Web supplement

The annex is organized into two parts. The first includes more information on the indicator lists for the Global Strategy and Countdown to 2030, the evaluation framework underlying the analyses, and the methodology used to prepare tables and figures in the paper. The second part includes supplemental figures.

1. **Indicator lists and evaluation frameworks**
   a. **Countdown to 2030**

   The Countdown initiative undertakes a rigorous technical review process approximately every two years. The purpose of the technical review process is to ensure that the Countdown indicator list is updated to reflect any changes in the evidence base on effective interventions, improvements in data collection and measurement, and country and global priorities. The last technical review process was completed in 2017 and resulted in the country and indicator lists used for the 2017 country profiles and the analyses in the Countdown 2017 report. A comprehensive description of the steps involved and results of the technical review process are available on the Countdown website:
   
   [http://countdown2030.org/country-and-regional-networks/country-profiles/countdown-to-2030-data-sources-and-methods-december-2017-country-profiles](http://countdown2030.org/country-and-regional-networks/country-profiles/countdown-to-2030-data-sources-and-methods-december-2017-country-profiles)

   The Countdown analyses are based on a modification of the common evaluation framework. A graphical depiction of the framework is available on page 20 of the technical review process document.

   Our article calls for a consultative technical review process to revise the Countdown and Global Strategy indicator lists, country list, and evaluation framework in view of the shift in orientation towards a life course perspective.

   b. **Global Strategy for Women’s, Children’s and Adolescents’ Health**

   The monitoring framework for the Global Strategy was developed as a one-time process for selecting the set of indicators to monitor the Strategy’s thrive, strive and transform dimensions. The H6 agencies collaboratively report on the indicators in the framework through the Global Strategy data portal available on the WHO’s global health observatory: [https://apps.who.int/gho/data/node.gswcah](https://apps.who.int/gho/data/node.gswcah)

   Both the Countdown to 2030 and Global Strategy monitoring frameworks are derived from the common results framework which is described in detail in WHO’s Monitoring Framework for Health System Strength.

   [https://www.who.int/healthinfo/HSS_MandE_framework_Nov_2009.pdf](https://www.who.int/healthinfo/HSS_MandE_framework_Nov_2009.pdf)

2. **Methods**
a. *Explanation of the sources and the year of the data for each indicator included in Figure 1, Figure 2, and Table 1.*

- Immunizations. These data are from the WHO and UNICEF joint estimates, last update in July, 2019. The year of the data is 2018.
- Population using basic drinking water services and basic sanitation services. These data are from the WHO and UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene, last update June 2019. The year of the data is 2017.
- Pregnant women living with HIV receiving antiretroviral treatment for PMTCT. These data are from the Global AIDS Monitoring and UNAIDS 2019 estimates, last update July 2019. The year of the data is 2018.
- All other indicators come from the UNICEF and WHO global databases, last updated in May 2019. These data are based on Demographic and Health Surveys, Multiple Indicator Cluster Surveys and other national surveys. Only countries with available data from the time period 2014-2018 are included.

b. *Explanation of how the coverage gap closed was calculated*

The coverage gap is defined as 100% (complete/full coverage) minus the coverage level in the earlier time period. The coverage gap closed (CGC) for each intervention is a proportion, calculated from the following formula, where $C_2$ is defined as the median global coverage in the most recent period and $C_1$ defined as the median global coverage in the first or earlier period: 

$$\%CGC = 100 \times \left( \frac{C_2 - C_1}{100 - C_1} \right)$$

c. *Alternate approach to assessing changes over time*

- We opted to use median rather than the mean as the measure of central tendency to be consistent with previous Countdown to 2030 and Countdown to 2015 analyses. The findings yielded similar results about intervention progress, so the choice of measure, mean or median, does not affect the main messages.
- Rather than using the coverage gap closed measure to assess progress over time and to compare which interventions are progressing faster than others, an approach that is based on calculating the average annual percentage point change for each indicator can be undertaken.

