

MNCH Donor Review: United States
USAID's Strategy for Reducing Maternal Mortality and the Role of Skilled Birth Attendance

In 2000, at the largest gathering of world leaders in history, the United Nations committed themselves to eight Millennium Development Goals (MDGs) to significantly reduce extreme poverty by 2015. One of these goals, MDG 5, is to lower the number of maternal deaths by three-quarters by 2015. With one year remaining, country outcomes for maternal health are lagging and MDG 5 is now the furthest off-track from reaching its 2015 target. In response to this issue, international donors such as USAID are identifying strategies to accelerate progress towards MDG 5 and improve the status of global maternal health. For USAID, a vital component of the MDG strategy is to increase the number, capacity, and training of skilled birth attendants (SBAs) in countries burdened with high maternal mortality. This brief evaluates the context of SBA-related health interventions, current trends in the use of SBAs, and the important role of midwives in expanding coverage. Finally, we will review SBA strategies for USAID maternal health programs, evaluate current evidence of this strategy's effectiveness, and propose recommendations for USAID and other donors who see to improve SBA coverage in order to meet MDG 5.

Skilled Birth Attendance and MDG 5: Measuring the Impact

Skilled birth attendance and access to emergency obstetric care are key factors in reducing the risk of maternal death (WHO, ICM, and FIGO 2004).ⁱ Professional delivery care, along with an enabling environment of equipment, drugs and supplies needed for emergency obstetric care, is considered to be the single most critical intervention for ensuring safe motherhood (UNFPA 2013).ⁱⁱ For this reason, the proportion of deliveries assisted by a skilled health provider is an intermediate indicator to monitor progress toward achieving MDG 5.

Specifically, one of the targets of MDG 5 is to ensure that by 2015, 95 percent of all births are assisted by a SBA.

Historical and contemporary case studies show that maternal mortality is lower in countries where mothers giving birth receive skilled professional care. Most notably in countries like China, Thailand and Tunisia, skilled midwives deployed locally in the community have had a significant impact on reducing preventable pregnancy-related deaths (UNFPA 2013).ⁱⁱⁱ Aggregate statistics suggest a correlation between maternal mortality and use of skilled birth care as well. In sub-Saharan Africa, 69 percent of maternal deaths can be attributed to the 16 countries where the use of SBAs is less than 50 percent.^{iv} Table 1.1 illustrates the 28 countries in which less than 50 percent of births are attended by SBAs.^v The average MMR among the countries listed is approximately 600 per 100,000 births^{vi}, compared to an average ratio of 240 per 100,000 births in other developing countries (WHO 2012).^{vii}

Table 1.1

Table 1.	
Countries where less than 50% of births are attended by skilled birth attendants	
UNFPA region	Countries
Sub-Saharan Africa	Burundi, Chad, Eritrea, Ethiopia, Guinea, Guinea-Bissau, Kenya, Mali, Mozambique, Niger, Nigeria, Sierra Leone, Somalia, Tanzania, Uganda, and Zambia
Asia and the Pacific	Afghanistan, Bangladesh, Cambodia, India, Laos, Nepal, Pakistan, Papua New Guinea, and Timor-Leste
Arab States (Middle East and North Africa)	Yemen
Latin America and Caribbean	Guatemala and Haiti

Source: Measure DHS 2010 (9).
UNFPA=United Nations Population Fund

Still much of the evidence favoring a causal link between increased skilled birth attendance and reduced maternal mortality is circumstantial. Some claim that the historical data

does not control for confounding factors that are equally important (Graham, Bell, and Bullough 2001), such as women's level of education or empowerment in society, transportation infrastructure, and demand-side considerations of medical utilization.^{viii} For example, the location, cost, and cultural perceptions of health facilities all affect women's willingness, or ability, to seek skilled health providers at birth.

