strengthen partnership with and regulation of the private sector etc.), financing (e.g., shift to greater reliance on domestic resources while protecting ODA flows for women's, children's and adolescents' health, ensure financial protection against catastrophic health spending), and health services delivery and systems (e.g., stronger health workforce, reliable supply chain system, good quality of services etc.). In addition, the increasing numbers of women, children, and adolescents in countries affected by conflict or other humanitarian emergencies need special attention, and countries need better data to guide their actions under these circumstances. Efforts are needed to further refine a theory of change on how broader

determinants operate at both micro- and macro-levels in countries to impact RMNCH, and to develop associated multi-sectoral strategies to address them.

These findings demonstrate 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.[57 58]

Addressing the measurement and monitoring gaps

An important limitation of our analysis of progress is the limited availability of recent empirical data on key indicators and inequality dimensions. Despite major improvements in data collection, there are not enough recent data points to assess whether the rate of improvement in survival or program performance observed during the MDG era is accelerating or not. Countdown makes only limited use of predictions and aims as much as possible "to let the country data speak", after adjustments for known biases as required. This implies that time periods rather than individual years are used to assess trends, with some variability between countries in terms of when the data were collected. Our analyses are also limited by the depth of information currently available on critical topics such as RMNCH coverage in conflict settings, quality of care for essential interventions, and subnational data on, for instance, health service inputs. Further work is ongoing to address these measurement gaps, both within and outside Countdown.

Better data are needed to track progress, inform programs and ensure accountability at national and local levels. The preferred way to obtain better data on mortality and causes of death is through sample registration systems which should eventually lead to complete civil registration and vital statistics systems.[59 60] Collecting high quality population data on stillbirths and early neonatal deaths, and related interventions around the time of childbirth including measures of the quality of care, often requires special efforts such as longitudinal studies of pregnant women. Population-based surveys must be conducted on a regular basis, as key sources of coverage data that can be disaggregated by multiple demographic, socioeconomic and geographic dimensions. Research is needed to develop and validate more indicators that capture the quality of care through surveys.[61 62] Increasing the sample size of surveys to allow better geographical disaggregation, as well as investing in the quality and coverage of administrative data, are essential for improving 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 completeness and accuracy of reporting by facilities is good.[63] Linking of population and health facility surveys is at present the best way to measure access to and quality of specific services. Special studies are needed for determining how best to identify and reach underserved groups, to ascertain the quality of care and how to improve it, on reaching women and children with services in conflict situations, and to better understand the role of governance processes and legislative frameworks in improving RMNCH.

Transforming the Countdown

The SDGs call for a comprehensive and integrated health agenda, with UHC at the center 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 multiple ways, while preserving

its core features (summarized in panel 4). 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. This will include Countdown publications, as well as analytical inputs to the monitoring of progress and accountability related to the Every Woman Every Child Global Strategy for Women, 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 improving the measurement and analysis of intervention coverage, quality of care, nutrition, equity and 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, with an initial focus on sexual and reproductive health, and early childhood development. Finally, Countdown is focusing on strengthening regional and country analytical capacity to improve monitoring and accountability for women's, children's and adolescents' health. We are responding to the demand for greater country capacity and evidence for action by working with country 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, close collaboration with UN agencies and the Health Data Collaborative. In addition, Countdown is continuing its engagement in country-specific analyses in close collaboration with country institutions, including for countries affected by conflict. It will be critical that global initiatives, notably GFF, GAVI and Global Fund, align their financing and implementation efforts behind these efforts to strengthening country analytical capacity.

This first Countdown global analysis in the SDG era shows both how we will continue to address the RMNCH and nutrition agenda in the 81 highest mortality countries and how we have begun to address the broader agenda of women's, children's and adolescents' health in the context of universal health coverage. RMNCH should capitalise on the opportunities provided by the SDGs. This analysis presents compelling evidence of progress as well as major persistent gaps and inequalities in the coverage of essential RMNCH interventions, justifying a continued prioritization of RMNCH within the context of UHC and the SDGs with 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 improving women's, children's and adolescents' health and nutrition. Countdown to 2030 is a unique global platform that can help address these challenges through fostering collaboration between multiple constituencies in multiple subject areas, and through focusing on tracking progress, improving measurement, and strengthening country capacity for evidence generation and use.

List of tables and figures

Panel 1: **Millions of women and children not reached with life saving interventions**

The coverage levels (Table 1, Figure 3) translate into large absolute numbers of women and children in the 81 Countdown countries who were not reached with needed interventions in 2015 (Appendix Panel 1 provides details on the method):

- 140 million women of reproductive ages, and in a union (marriage or long-term cohabiting partnership), were not reached with modern methods of family planning
- 28 million births occurred without a skilled attendant
- 17 million children did not receive three doses of pentavalent vaccine.
- 12 million children under 5 with symptoms of acute lower respiratory tract illness were not taken to a health facility
- 33 million children under 5 with diarrhoea did not receive oral rehydration salts solution.

These numbers are a poignant reminder of the steep climb ahead to reaching universal coverage for essential interventions in the countries.