The formula for this is:

Global annual percentage point change = median of all percentage point change, calculated for each country (see below for calculation)

$$\text{Country annual percentage point change} = \frac{\text{Percentage point change between two time periods (for specific country)}}{\text{Number of years between two time periods (for specific country)}}$$
When we used this approach, the findings result in the same messages as the coverage gap closed approach. Namely, the two approaches show the same interventions as having the most progress, and the same interventions that are lagging the most behind.

In the first step to compare the two methodological approaches, we first examined if there were systematic differences in the average number of years between the first and second surveys for the indicators. We found that for the indicators for which modeled estimates are available, the average number of years was 7. This was slightly lower for the indicators based on survey data (around 5). (slides 2-4)

The second step was to determine if the measure of central tendency used made a difference in determining the annual change in coverage by indicator. The results found no difference (slides 5 and 6).

The third step involved comparing the findings of the average annual percentage point change for each indicator compared to the bar chart showing the changes in the median coverage in the two time periods. (slides 8-10). Although the numbers differ, the main messages are the same – the two methods identify the same faster and slower progressing interventions. We have opted to include the bar chart showing the two medians in the two time intervals as we think this is more visually understandable to most audiences.

d. Computation of the composite coverage index (CCI)

The Composite coverage index includes four components and eight indicators:

i) reproductive health: measured through demand for family planning satisfied with modern methods among women of reproductive age (DFPSm)

ii) maternal health: measured as the arithmetic average of the two indicators of four or more antenatal care visits (ANC4) and skilled birth attendant (SBA)

iii) child immunization: measured as a weighted average of three doses of diptheria, tetanus and pertussis (DTP3 – multiplied by 2 in the formula), Bacillus Calmette-Guerin (BCG), and first dose of measles (MCV1)

iv) child illness treatment: measured as the arithmetic average of ORS for diarrhea and careseeking for acute respiratory infection from a formal provider (CAREP)

The formula used to compute the CCI is:

\[
CCI = \frac{1}{4} \left( DFPSm + \frac{ANC4 + SBA}{2} + \frac{BCG + 2 \times DPT3 + MCV1}{4} + \frac{ORS + CAREP}{2} \right)
\]
For more information on the CCI, see: Wehrmeister FC, Restrepo-Mendez MC, Franca GV, et al. Summary indices for monitoring universal coverage in maternal and child health care. *Bull World Health Organ* 2016;94(12):903-12. doi: 10.2471/BLT.16.173138 [published Online First: 2016/12/21]

3. **Supplemental Figures:**

The first two figures present variations of the continuum of care chart (figure 1 in the main text) to illustrate how intervention coverage varies by income level of the country, and by SDG region. The heat map included in the paper itself presents data for the 5 best and 5 worst performers on the CCI. The third figure in the annex presents the CCI information for all of the 94 countries that had comparable data for each indicator included in the CCI, time period of 2010-2018.
ANNEX FIGURE 1. Median national coverage of select interventions along the continuum of care (CoC), most recent survey for each country with data available, 2014 and later (%); bars represent global median, median among low income countries in black diamonds, median among lower-middle income countries in grey diamond, and median among upper-middle income countries in white diamond.
ANNEX FIGURE 2. Median national coverage of select interventions along the continuum of care (CoC), most recent survey for each country with data available, 2014 and later (%); bars represent global median, regional medians represented by diamonds.
ANNEX FIGURE 3. A heatmap of the Composite Coverage Index, its four components, and the constituent indicators of the components, among 94 countries with complete data available, sorted by high to low on the CCI*
Annex Figure 3. Con’t. Acronyms defined

The heatmap includes information on each of the indicators included in the CCI components. Here is the full indicator name represented by acronyms in the chart:

1. DFPSm: Demand for family planning satisfied with modern methods
2. SBA: Skilled attendant at delivery
3. ANC4+: Antenatal care (4 or more visits)
4. DTP3: Three doses of diptheria, tetanus and pertussis vaccines
5. MCV1: First dose of measles vaccine
6. BCG: Bacillus Calmette-Guerin vaccine
7. ORS: Oral rehydration salts
8. CarePneum: Care seeking for pneumonia