In a systematic review of health interventions targeted at achieving MDG's 4 and 5, the World Bank found that the evidence base for SBA-related health interventions is indeed sparse. Out of 25 impact evaluations, only two programs isolated the effect of skilled birth attendance as a health intervention: JSY (Janani Suraksha Yojana) in India and Comunidades Solidarias Rurales in El Salvador. Although these programs increased skilled birth attendance, the impact of their interventions on the reduction of maternal and neonatal mortality, as well as intermediate morbidity and wellness outcomes, was found to be nonexistent in both programs. These results were true, even with a relatively large sample size of 429,000 women in the JSY India program (IEG World Bank 2013).^{ix} The report concludes:

Although it is widely believed that professional skilled care at birth can greatly reduce maternal and neonatal mortality, Graham and others (2001) and AbuZahr and Wardlaw (2001) pointed out more than a decade ago that there was no high-quality evidence to show that women delivering with skilled attendance have a lower risk of dying of maternal causes than women delivering without it. The extensive search conducted by this systematic review found only two studies produced since that time that address this important question (both found null results).^x

While the verdict on the effect of skilled birth attendance is unclear, some of the inconclusiveness of current studies may result from the inherent constraints of measuring maternal mortality data itself. Maternal mortality is difficult to measure because it is a rare event, culturally sensitive, and difficult to diagnosis or classify.^{xi} Vital registration and surveys (Demographic Health Survey, Multiple Indicator Cluster Survey) are rich resources, but are inconsistently available in many developing countries and taken at varying yearly intervals. Additionally, hospital records that do exist are not representative of the whole population since many births take place outside of the hospital setting (roughly 50 percent of births in the

developing world do not). Given these limitations much of the data on maternal mortality and skilled delivery care cannot be easily compared across countries or disaggregated, and new population surveys to fill the data gap are costly and time-consuming.

Even if new studies were developed to test the effect of SBA coverage on maternal mortality, acquiring the baseline data, collecting new data in population surveys or hospital records, and comparing it to national estimates would be challenging. Therefore, efforts to improve the quality and reliability of data for maternal mortality and skilled birth attendance should be central to donor efforts targeted at MDG 5. This includes working with recipient countries to improve their vital registration systems, hospital records, and population surveys, using innovative methodologies and statistical techniques where needed. It will also be important to pursue studies that isolate the effect of SBA as a health intervention to ensure that donors continue to pursue evidence-informed maternal health programs.

The Intrapartum Care Strategy and Inequality

In pursuing strategies to achieve MDG 5, donors have prioritized allocation of resources and interventions at different stages in the maternal health care continuum. These strategies have created challenges, and sometimes tensions, among donors, recipient countries, and the global health community when it comes to maternal health priority-setting and health systems planning. Twenty percent of obstetric complications and maternal deaths occur during childbirth, while 60% occur immediately thereafter – a period referred to as the intrapartum period (WHO, ICM, FIGO 2004; UNFPA 2005).^{xiii} According to some estimates, attendance during this period can reduce maternal deaths by 16-33% (Graham et al. 2001)^{xiii}, although these figures are not supported by randomized trials. As a result, the global health community has tackled the intrapartum period as a frontline strategy for tackling maternal mortality over interventions earlier in the continuum of care, like family planning and prenatal care' (Campbell and Graham 2006).^{xiv}

While intrapartum care is considered the most critical period of health intervention to reduce maternal deaths, this period is also accompanied by the greatest inequality. A recent survey of maternal health coverage by Countdown to Coverage 2015, which tracks coverage

levels for Millennium Development Goals 4 (child health) and 5 (maternal health), showed that skilled birth attendance was the least equitable intervention in most low-income countries.¹ Mean national coverage for skilled birth attendance for the 54 countries evaluated was 54 percent, but mean coverage in the poorest and richest quintile was 32 percent and 84 percent, respectively (Countdown to 2015).^{xv} Not surprisingly, the use of skilled birth care is highest among the wealthiest group in almost all of the countries studied, with around 90 percent of women in the highest wealth quintile receiving skilled birth care in Sub-Saharan Africa and South/Southeast Asian countries.^{xvi} The greatest inequalities in use of skilled birth were found in Somalia, Ethiopia, Lao and Niger, followed by Madagascar, Pakistan, and India.^{xvii}

Overall, poor–rich inequalities in professional delivery care are much larger than those experienced at other levels of care, such as family planning or antenatal care. This is largely due to the higher physical infrastructure and human resource requirements for facility-based deliveries, and countries’ inability to meet these demands. In terms of supply, there is a severe shortage of skilled birth attendants, with three times the current number of professionals needed to achieve universal skilled birth attendance.^{xviii} Serious gaps remain in availability of facilities equipped with emergency obstetric capabilities, medical equipment, supplies, and timely referral transport; the scarce facilities that do exist tend to be concentrated in urban areas inaccessible to the rural poor. On the demand side, socially and economically determined factors delay or prevent the use of skilled delivery care, especially for women in rural areas, poorer households, and with lower levels of education (Hazarika 2011).^{xix} Economic factors like distance to a health facility, access to transportation, and financial cost of health care discourage skilled delivery care utilization. On the other hand, social and cultural factors like distrust in health care providers, traditions of home births, and even basic knowledge about pregnancy complications can affect the decision to seek care or not.

