

USAID Maternal Health Strategy

2014 – 2020

Toward Ending Preventable Maternal Mortality

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Abbreviations and Acronyms

ANC	Antenatal Care
ARR	Annual Rate of Reduction
ART	Anti-Retroviral Therapy
ARV	Anti-Retroviral Drugs
COIA	Commission on Information and Accountability
COLSC	Commission on Life Saving Commodities
CHW	Community Health Workers
DHS	Demographic and Health Survey
EMOC	Emergency Obstetric Care
FP	Family Planning
FY	Fiscal Year
GDP	Gross Domestic Product
GHI	Global Health Initiative
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
IDA	Iron deficiency anemia
IFA	Iron folic acid
IPTp	Intermittent preventive treatment
ITN	Insecticide Treated Bed net
IUD	Intrauterine Device
LMIC	Lower Middle Income Country
KMC	Kangaroo Mother Care
MCH	Maternal and Child Health
MDG	Millennium Development Goals
MDSR	Maternal Death Surveillance and Response
MNH	Maternal Newborn Health
MOH	Ministry of Health
MMR	Maternal Mortality Ratio
NGO	Non-governmental organization
OECD	Organization for Economic Co-operation and Development
ORS	Oral Rehydration Solution
PAC	Post abortion Care
PE/E	Preeclampsia/eclampsia
PEPFAR	President's Emergency Plan for AIDS Relief
PPFP	Postpartum Family Planning
PPH	Postpartum Hemorrhage
PMI	President's Malaria Initiative
PMTCT	Prevention of Mother to Child Transmission (HIV)
PNC	Postnatal Care
SBA	Skilled Birth Attendant
SPA	Service Provision Assessments
STI	Sexually Transmitted Infection

TBA	Traditional Birth Attendant
TB	Tuberculosis
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UNCoLSC	United Nations Commission on Life Saving Commodities
USAID	United States Agency for International Development
UTI	Urinary Tract Infection
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization

Table of Contents

ABBREVIATIONS AND ACRONYMS	2
LIST OF FIGURES, TABLES, & BOXES	5
INTRODUCTION	6
TO ACHIEVE THIS VISION	6
WHAT'S NEW IN THE STRATEGY?	8
MATERNAL SURVIVAL AND HEALTH ESSENTIAL TO THE USAID MISSION	9
BUILDING ON GLOBAL EFFORTS	ERROR! BOOKMARK NOT DEFINED.9
REVIEW OF THE LANDSCAPE	10
GLOBAL PROGRESS TOWARD REDUCING MATERNAL DEATHS	10
REACHING THE FUTURE GLOBAL TARGET	11
USAID'S STRATEGIC THEMES TO PREVENT MATERNAL MORTALITY	16
INDIVIDUAL, COMMUNITY, AND SOCIETAL ENABLERS FOR IMPROVED MATERNAL AND FETAL HEALTH	166
THEME 1: IMPROVE INDIVIDUAL, HOUSEHOLD, AND COMMUNITY BEHAVIORS AND NORMS	166
THEME 2: IMPROVE EQUITY OF ACCESS TO AND USE OF SERVICES BY THE MOST VULNERABLE	18
QUALITY, RESPECTFUL CARE TO ADDRESS MATERNAL MORBIDITY, DISABILITY AND MORTALITY AND IMPROVE FETAL HEALTH	21
THEME 3. STRENGTHEN INTEGRATION OF MATERNAL SERVICES WITH FAMILY PLANNING FOR PREVENTION	21
THEME 4: SCALE UP QUALITY MATERNAL AND FETAL HEALTH CARE	23
THEME 5: PREVENT, DIAGNOSE AND TREAT INFECTIOUS DISEASE AND POOR NUTRITION IN PREGNANT WOMEN	27
THEME 6. INCREASE FOCUS ON AVERTING AND ADDRESSING MATERNAL MORBIDITY AND DISABILITY	32
THEME 7. ADVANCE CHOICE AND RESPECTFUL MATERNITY CARE AND IMPROVE WORKING CONDITIONS FOR PROVIDERS	35
STRENGTHENED GOVERNANCE OF HEALTH SYSTEMS AND CONTINUOUS LEARNING	36
THEME 8. STRENGTHEN AND SUPPORT HEALTH SYSTEMS FOR IMPROVED MATERNAL AND FETAL HEALTH	36
THEME 9: PROMOTE DATA FOR DECISION-MAKING AND ACCOUNTABILITY	41
THEME 10: PROMOTE RESEARCH FOR POLICY AND PROGRAMS	44
GOING FORWARD	45
REFERENCES	47
ANNEX 1: GLOSSARY OF TERMS	52

List of Figures, Tables, & Boxes

FIGURES

FIGURE 1: ACHIEVING THE VISION FOR IMPROVED MATERNAL AND FETAL HEALTH AND SURVIVAL

FIGURE 2: ENDING PREVENTABLE MATERNAL DEATHS WORLDWIDE BY 2035

FIGURE 3: REACHING GLOBAL MMR OF 70 PER 100,000 BY 2030

FIGURE 4: MMR IN 24 MCH PRIORITY COUNTRIES (2010)