Panel 2: Major gaps in the quality of care

Many of the coverage indicators tracked by Countdown and routinely monitored by countries are indicative of contact with health services, but they tell us little about the quality of care received.[62] Without an adequate level of quality, interventions are unlikely to result in expected health improvements.[64] An increasing number of studies measure essential inputs to health care (such as diagnostics, medicines, other supplies and equipment), on the contents of care provided (process of care provision from health providers) and outcomes and impact (effective coverage) (Appendix Panel 2). Household surveys can provide data on health care needs, utilization of health services and content of care and health facility surveys may capture health facility inputs or readiness and process indicators through direct observation of clinical visits or exit interviews. Linking these surveys for countries with both types of data in the same timeframe [65] showed that major losses in potential individual and population health gains are occurring in every service area examined including family planning services,[66] antenatal care,[67] obstetric care,[68 69 70] and newborn care[71].

Essential interventions to be delivered during antenatal care, for example, are often provided inconsistently,[72] basic resources needed for safe and effective delivery care are often absent,[73 74] opportunities for immunization are missed[75] and misdiagnosis and incorrect treatment of childhood illnesses are common.[76 77] Gaps between coverage levels of receipt of antenatal care (four or more visits) and coverage levels adjusted to take into consideration available service inputs can be as large as 30-45 percentage points. [67 72 78 79] Gaps in process-adjusted coverage for antenatal care are even larger at around 50% (Appendix Panel 2). Further work is needed to measure the impact of quality gaps (due to inadequate inputs or provision/process of service delivery) on population health gains and to guide interventions to address these gaps.

Panel 3: Women and children in conflict settings

The world has seen an upsurge in violent conflicts in recent years, with numbers of combat and civilian deaths rising since 2012.[80] This has led to an increase in forcibly displaced people to 65.6 million by the end of 2016, or just under 1% of the world's population, 22.5 million of whom were refugees[81]. The upsurge in violent conflicts in recent years is affecting RMNCH. Using battle-related deaths[82] as an indicator of the existence and size of conflicts, 32 Countdown countries experienced at least one conflict during 2011-2016. Among those, 10 Countdown countries are experiencing severe conflicts, defined as having at least 5,000 battle-related deaths during 2011-2016 and more than 100,000 refugees, asylum seekers and internally displaced persons in 2016: Afghanistan, Central African Republic, Democratic Republic of Congo, Iraq, Nigeria, Pakistan, Somalia, South Sudan, Sudan and Yemen. In addition, Syria, Libya and Ukraine, all three not part of the 81 Countdown countries, are classified as having severe conflicts. Women and children are increasingly affected by the changing nature of conflict from inter- to intra-state and from acute, 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 persons are women and children. According to available data on 24.4 million displaced persons in 2016, 16% were children under 5, 37% children 5-17 years of age, and 23% were women 18 years and older.[83]

There are very few reliable statistics on deaths due to violence and warfare among women and children. The evidence of the impact of conflicts on disease burden and health service coverage is piecemeal, and is often dominated by data on conflict-affected populations in more stable settings such as refugee camps in protracted conflict settings, with often encouraging statistics compared to host populations.[84] (e.g. on maternal mortality[85], child malnutrition[86], MNCH coverage[87 88]). There is definite evidence of adverse consequences such as outbreaks of vaccine-preventable[89] and diarrhoeal diseases[90], increasing prevalence of acute malnutrition[91] and mental health problems[92] in conflict settings. Women, including adolescent girls, are also at greater risk of becoming victims of sexual violence, commonly reported in almost all conflict settings[93], with major consequences such as unwanted pregnancy, HIV infection and other sexual and reproductive health problems, as well as social problems such as stigmatization and exclusion by families and communities.

Recent Countdown studies in Afghanistan and Syria have shown, in spite of lack of comprehensive data from the most affected areas, adverse impact of the conflict on the coverage of essential RMNCH interventions.[94 95] A macro-level analysis of the association between six dimensions of governance (government efficiency, control of corruption, political stability and absence of violence, regulatory quality, rule of law and voice and accountability)[96] and composite coverage index (CCI) in 59 Countdown countries also showed that the strongest predictor of high and equitable coverage was political stability and absence of violence, even after statistical adjustment for the per capita gross domestic product, the Gini coefficient for income concentration and country's population and surface area *(*Figure 7*).* None of the other five dimensions of governance were associated with coverage after the statistical adjustment.

To help 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.

Panel 4: Countdown to 2030: priority areas of work

- Publish independent high quality comprehensive analyses of progress towards the RMNCH-related SDGs with a focus on coverage and equity of the cost-effective interventions against the main causes of maternal and child deaths;
- Provide analytic inputs to the monitoring of progress and accountability related to the Every Woman Every Child Global Strategy for Women, Children's and Adolescents' Health 2016-2030, the Independent Accountability Panel, global efforts to monitor nutrition, adolescent health, early childhood development, and other global and regional reports;
- Improve the measurement of coverage of interventions, including more and better disaggregation of available data and quality of care;
- Improve the measurement and analyses of key drivers of intervention coverage, such as governance, policy implementation, civil society representation, and conflict settings;
- Strengthen regional and country analytical capacity to improve information for better accountability for women's, children's and adolescents' health in the context of the SDGs and UHC.

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