To resolve these outstanding inequalities, the global community has responded with different strategies for health resource allocation to meet the MDG 5 goals. Some propose

¹ As an overall indicator of intervention coverage, a weighted mean of eight interventions from 6 specialties was used in a composite coverage index (family planning needs satisfied, skilled birth attendant, antenatal care with skilled provider, Diphtheria-Pertussis-Tetanus doses, measles immunizations, oral rehydration therapy, and care seeking for pneumonia).

increased investments in building and staffing higher level health facilities. Others have called for a renewed investment in the health center-intrapartum strategy, which involves scaling up health centers backed up by referral facilities and teams of midwives to assist deliveries.^{xx} Realistically, the correct approach cannot be exclusively one or the other, but should blend multiple complementary health models and strategies. To facilitate long term positive global trends in the use of SBAs, donors will need to work towards converging health care access through a combination of top-down and bottom-up interventions moving to fill coverage gaps bi-directionally. This means bridging large scale national capacity building initiatives, such as infrastructure, human resource, and information technology development, with community-based strategies that bring hard-to-reach populations access to professional maternity care.

Lack of skilled delivery care reflects intersecting inequalities in society, and therefore SBA interventions must address underlying poverty and gender inequality to promote health care access. To identify the optimal maternal health strategy, donors should focus less on whether the health center or health facility model is best, and instead determine the right balance of demand and supply-centered approaches that make various health interventions successful. For example, which is more likely to have an impact on reducing maternal deaths in a specific area: building health clinics or providing free transportation to health facilities? Conditional cash transfer programs to subsidize maternal health care costs, or community workshops about the importance of prenatal and delivery care? Rarely do SBA-related interventions combine all of these approaches, yet all are interconnected and interdependently related. Changing community health behaviors and practices will be irrelevant without significant investments in the health care sector, such as human resource and infrastructure development. Conversely, increasing the number of health facilities will do little to address cultural perceptions and community behaviors of maternity care.

The long term goal is to have robust health systems and infrastructure, with emergency level facilities serving women in every part of the developing world. The current reality, however, is far from this goal, and donor strategies should develop health interventions with built-in flexibilities and innovations. This means tailoring facility-based and community-based

interventions depending on the context-specific environment and needs of target populations, while also addressing the social and economic determinants of health care access. The complementarity, rather than the rigidity of specific health care models, should be maximized along every point in the maternal health care continuum.

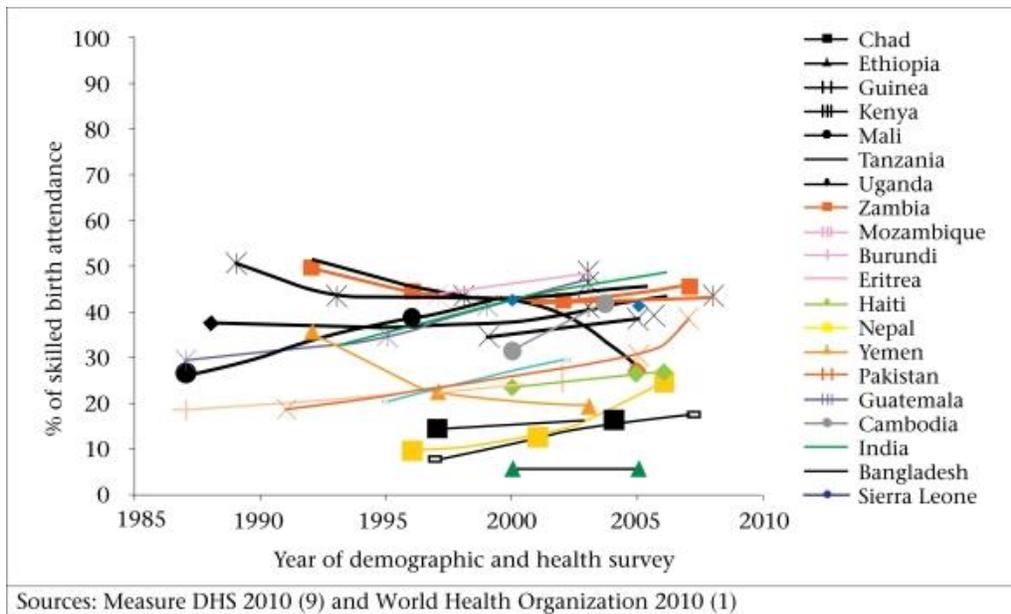
Trends in the Use of Skilled Birth Attendants