FIGURE 5: ANNUAL RATES OF REDUCTION (1990-2010) WITHIN MCH PRIORITY COUNTRIES

FIGURE 6: NUMBER OF LIVE BIRTHS BY YEAR IN SUB-SAHARAN AFRICA AND SOUTHERN ASIA

FIGURE 7: POPULATION BREAKDOWN BY URBAN/RURAL IN MCH PRIORITY COUNTRIES (2012)

FIGURE 8: DISTRIBUTION OF MATERNAL HEALTH SERVICE UTILIZATION IN MCH PRIORITY COUNTRIES BY DHS PHASE

FIGURE 9: UTILIZATION OF MATERNAL HEALTH SERVICES IN BANGLADESH, MALAWI, AND MCH PRIORITY COUNTRIES BY WEALTH LEVELS (2007-2010)

FIGURE 10: MATERNAL MORTALITY RATIO BY AGE AND BIRTH ORDER

FIGURE 11: MODERN AND TRADITIONAL METHOD UTILIZATION AND UNMET NEED AMONG MARRIED WOMEN IN MCH PRIORITY COUNTRIES

FIGURE 12: HIGH IMPACT PRACTICES—PROVEN INTERVENTIONS CAN ADDRESS LEADING CAUSES OF MATERNAL DEATH

FIGURE 13: INTERCONNECTIONS BETWEEN MATERNAL, FETAL, AND IMMEDIATE NEWBORN HEALTH AND INTERVENTIONS

FIGURE 14: PRIMARY CAUSES OF MATERNAL DEATH, SOUTH AFRICA, 2005-2007

FIGURE 15: PREVALENCE OF ANEMIA IN PREGNANT WOMEN IN MCH PRIORITY COUNTRIES

FIGURE 16: ANNUAL MATERNAL AND NEWBORN MORTALITY AND MORBIDITY (2008-10)

FIGURE 17: TOTAL FACILITY BIRTHS IN ASIAN COUNTRIES BY FACILITY TYPE IN THREE MOST RECENT DHS SURVEYS

FIGURE 18: NUMBER OF MIDWIVES PER 1000 LIVE BIRTHS IN MCH PRIORITY COUNTRIES

FIGURE 19: PROPORTION OF DELIVERY ROOMS THAT ARE WASH SAFE, BY CATEGORY AND TYPE

TABLES

TABLE 1: MEASURING PROGRESS IN THE MCH PRIORITY COUNTRIES: COVERAGE INDICATORS AND TARGETS

BOXES

Box 1: IMPLEMENTATION APPROACHES

Box 2: WHAT ARE MATERNAL MORBIDITIES AND DISABILITY?

Note: figure numbers will be changed in next version

USAID Maternal Health Strategy, 2014-2020

Toward Ending Preventable Maternal Mortality

Introduction

Despite considerable global health progress, millions of women around the globe still do not receive the maternal health care they need. Every year, out of 190 million women who become pregnant annually, more than 287,000 women die from complications during pregnancy or childbirth, at least 12 million suffer severe maternal morbidities, over 2.5 million stillbirths occur and 15 million pregnancies result in premature births. Some of these poor outcomes of pregnancy could be avoided: nearly half of all pregnant women in developing countries do not use skilled birth attendants. Furthermore, nearly 222 million women who want to delay or avoid pregnancy are not using a modern method of contraception.

To realize the aims of global health, we must meet our commitment to women and girls. The U.S. Agency for International Development (USAID) places women and girls at the center of our global health programs because we know improving women's and girl's health is the foundation to almost every area of human development and progress. Simultaneously, USAID is fostering country capacity and ownership towards a more equitable and sustainable development for health by leveraging the escalating economic transition of health.

As the world moves to the post- Millennium Development Goals (MDG) era in 2015, the determination and commitment of the U.S. Government is reflected in the bold vision of Ending Preventable Child and Maternal Death in a generation. To that end this USAID strategy for maternal health – that complements our work under A Promise Renewed to accelerate reduction in newborn and child mortality – envisions:

A world where no woman dies from preventable maternal causes and maternal and fetal health are improved.

To achieve this vision

This strategy focuses closely on USAID's investments in health and other sectors with the most proximate effects on maternal and fetal health outcomes, as well as on newborn and child survival, recognizing that in addition to focusing on health sector improvements, leveraging investments in other sectors and seizing opportunities to work collaboratively across disciplines will also yield benefits. In addition, USAID, as a development agency, brings skills and resources to bear across many fields, such as education, economic growth, food security and nutrition, and governance that ultimately influence women's health.

