

# THE PROJECTED IMPACT OF SCALING-UP MIDWIFERY

## Estimating Maternal Deaths Prevented by Midwives

### Background

Global evidence has shown that midwives (and others with midwifery skills) can deliver the majority of effective maternal and newborn health interventions, including the signal functions of Basic Emergency Obstetric and Newborn Care (BEmONC). These include assisted delivery, removal of retained products, manual removal of the placenta, oxytocic medications, antibiotics, anticonvulsants and neonatal resuscitation.<sup>1</sup>

However, the overall coverage of a number of components of midwifery in 75 high burden countries is low. According to the *Countdown to 2015 for Maternal and Child Survival*, which tracks progress towards achievement of Millennium Development Goals (MDGs) 4 and 5 in these countries, only 50% of family planning needs are satisfied, 50% of women have the recommended four or more antenatal care visits, skilled birth attendance is 54%, and early initiation of breastfeeding is 47%. In order to improve health outcomes, sufficient coverage of maternal and newborn interventions is required.



Photo Courtesy Jhpiego/Kate Holt

Work supported by USAID's flagship Maternal and Child Health Integrated Program (MCHIP) and recently published in *The Lancet*<sup>2</sup> examines the impact of midwifery on maternal and newborn health outcomes with two key objectives:

1. Model the maternal, fetal and neonatal deaths prevented using the Lives Saved Tool (LiST) under different scenarios of coverage of midwifery from 2010-2025 in 78 low-middle income countries, categorized into three groups using the human development index (HDI).
2. Estimate the value of incrementally, adding specialist care to midwifery on maternal, fetal and neonatal lives saved.

### Methodology

This analysis aimed to study the benefits for mothers and newborns as the coverage of effective interventions delivered by midwifery was increased over a 15-year period. The Lives Saved Tool (LiST)<sup>3</sup> was used to estimate deaths prevented if midwifery was scaled up in 78 countries. The Human Development Index (HDI)—a composite statistic of life expectancy, education and income indices—was used to categorize the countries into three equal groups of 26 countries. (Group A includes the lowest HDI countries; Group B includes low-moderate HDI countries; and Group C includes moderate-high countries.) These 78 countries are the high-burden, low- and middle-income countries that account for 97% and 94% of maternal and newborn mortality, respectively.

Three main scenarios were developed to estimate the impact of different increases in coverage for each five-year period between 2010 and 2025. These scenarios were then applied to each group of countries, asking the following:

- What if there is only a modest 10% increase in care (Scenario 1)?
- What if there is a significant scale-up or 25% increase (Scenario 2)?
- What if there is 95% universal coverage of interventions by the year 2025 (Scenario 3)?

Authors also estimated the value of adding specialist (obstetrician) care to midwifery on maternal fetal and neonatal lives saved by examining activities normally falling under the scope of specialist care.<sup>4</sup>

<sup>1</sup> Interventions including blood transfusions or caesarean section capacity (indicative of comprehensive EmONC [CEmONC]) are classified as specialist, requiring the input of a medical practitioner with advanced skills in obstetrics and advanced medical equipment and medicines.

<sup>2</sup> *The Lancet Series on Midwifery* 2014. Authored by Caroline SE Homer, Ingrid K Friberg, Marcos Augusto Bastos Dias, Petra ten Hoopen-Bender, Jane Sandall, Anna Maria Speciale, Linda A. Bartlett.

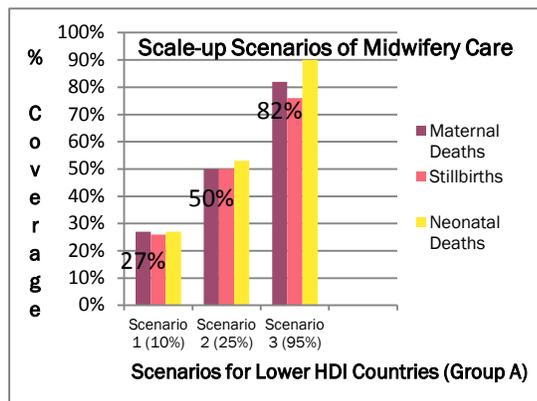
<sup>3</sup> LiST is a module in the Spectrum policy modeling software. USAID. Software and Models. 2011.

