Ending preventable maternal mortality—a proposal for the post-2015 goal

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Introduction and purpose of this paper

The Millennium Development Goals have proved to be major catalysts for action at country level. For example, the target for MDG 5 -- reduction of the maternal mortality ratio (MMR) by 75 percent between 1990 and 2015—has contributed to the nearly 50% decline in the MMR between 1990 to 201—from 543,000 maternal deaths per year to 287,000—according to recent estimates.(1) The greatest declines were achieved during the second half of this period.

While the reasons for progress in reducing the maternal mortality ratio are numerous and certainly differ from country to country, countries have improved their commitment, as have development partners. Family planning has come back into focus, more women are accessing maternity services, clinical care policies are better informed by evidence, and technical capacity has improved. Underlying factors include increase in girls' education and, in some countries, economic and social empowerment of women. The recent momentum in maternal survival needs acceleration in the final years toward 2015 as well as a clear vision to move forward – not only to sustain and accelerate progress, but to articulate a bold vision over the next generation.

What is an ambitious but practical target for post-2015 for ending preventable maternal death —and what steps are needed to reach that target?

An initial consultation

In April 2013, a consultation on potential post-2015 targets hosted by WHO with the United States Agency for International Development, brought together stakeholders from four countries (India, Nigeria, Indonesia and Cameroon), professional organizations and associations, other multilateral participants, maternal health advocates and donors. The aim of the consultation was to consolidate strategies for accelerating progress towards ending preventable maternal deaths, and to explore related post-2015 targets. Participants reviewed the progress and current situation in relation to the MDG 5 target for reduction of maternal mortality.

Given the history with the MDG 5 target of reducing the MMR by 75% by 2015, the following conclusions were reached:

- The future target should continue to be the MMR;
- The pattern of decline should be consistent with an ultimate level of 0, even if only in the distant future;
- There should be an acceleration of past trends;
- The strategy should be flexible enough to handle various end dates (2025, 2030, 2035), because selection of the end date will depend on the overall development agenda;
- Given the wide variation in the level of the MMR across countries, the primary target should be a single number for the global MMR;
- Each country would be located or placed on a trajectory of decline implied by the global target;
- Each country's rate of progress would be measured by passing five-year milestones that are consistent with its position on the above trajectory;
- Countries at very high levels of MMR would have an even more ambitious goal, so that no country would have an MMR above a specific value (which depends on the end year);
- Countries at low levels would focus on any remaining high-MMR sub-populations.

In brief, the proposal resulting from the WHO consultation resulted in the following targets:

Target 1: Global MMR<=50 by 2035;
Target 2: Every country reaches MMR<=100 by 2035;
Target 3: Every country declines at a rate consistent with targets 1 and 2;
Target 4: At all levels of MMR, but particularly for countries in with MMR<=50 in 2010, decline is achieved by reducing maternal mortality in the subpopulations with highest risk.

Targets 1 and 2 would be modified appropriately for a choice of end year other than 2035.

Considerations behind the proposed goals/milestones

How to describe levels and changes in maternal mortality

The most common indicators of maternal mortality are the number of maternal deaths, the maternal mortality ratio (MMRatio or MMR), the maternal mortality rate (MMRate), the proportion of women's deaths that are maternal (PM or PMDF), and the lifetime risk of a maternal death (LTR). All of these indicators have strengths and weaknesses. The best indicator for present purposes is the MMR, because changes and differentials in the MMR are minimally affected by influences other than maternal mortality and it provides continuity with the MDG interval 1990-2015.

The proposal is flexible with respect to the choice of end year, which will be selected through an international political process. After that year has been specified, the target value of the MMR in that end year will be specified. The use of 2035 below as the end year is only illustrative. Also, for the present description of the targeting process, the 2010 estimates are used as starting values, but adjustments will be made as soon as estimates for 2015 become available.

Target values for the global MMR

An ambitious but plausible target for the global MMR would be 50 in 2035 (or depending on the final target date; 90 in 2025, 70 in 2030). A MMR of 50 is the maximum level of the OECD countries, which have a mean of 7 but range from 2 to 50.

This global target specification would not apply to every specific country. Indeed, by 2010, 76 countries out of the 181 being tracked had already achieved MMR<=50. By contrast, many countries had such high maternal mortality in 2010—25 countries had MMR>400—that a target of 50 would realistically be out of reach.

Country-specific trajectories for the MMR

A steady trajectory from MMR=210 in 2010 to MMR=50 in 2035 can be used to identify five-year milestones that can help monitor progress globally but also in specific countries. The milestones can be extrapolated to higher levels than 210 or lower levels than 50, along the same trajectory. The rounded MMR milestones, arbitrarily beginning with 280, and highlighting the reference values 210 and 50, would be as follows: 280; **210**; 160; 120; 90; 70; **50**; 40; 30; 20; 15; 10. Thus, for example, a country with MMR=50 in 2015 would be expected to reach 40 by 2020; 30 by 2025; 20 by 2030, and 15 by 2035. A country with MMR=250 in 2015 would be expected to reach 210 by 2020; 160 by 2025; 120 by 2030; and 90 by 2035.

Countries with very high MMR levels would require an even steeper trajectory to achieve Target 2, MMR=100 by 2035. The five-year milestones for those countries would be individually designed .following a steady rate of decline from the initial MMR to 100 in 2035. For example, the milestones for a country with MMR=500 in 2015

would be 330 by 2020; 220 by 2025; 150 by 2030; and then 100 by 2035. It is understood that such rapid rates of decline will be challenging and require aggressive strategies and a high level of sustained commitment.