Since 1987, countries in almost every region of the world have increased the percentage of women who give birth with a skilled health provider. However, even with large scale global efforts to improve access to skilled delivery care, change is happening at a slow and insufficient pace. The slow rate of progress has signaled the need for USAID and other donors to continue to invest, and prioritize, in strategies that increase the proportion of births attended by SBAs.

Overall the use of skilled care for delivery is considerably lower in sub-Saharan Africa and South/Southeast Asia than in other regions of the world. In all sub-Saharan countries, the predominant type of skilled provider is a nurse/midwife, whereas in South/Southeast Asia doctors constitute the majority of skilled delivery assistance (DHS 2010).^{xxi} Several South Asian countries, and a few African countries, have made impressive strides towards increasing the use of SBAs, including Nepal, Pakistan, India, and Bangladesh, Eritrea, Mali, and Mozambique (N Prata et al. 2011).^{xxii} Cambodia has also made significant gains, with skilled birth attendant deliveries rising from 46 percent in 2007 to 70 percent in 2010.^{xxiii} Still, most trends are relatively flat: “approximately 50 percent of the countries tracked have shown a negligible change, no change, or even a reduction in the proportion of women accessing SBAs”.^{xxiv} This could be due to the fact that SBA-related health interventions tend to be based in health facilities in urban areas, and therefore do not always reach women in rural and undeveloped areas where the need is greatest. Underscoring this fact, in the twenty-eight countries where less than half of women received skilled care at birth, the rural population ranges from 44 to 90 percent.^{xxv}

Table 1. 2 shows the trends in the use of SBAs from (1987-2008) in 22 of the 28 countries where quality data for this indicator is available.

Table 1.2



How can SBA interventions avoid a facility-centric, urban bias? Although some SBA interventions have attempted to reach out to women’s homes, most skilled delivery care takes place in facilities. Depending on the context, approaches outside of the healthy-facility/health center paradigm could address important rural-urban gaps. For example, many studies have shown that placing a midwife in a rural village can significantly improve maternal health outcomes. In 2009, USAID collaborated with Kenya’s Ministry of Health to scale up a Community-based Midwifery program that gave women the option to give birth at home safely or be referred to a hospital. By managing pregnancy, childbirth, and postnatal care from the home, facilitating prompt referral to hospitals when necessary, midwives contributed to increasing the proportion of SBAs in four districts in Western Kenya.^{xxvi}

To a greater extent than other maternal health interventions such as family planning or antenatal care, the specific timing and modality of SBA interventions is key to their success and fewer options exist outside of the health facility/center paradigm. While a family planning program can expand coverage through the use of mobile clinics and multiple-site testing and treatment programs, SBA interventions are only as portable as the medical equipment and key health personnel required for a safe delivery.^{xxvii} To illustrate this point, SBA interventions rely on physicians and midwives, whereas family planning can include lower-level cadres like community health workers who are more easily deployed and embedded in rural, remote areas.

To see continued progress in the use of SBA's, donors must confront the urban bias present in many maternal health programs and develop interventions that can be successfully implemented in rural poor areas. As case studies suggest, midwives may be the most critical resource for such an intervention. Therefore, another donor priority should be to increase the availability and quality of skilled midwifery care, including hiring and training community-based midwives, extending midwifery health schools, and setting up midwifery professional associations in rural and remote regions with the highest need.

SBAs, Midwives, and Expanding Coverage

In evaluating SBA trends in developing countries over the past decade, it is important to highlight the specific role that midwives play in reducing global maternal deaths. While midwives could enable countries to reach the 95 percent SBA coverage by 2015, gaps in midwifery competencies currently undermine quality of care and present significant barriers to service utilization and scaling up of effective SBA interventions (UNFPA 2011).^{xxviii}