<sup>4</sup> Study authors considered the following activities as specialist care: safe abortion services, ectopic pregnancy case management, diabetes case management, labour and delivery at the CEmONC level (including caesarean section and blood transfusion), antenatal corticosteroids for preterm labor, induction of labour for post-term pregnancies, and hospital based case management of severe newborn infection.

## Results

More deaths were prevented by midwives, as expected, with increasing scale-up of interventions. For countries in the lower HDI (Group A), maternal mortality was reduced by 27% with a modest (10%) increase in coverage of the interventions delivered by midwifery, including family planning, over the 15 year period, with a 50% reduction when coverage increased to 25% and further reductions (82%) with universal (95%) coverage. Similar benefits were seen for stillbirths and newborn deaths. (See chart at right for the three scale-up scenarios for lower HDI countries.)

In absolute terms, the largest number of lives saved was in the lower HDI countries. These findings are particularly relevant for sub-Saharan Africa, as all of the countries in Group A were from that region. With universal coverage, percent reductions were greatest in the lower HDI countries and lowest among moderate-to high-HDI countries, at least partly due to the lessor opportunity to avert preventable deaths.



### Key Study Findings (in the lowest HDI countries):

- Universal coverage of midwifery MNH interventions, excluding family planning, could prevent 61% of maternal, fetal and neonatal deaths.
- Family planning alone could prevent 57% of all deaths.
- Midwifery with both family planning and MNH interventions could prevent a total of 83% of maternal deaths.

Family planning alone could prevent 57% of all deaths due to fewer pregnancies in which women would be at risk, highlighting the significant contribution that midwives can make to preventing deaths by enabling access to family planning. In combination, the full package of midwifery care with both family planning and maternal and neonatal health interventions made the most impact – potentially averting a total of 83% of all maternal deaths, stillbirths and newborn deaths.

Regarding the estimated lives saved (based on an incremental increase from midwifery to include specialist medical care), the analysis revealed that the benefit of specialist medical care is most dramatic on maternal mortality, where up to 20% of maternal deaths may be prevented by activities that require comprehensive EmONC (CEmONC). The interventions—which midwifery and obstetrics can deliver most effectively—are different, with midwifery benefits delivered across the continuum of pre-pregnancy, prenatal, labor and delivery, and postpartum-postnatal care, and obstetrics benefits focused mostly on delivery. At all HDI levels, approximately 30% of maternal deaths could be prevented by midwifery and an equal number more prevented with the addition of specialist medical care. This indicates that midwifery has the greatest impact when provided within a functional health system with effective referral and transfer mechanisms to specialist care.

## Conclusions

This study demonstrates the potential to dramatically reduce maternal, fetal and newborn deaths if sufficient planning and resources are dedicated to scaling up midwifery services. A key finding of this study is that a mere 10% increase in coverage of midwifery services will save lives. The results are supported by a newly published article, co-authored by MCHIP, in the journal *Plos One*<sup>5</sup> evaluating the impact and cost of scaling up midwifery and obstetrics in 58 low- and middle-income countries. This study revealed that midwifery was almost twice as cost-effective as obstetric care, but a comprehensive strategy increasing midwives, obstetricians, and family planning was the most effective at reducing maternal, newborn and fetal deaths.

The midwife is an effective health care worker who can provide the majority of proven maternal and newborn health interventions, and facilitate access to specialist and comprehensive emergency care when necessary to save lives. Given that family planning alone contributes significantly to reducing deaths, efforts must be focused on empowering midwives to increase women's access to family planning. Further research should be done to determine how health systems and community services can be best improved and strengthened in order for midwifery to be available and accessible to all. MCHIP, with the support of USAID, continues to promote skilled birth attendance at birth and midwifery models of care by advocating for the professionalization of midwife cadres in country contexts. A global leader in promoting the scale-up of skilled birth attendance, MCHIP is championing the provision of widely available, accessible, acceptable and high-quality midwifery services.

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<sup>5</sup> Linda Bartlett, Eva Weissman, Rehana Gubin, Rachel Patton-Molitors, Ingrid K. Friberg. "The Impact and Cost of Scaling up Midwifery and Obstetrics in 58 Low- and Middle-Income Countries." *PLOS ONE* 10.1371 (2014).