A Framework for Post-MDG Maternal Mortality Targets

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Where did this framework come from?

- Formal process began with a WHO meeting in April 2013. Later meetings in April 2014 and October 2014.
- The Department of Reproductive Health and Research and the Bureau for Global Health at USAID appear to me to have been the main actors, but with frequent consultation with other UN agencies, NGOs, and countries.
- My participation has been due to my membership in the Technical Advisory Group (TAG) of the Maternal Mortality Estimation Inter-Agency Group (MMEIG) since 2010 and my role with DHS since 2011.

Why develop targets?

- Targets require that we specify a time frame.
- Targets require that we specify indicators.
- Targets help to mobilize donors and policy makers.
- Targets must be accompanied by strategies to achieve them.

What are criteria for targets?

- Should be ambitious, and require extra effort; “bend the curve” and achieve more than with a projection of recent trends.
- Should be achievable with a reasonable amount of extra effort. We do not want to build failure into the targets.
- Can be hierarchical. If so, should be consistent across levels: countries, regions, and globally.
- Should be easy to communicate.
- Progress should be measurable.

Time frame

- The starting point is 2015, the end of the MDG interval.
- The starting values of indicators in 2015 will actually be projections based on data prior to 2015; the implications of that are being discussed.
- Various end years have been discussed but 2030 appears to have been selected.

Indicator

- The primary indicator will be the Maternal Mortality Ratio (MMR): the number of maternal deaths per 100,000 live births. There are various recent estimates but the global MMR was about 210 in 2010.

- Think of this as an approximation to the probability that a pregnancy will result in a death, multiplied by 100,000. (210 per 100,000 is the same as 0.21%)

- A secondary indicator is the Lifetime Risk of a Maternal Death (LTR), which is approximately MMR x TFR. It will fall if either the LTR or the TFR declines.

Estimating the Maternal Mortality Ratio

- The number of maternal deaths (numerator) and the number of live births (denominator) always come from different sources.

- Ideally they come from a vital registration (VR) system, but countries with high MMR do not have VR data.

- DHS surveys are the main source of MMR estimates from high MMR countries. The maternal deaths come from a module in which respondents are asked to list all their sisters, say which ones died while age 15-49, and say whether their deaths occurred during pregnancy, during delivery, or soon after delivery.

Measurement challenges

- **Sampling error**: The estimates coming from any survey have large standard errors and wide confidence intervals. The high end of a confidence interval for the MMR will typically be about twice as high as the low end. Example: high end is 160 and low end is 80.

- **Reference period and reference point:** The estimates always refer to an interval before the survey. Usually the interval for the MMR is 7 years ("0-6 years" before the month of interview. The estimate is then attached to the midpoint of the interval, which is 7/2=3.5 years before the survey.

- **Example:** The DHS component of WHO's estimate of the Indonesia's MMR in 2015 comes from a survey conducted in 2012, with reference point around 2008-09. That was a large survey (46,000 households) but found only 92 pregnancy-related deaths during the 7 years before the survey. One such death for 500 households.

Overview of the framework

1: Time frame is 2015 to 2030

2: The indicator is the Maternal Mortality Ratio

3: The primary target is a global MMR of 70 in 2030

4: The secondary target is that no country will have an MMR greater than 2x70=140 in 2030

5: Except for the “highest MM” countries, every country will decline at the same rate as the global MMR, even if its MMR is already low, tracked by a standard set of “milestones”

6: The “highest MM” countries will decline at a steeper rate in order to satisfy the secondary target, with “milestones” calculated for each country

7: Within countries, highest priority should be given to high MMR sub-populations

3: The primary target is a global MMR of 70 in 2030

- The process began by looking at the pattern of the global MMR from 1990 to 2000 to 2010.

- From 1990 to 2000 the decline was modest but from 2000 to 2010 it accelerated. We extrapolated the change observed from 2000 to 2010, using a negative exponential (constant ARR) curve .

- We made it a little steeper and found a trajectory that went close to 90 in 2025, 70 in 2030, and 50 in 2035. It was decided to use these multiples of 10 as the global targets if the target year was 2025, 2030, or 2035.

4: The secondary target is that no country will have an MMR greater than 2x70=140 in 2030

- The secondary target is motivated by an argument for equity across countries.
- There are currently about 25 countries with an MMR greater than 2x the global level. The great majority of maternal deaths occur in these countries.
- The choice of a factor of 2 is arbitrary.
- We thus have a “two-tiered” framework. The break is at MMR=420 in 2010, because countries below that level will be below 140 in 2030 if they follow the global trajectory. Countries above that level will not satisfy the secondary target. They need to decline faster.

Milestones

- The global rate of decline, or ARR (Average Annual Rate of Reduction) will be about 5.5% but will be recalculated. All countries would follow this trajectory, except for the highest MMR countries, for which the rate of decline would be steeper.

- The framework includes intermediate targets every five years on the downward trajectory. These are called milestones. The concept of milestones has been difficult to communicate and may have to be modified.

Milestones consistent with the global trajectory

- Milestones between 210 and 70:

  160; 120; 90

- Milestones higher than 210 (but below 420):

  360; 280

- Milestones below 70 (omit if <10):

  50; 40; 30; 25; 20; 15; 10

- Full sequence:

  360; 280; 210; 160; 120; 90; 70; 50; 40; 30; 25; 20; 15; 10

Regional targets

- WHO will calculate regional targets by adding up the targets for the countries within the region
- May also apply projections of numbers of births from the UN Population Division
- Regions are free to construct more stringent or more demanding targets, as LAC has done

Related references

- WHO reports on maternal mortality: go to www.childinfo.org or www.maternalmortalitydata.org
- More information about DHS: www.dhsprogram.com
- “Ending preventable maternal deaths: the time is now”, *Lancet Global Health*, October 2013
- Another paper on this topic is in preparation.