According to a 2012 USAID multi-country analysis of national programs for prevention and management of postpartum hemorrhage and pre-eclampsia/eclampsia – two of the biggest maternal killers – the scope of practice for midwives varies greatly from country to country.^{xxix} While it may be assumed that a physician is allowed to perform all basic emergency obstetric and newborn care (BEmONC) functions², the same assumption does not apply to a midwife. To save a mother's life when complications occur during childbirth, a midwife or SBA needs to be trained and empowered to perform all aspects of BEmONC.^{xxx} In the USAID survey, only 70% of the countries surveyed allowed a midwife to perform manual removal of the placenta – a core component of BEmONC standards put forth by the International Confederation of Midwives (ICM) and endorsed by the World Health Organization.^{xxxi} Obstetricians are rare in many developing countries. Limiting emergency obstetric procedures to obstetricians exclusively negatively impacts the survival of women and newborns. As such, changes to national policies in

² WHO defines the package of basic emergency obstetric and neonatal care (BEmONC) as consisting of seven essential components: administering antibiotics, administering oxytocin drugs, administering anticonvulsants for pre-eclampsia and eclampsia, performing removal of retained products (e.g., manual vacuum aspiration), performing assisted vaginal delivery, and performing basic neonatal resuscitation.

line with international standards are needed to expand the midwifery scope of practice and allow midwives to perform lifesaving procedures.

In developing health care systems, there is also a severe shortage of midwives. In *The State of the World's Midwifery*, UNFPA reported that an additional 112,000 midwives are needed among the 38 countries with the most severe midwifery workforce shortages.^{xxxii} Nine countries in particular (Cameroon, Chad, Ethiopia, Guinea, Haiti, Niger, Sierra Leone, Somalia and Sudan) represent about 43 percent of the total midwifery workforce shortage. Surprisingly, for those countries with relatively high midwifery numbers, including Bangladesh, India, Kenya, Nigeria and Pakistan, SBA coverage is still less than 50 percent.^{xxxiii} Barriers to access and utilization of the midwifery workforce, coupled with gaps in midwifery competencies already mentioned, could be preventing greater progress in this area.

Again, any strategies to increase the supply of health care cannot neglect demand-side considerations that affect health care utilization. Even if workforce development efforts succeed and shortages are reversed, health infrastructure cannot be erected overnight and economic and social barriers to care will still prevent access in rural and remote regions. To avoid the facility-centric, urban focus often seen in SBA-related interventions, donors should ensure a delicate balance between facility and community-based strategies, deploying community-based midwives at the same time they work to staff district-level health systems that provide emergency obstetric support. Without such agile community approaches, many of the long term goals to reduce maternal death will not be met under short term constraints.

USAID, an Intrapartum Strategy

Achieving progress in MDG 5 is a priority for USAID that has left its mark on the agency's maternal and child health programs across the globe. The Obama Administration has highlighted maternal, newborn, and child health and nutrition as key part of its Global Health Initiative (GHI), a six-year (FY09-FY14), \$63 billion dollar effort to develop and implement a comprehensive U.S. global health strategy. Demonstrating its commitment, funding for Global MNCH has steadily increased from \$615 million in 2004, to \$1.22 billion in 2013.^{xxxiv}

By adopting a strategy that combines SBAs with an emphasis on the intrapartum period, USAID has narrowed its focus on health interventions that target the specific high-mortality complications of pregnancy and labor that account for two-thirds of maternal deaths, including hemorrhage, hypertension, infections, anemia, and prolonged labor.^{xxxv} USAID has also been at the forefront of promoting “active management of the third stage of labor (AMTSL),” a technique for preventing postpartum hemorrhage. Due to USAID efforts, such as the Prevention of Postpartum Hemorrhage Initiative launched in 2002, 36 countries have approved AMTSL through national policy, and 21 have introduced or expanded use of AMTSL in their health systems.^{xxxvi}

As part of the effort to increase access to quality BEmONC services, USAID has also invested in midwifery pre-service education, training, and policy efforts in order to expand the cadre of SBAs. Through its ACCESS program, USAID developed training tools to strengthen pre-service midwifery education, and collaborated with WHO to conduct a regional pre-service midwifery training course in BEmONC in four African countries: Malawi, Tanzania, Ghana and Ethiopia.^{xxxvii} Access also supported revisions to national midwifery curricula in all four countries.^{xxxviii} When the ACCESS program ended in March 2010, the MCH division designed a follow-on Maternal and Child Health Integrated Program (MCHIP) to continue to support USAID efforts to improve maternal and newborn services, including pre-service training.