Countries with low values of the MMR would be expected to move to lower values according to the milestones given above, but with a focus on internal subpopulations whose maternal mortality is higher than the national rate.

How can we reach the proposed targets?

Seven broad themes are proposed that could contribute to ending preventable maternal deaths.

1. **Provide information to individuals, particularly women, and families on the health benefits of both reproductive and maternal health care**

Promote a healthy outcome for both mother and baby by ensuring all women, including adolescent girls have the education and information to choose whether and when to become pregnant, enter pregnancy infection free and with a good nutritional status, and access skilled care for delivery and postpartum care for follow up and continued reproductive health care. This knowledge provided to women and families, along with accessible, acceptable services, including for contraception, could move women towards improved outcomes.

2. Improve equity and universal coverage

Increasing efforts to reach vulnerable populations— the poor, rural, marginalized, uneducated and those in conflict/post-conflict areas— with both reproductive and maternal health care, could reduce maternal deaths. This will mean addressing barriers to accessing such services-- financial, cultural, geographic, or disrespectful care--to ensure sustained demand at scale.

3. Prioritize and scale up comprehensive reproductive and maternal health care

The direct causes of maternal death are well-known—obstetric hemorrhage, severe pre-eclampsia and eclampsia, puerperal sepsis, and unsafe abortion—as are effective interventions to address them, including modern family planning to prevent unmet need. Building on the reproductive and maternal health services platforms, these interventions, such as uterotonics, can be available at scale through improved intrapartum and immediate postpartum care. Essential to comprehensive maternal health care is effective and well-coordinated referral care, which also needs to be available to all women.

Meeting unmet need for modern family planning alone, meaning reaching women with messages and provision of modern family planning, would reduce pregnancy related mortality by 79,000 deaths, 48,000 of which would be in sub Saharan Africa (Singh et al 2012). Family planning services

4. Address the indirect causes of maternal death

Indirect causes, especially HIV/AIDS, tuberculosis (TB), malaria, and opportunistic infections (e.g., pneumonia), contribute a large proportion of maternal deaths where these infections are prevalent, as they are in many sub-Saharan African countries. Pregnant women with HIV/AIDS are estimated to have an eightfold chance of dying compared to uninfected pregnant women (Calvert and Ronsmans 2013). Where malaria is endemic as well as epidemic, there are reports of increased maternal mortality. Screening, prevention and treatment of the infections, building on an integrated platform of maternal services along with those for infections, especially in the pre-conception and antepartum periods, can address these indirect causes of maternal death.

Maternal under nutrition remains a poorly understood contributor to poor birth outcomes, especially anemia which is exacerbated by malaria and helminthic infestation. Effective prevention and treatment means for anemia during pregnancy are known and need to be implemented at scale.

5. Strengthen the health system

Improving the quality of reproductive and maternal health care necessitates adequate and skilled human resources—both midwives and doctors (including specialists), essential commodities, a functioning and used health information system, and communication and coordination between the levels of care and providers to effectively provide supervision, quality improvement, and referral. New challenges and opportunities in the health system context mean moving beyond business as usual to respond to increasing decentralization, privatization, urbanization and the availability of financial initiatives to improve access and /or quality of care. Technical innovations, such as mapping the site of each maternal death or severe morbidity, and the use of mobile technology to reach women and families with information and providers with clinical advice, and to track the progress of pregnant women, hold promise for accelerating program implementation and improving the metrics needed for measuring progress.

6. Ensure accountability

Building on global and national commitments already made with the Commission on Information and Accountability, there are now improved metrics to measure progress towards targets. A necessary first step is collecting data on the causes and conditions of every maternal death. This allows us to develop strategies to respond to the needs, and address the clinical as well as distal causes of deaths and will allow for targeted monitoring, accountability and action.

7. Guarantee reproductive and maternal health care as a human right.

Aligning with global initiatives and seizing the momentum to embrace a bold post-2015 goal building on progress

Critical to accelerating and sustaining gains, we need to build on ongoing international and national commitments already publicly made in response to the UN Secretary General's Every Woman Every Child, and reinforced by A Promise Renewed, Family Planning 2020, and the UN Commission on Life Saving Commodities. We can also build on the processes eat national level to sharpen strategies for improving health and development beyond 2015, which have already started in many countries.

Is there a basis for optimism that achievement of a global MMR of 50 by 2035 is possible? Prior to the 2008 global MMR estimates, with the exception of a few countries "no progress" was the report card grade for MDG 5. However, with the 2010 MMR estimates, the close-to 50% reduction over two decades globally from 1990-2010 -- with a 4.1% decline over the second decade -- has given good reason to aspire to more significant gains. While there will continue to be political unrest, insufficient funding and other challenges, we can also expect to build on progress currently under way: the recent economic growth in Africa, more women and girls educated, declining unmet need for family planning, improved attention to provision of essential drugs, financial incentives and a rapid growth of the private sector to improve access to services, improved maternity services, new technology and better application of current technology, and improved political will. We need to seize the momentum and embrace a bold post-2015 goal to end preventable maternal mortality.

This proposal for ending preventable maternal mortality includes both potential targets and their rationale, and themes for action to reach the proposed targets. We invite all those interested in ending preventable maternal mortality to enter the dialogue.

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