USAID: Health Outcomes for Maternal Mortality

USAID’s flagship maternal and child health program MCHIP and new public private partnership Saving Mothers, Giving Life (SMGL) are also developing and implementing strategies that work toward MDG 5. These strategies range from improving access and quality care in health systems, to training providers in obstetric and newborn care and equipping facilities. Overall, USAID programs contributed to declines in maternal mortality in 24 priority countries at an average of 5 percent per year, which is faster than the global average.^{xxxix} Attendance at birth by a skilled provider increased from 26.9 percent in 1990 to 50 percent in

2012.^{xl} Notable country improvements include Afghanistan (64% decline), Ethiopia (64% decline), India (66% decline), Nigeria (41% decline), Pakistan (46% decline).^{xli}

SMGL, a \$200 million initiative that seeks to reduce maternal mortality through a public-private partnership, has harnessed the power of important government and private sector donors: the United States, Norway, Uganda, and Zambia, Merck for Mothers, Every Mother Counts, the American College of Gynecology and Obstetrics, and Project CURE. While only its first year of implementation (2012-2013), focused efforts in eight rural districts in Uganda and Zambia have already produced significant results.^{xlii} Prior to 2012 in both countries, less than 60 percent of deliveries occurred in a health facility. As discussed earlier, Uganda and Zambia are also two of the 28 countries where fewer than 50 percent of women receive skilled delivery care.

At the end of SMGL's first program year in Uganda, the number of women delivering in facilities increased from 2,585 in January 2012 to 4,707 in December 2012, an 82 percent increase (facility-based births account for nearly three-quarters of expected births across the districts).^{xliii} Making a direct link to reductions in maternal mortality, patient fatality rate due to direct obstetric complications in emergency level facilities gradually declined from 4.2 percent in the first quarter of 2012 to 2.4 percent in the fourth quarter.^{xliv} Overall, the number of maternal patients with severe obstetric complications receiving emergency care increased by 50 percent.^{xlv} In Zambia, the number of women delivering in all levels of health centers increased from 5,472 in 2011 to 7,863 in 2012, a nearly 44 percent increase.^{xlvi} Uptake in health facility delivery numbers (a proxy for skilled birth attendance), a decrease in fatality rates from obstetric complications, and an increase in surgical and emergency obstetric are all clear indicators pointing to progress in maternal survival rates.

Launched in 2008, MCHIP has had a more measurable and sustained impact on MDG indicators in the countries where it is active. Reflecting earlier USAID strategies, MCHIP has contributed to the global reduction of maternal mortality by focusing on three core areas of maternal health prevention of postpartum hemorrhage; prevention and treatment of pre-eclampsia/eclampsia; and expanding access to and improving the capacity of skilled birth attendants (SBAs). Several key indicators in its three-year program evaluation demonstrate the impact an intrapartum care strategy can have on eliminating maternal killers and increasing

levels of professional delivery care. Table 1.3 summarizes progress in MCHIP-supported countries, including percentage of live births attended by skilled health personnel and number of women receiving ATMSL (see appendix).^{xlvii} While progress in all of these indicators was significant, the impact on maternal mortality rates is not estimated or explained, possibly due to the data constraints mentioned in the first section of this brief. Only reduction in the number of neonatal deaths is reported. MCHIP's newborn health programs in all 21 countries demonstrated a decrease in neonatal mortality rates, with notable improvements in Bangladesh and Lesotho.

Challenges and Opportunities: Improving and Measuring Impact of Skilled Birth Attendance

USAID's focus on high-impact health interventions that target the intrapartum period have proven effective in improving a number of maternal health indicators. The question remains: have USAID's efforts to increase the portion of births with SBAs actually reduced maternal mortality rates? As seen with the SMGL and MCHIP program outcomes, existing data fails to paint a complete picture.

In order to improve SBA coverage, and increase our ability to measure the impact of this and other priority health interventions, we propose a series of recommendations in four domains: 1) Research: improving SBA data collection, development, and evaluation; 2) Health systems: increasing the availability and accessibility of emergency-equipped health facilities and medical supplies; 3) Human resources: promoting the development, training, and regulation of skilled birth professionals; 4) Health Interventions: balancing community-based and facility-based strategies.

The Road Ahead for USAID: MCH Strategies and Recommendations

- **Evaluate studies and interventions that isolate the effect of skilled birth attendance** as a health intervention. Policymakers are increasingly encouraged to use rigorous evidence, especially randomized control trials and economic studies, to determine the prioritization of maternal health interventions and services. However, little impact evaluation evidence exists about the specific effect of skilled birth attendance on decreasing maternal mortality. USAID should systematically monitor and evaluate

programs where skilled birth attendance is the primary health intervention in order to study its effects and eliminate confounding factors that may increase or reduce the risk of maternal death.

- **Pursue research on SBA interventions that include components of health infrastructure, health information and communication, equipment, and transport.** USAID should further study which of these factors mitigates or enhances the effectiveness of skilled birth attendance as a primary health intervention, and develop SBA programming that addresses health and non-health infrastructure components to eliminate barriers to maternity care.
- **Increase the capacity, accuracy, and reliability of maternal health data** in order to better estimate health outcomes for women delivering with SBAs. Efforts should be targeted at investing in health facilities' data recording systems and information and communication technologies to improve the timeliness and accuracy of reporting, especially at the subnational level. USAID should also contribute to global efforts initiated by the World Health Organization to harmonize international health surveys and vital statistics reporting, especially as it pertains to SBAs, use of ATMSL, and other indicators and target statistics used to measure MDG 5. ^{xlvi}
- **Advocate for a skilled birth attendance health intervention that incorporates an enabling environment of adequate equipment and referral capability.** The MDG call to increase the number of births attended by skilled professionals is insufficient in itself, and must be accompanied by large health system strengthening, coordination, and facility readiness. To fund strategies that reduce maternal mortality, USAID should focus on increasing the availability and distribution of basic and comprehensive obstetric and neonatal care facilities with the ability to treat, or refer, women with a vast array of childbirth complications. In addition, USAID should ensure the regular supply of lifesaving medicines; invest in provider training in administration of these lifesaving

medicines; and work with programs to help resolve supply chain bottlenecks where they occur.

- **Continue to invest in midwifery pre-service education, training, and workforce development efforts in order to increase the number of SBAs available to women.** Also, it is vital to expand the role of the midwife to include all BEmONC skills as endorsed by WHO, the United Nations Population Fund (UNFPA), ICM, and others from the global health community. To reach this goal, USAID must enable national regulatory bodies to follow the ICM Essential Competencies and establish clear educational standards, pre-service training requirements, and a professional scope of practice for midwives.
- **Balance Facility-based and community-based programs when scaling up skilled birth attendance interventions.** While promoting an intrapartum strategy in the context of a formal health setting such as a health center or facility is the most effective approach to reduce maternal deaths, such a strategy cannot be achieved immediately due to shortages of skilled health professionals, lack of adequate transportation, and other logistical constraints. Therefore, USAID should incorporate complementary community-based strategies into their maternal health programs, such as deploying SBAs in rural communities and women's homes, and include referral mechanisms for emergencies.

Appendix: Table 1.3

Indicator	Baseline Data (2008 or earlier)	FY2009/PY1 DATA	FY2010/PY2 DATA	FY2011/PY3 DATA
Percentage of live births attended by skilled health personnel(doctor, nurse, midwife or auxiliary midwife) ³	<ul style="list-style-type: none"> • Ethiopia: 6.3%(2005 DHS) • Kenya: 41.6% (2003 DHS) • Lesotho – 55.2% (2004 DHS) • Liberia – 49.4% (2008-09 DHS) • Madagascar : 44.8% 	<ul style="list-style-type: none"> • Kenya: 45.2% (2008-09 DHS) • Lesotho: 61.5% (2009 DHS) • Madagascar : 43.3% (2008-09) 	<ul style="list-style-type: none"> • Malawi: 71.4% (2010 DHS) • Rwanda: 69% (2010 Preliminary DHS) • Bangladesh: 19.1% (CSHGP, CRWRC 2004-2010) 	<ul style="list-style-type: none"> • Ethiopia: 10% (2011 Preliminary DHS) • Nepal: 36% (2011 Preliminary DHS) • Zimbabwe: 66.2% (2010-11)

³ **Numerator:** Number of live births to women aged 15–49 years in the 5 years prior to the survey attended during delivery by skilled health personnel (doctor, nurse, midwife or auxiliary midwife) ; **Denominator:** Total number of live births to women aged 15–49 years in the 5 years prior to the survey (Note: This reference period may differ between surveys.)

	<p>(2004 DHS)</p> <ul style="list-style-type: none"> • Malawi: 56.6% (2004 DHS) • Mozambique – 49.1% (2003 DHS) • Nepal: 25.0% (2006 DHS) • Nigeria: Kano-12.7%, Katsina-4.7%, • Zamfara: 7.7% (2008 DHS) • Rwanda: 57.8% (2007-08 Interim DHS) • Zimbabwe : 67.3% (2005-06 DHS) <p>Note: Data for MCHIP countries maternal health</p>	DHS)	<ul style="list-style-type: none"> • Cambodia: 83.5%* (CSHGP, IRD 2006-2010) • DR Congo: 67.9% (CSHGP, CRS 2005-2010) • India: 55.7% (CSHGP HOPEWW 2006-2010) • Indonesia: 93.9% (CSHGP Mercy Corps 2006-2010) • Kenya: 56.0%* (CSHGP, AMREF 2005-2010) 	Preliminary DHS)
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activities and population based surveys.

- Bangladesh: 13.3% (CSHGP, CRWRC 2004—2010)
- Cambodia: 40.0% (CSHGP, IRD 2006-2010)
- DR Congo: 64.7% (CSHGP, CRS 2005-2010)
- India – 50.0% (CSHGP HOPEWW 2006-2010)
- Indonesia – 94.2% (CSHGP Mercy Corps 2006-2010)
- Kenya: 25.6%

- Kenya20 – 28.4% (CSHGP, HealthRight 2006-2010)
- Liberia: 34.7% (CSHGP, MTI 2006-2010)
- Mozambique: 77.5%* (CSHGP, FH 2005-2010)
- Uganda: 63.7% (CSHGP, HealthPartners 2005-2010)
- Zambia: 52.6% (CSHGP, SAWSO 2005-2010)

(CSHGP, AMREF
2005-2010)

- Kenya: 28.2%
(CSHGP, Health Right
2006-2010)
- Liberia: 21.3%
(CSHGP, MTI 2006-
2010)
- Mozambique: 55.6%
(CSHGP, FH 2005-
2010)
- Uganda: 47.4%
(CSHGP,
HealthPartners 2005-
2010)
- Zambia: 41.6%
(CSHGP, SAWSO
2005-2010)

Number of (national) policies drafted with USG support⁴	0	4	29	49
Number of countries with preservice education strengthened to improve skilled birth attendance⁵	0	2 (Malawi, Ghana)	5 (DRC, India, Liberia, Malawi, Mozambique)	10 (DRC, Ethiopia, Ghana, Guinea, India, Malawi, Mozambique, Nigeria, Rwanda, Zimbabwe)
Number of countries with introduction of high impact MNCH interventions through MCHIP supported activities	0	Maternal	Maternal anemia : 1	Mat. anemia - 1

⁴ This refers to the number of national laws, policies, regulations, strategy documents, including national service delivery guidelines and performance standards, developed or revised with MCHIP support to improve access to and use of high impact MNCH services, including FP. The list of policies will be provided and disaggregated by country and technical area.

⁵ This includes updating curricula and improving the skills of tutors. This indicator will be disaggregated by type of curriculum/cadre of provider, e.g. midwife, nurse, clinical officer, etc.

and CSHGP grants in MCHIP supported countries⁶		anemia: 0	PPH/P: 7	PPH/P: 2
		PPH/P: 2	PPH/T: 7	PPH/T: 2
		PPH/T: 2	PE/E: 2	PE/E: 2
		PE/E: 0		
Number of deliveries with a skilled birth attendant (SBA) in USG-assisted programs⁷	NA	Nigeria total from April–Sept was 28,336	228,307	544,622 (Bangladesh, Bolivia, DRC, DR, India, Indonesia, Malawi, Mozambique, Nigeria, Paraguay, Rwanda,

⁶ This includes: Maternal anemia control; PPH prevention (at least 25% of facilities that offer delivery services in one district); PPH treatment (at least 25% of facilities that offer delivery services in one district); Pre-eclampsia/Eclampsia programs (program model developed for prevention, detection, and treatment).

⁷ SBA includes: medically trained doctor, nurse, or midwife. It does NOT include traditional birth attendants (TBA). Data will be disaggregated by country.

Number of women receiving active management of the third stage of labor (AMSTL)⁸				Zimbabwe)
	N/A	15,688 (Nigeria)	108,873	469,654 (Bolivia, DRC, Guinea, Indonesia, Malawi, Mozambique, Nigeria, Paraguay, Rwanda)

Source: Adapted from MCHIP Program Year 3 2012 Annual Report, with only maternal health indicators involving SBA and intrapartum period included.

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