There are three pillars for action, composed of 10 strategic themes as shown in Figure 1:

Achieving the vision for improved maternal and fetal health and survival

Individual, community, and societal enablers for improved maternal and fetal health

- 1. Improve individual, household, and community behaviors and norms*
- 2. Improve equity of access to and use of services by the most vulnerable*

Quality, respectful care to improve maternal and fetal health

- 3. Strengthen integration of maternal services with family planning as prevention*
- 4. Scale up quality maternal and fetal health care*
- 5. Prevent, diagnose, and treat infectious disease and poor nutrition in pregnant women*
- 6. Increase focus on averting and addressing maternal morbidity and disability*
- 7. Advance respectful maternity care and improve working conditions for providers*

Strengthened governance of health systems and continuous learning

- 8. Strengthen and support health systems for improved maternal and fetal health*
- 9. Promote data for decision-making and accountability*
- 10. Promote research for policy and programs*

Figure 1: Achieving the vision for improved maternal and fetal health and survival

Implementation approaches

In order to support progress in the priority countries, USAID will place special emphasis on key approaches, shown in box 1, as they are adapted for specific contexts.

Implementation Approaches

- 1. Focus on women, girls and gender equity with specific attention to the mother-baby dyad throughout the maternity period.**
- 2. Promote and advocate for women's informed choice in use of family planning and maternity care.**
- 3. Focus on the most vulnerable in improving access, provision and utilization of quality maternal and fetal care.**
- 4. Strengthen the continuum of care from household to hospital to improve pregnancy outcomes.**
- 5. Promote public health policies and programs based on the best available evidence for the local context, with local ownership, strengthened health systems, and global partnerships.**
- 6. Build capacity for scale and sustainability.**
- 7. Invest in improved metrics, evidence and research to continuously progress toward the vision.**

Box 1: Implementation Approaches

What's new in the strategy?

The last USAID Maternal Health Strategy was developed in 2003. Since then, the context for maternal health programming has changed significantly and USAID funded programs are changing with it:

- A bold vision for Ending Preventable Maternal Mortality
- The indirect causes of maternal death, including HIV and AIDS, malaria, tuberculosis, and chronic diseases (e.g., high blood pressure, cardiac disease) are contributing a larger proportion of the deaths — and must be prevented or managed by programs. This necessitates expanding focus on care beyond the intrapartum and immediate postpartum period to antenatal and extended postpartum care for diagnosing, treating or preventing, and following up on both pregnant and postpartum women.
- Ensuring quality and respectful care that promotes dignity and empathy, means understanding and addressing the factors that motivate providers and managers, such as improved working conditions and remuneration, and an increased focus on workforce planning and coordination of the levels of care to address normal and complicated deliveries.
- Moving towards universal health coverage will necessitate addressing local barriers to use of care with effective efforts, such as financial initiatives and culturally sensitive programs, to reduce inequities.

- Building programs at scale will require new partners and new methods of working as countries face increasing urbanization, decentralization, and privatization of birthing care.
- Ensuring accountability for quality respectful care demands advocacy and information in the hands of citizens to know their rights and the means to act on them.

Economic growth around the world and recent accelerated growth in sub-Saharan Africa is providing opportunities for improved infrastructure and investments in education and health by countries that can will facilitate these efforts.

Maternal survival and health essential to USAID Mission

USAID has dedicated itself to join with partners to eradicate extreme poverty in the next two decades. Essential to achieving this goal is ensuring the survival and health of women, because it is an imperative in its own right, and because of the critical roles that women play in the nurturing and education of their children, in their societies as workers in agriculture, manufacturing, business, education, and health care, and the leadership women provide to global economic growth and building democratic societies. To that end, USAID supports gender equality and women's empowerment in all aspects of its work as a development agency and through its programs for humanitarian assistance.

The USAID maternal health strategy sets the direction for successful programs that promote and maintain women's health and resilience to contribute to sustainable development in their own countries. Healthy pregnancy outcomes for mothers and their children are integral to other Agency priorities, including education and economic growth, and improved life expectancy for women and their children, economic productivity and national and global leadership.

Building on global efforts

A steady drumbeat is already underway. This strategy supports global efforts aiming to reduce maternal deaths. The Global Strategy for Women's and Children's Health, launched by United Nations' Secretary-General Ban Ki-moon is a global movement to mobilize and intensify global action to improve the health of women and children around the world. The United Nations' Every Woman, Every Child initiative, a campaign accompanying the Global Strategy, continues to galvanize new commitments and, importantly, to focus on concrete action in this area and the acceleration of progress toward 2015 MDGs 4, 5, and 6. The goals of Family Planning 2020, the United Nations commissions on Information and Accountability and on Life Saving Commodities, A Promise Renewed to accelerate reduction in child mortality (target: <20 child deaths/1000 live births per country), the Every Newborn Action Plan, the Global Investment Framework for Women's and Children's Health (Stenberg et al 2013), and USAID's Ending Preventable Child and Maternal Deaths, also push the boundaries to improve the health of women and children.

We have consensus on the technical approaches to improve survival during pregnancy and around labor, delivery, and the immediate postpartum period. And we know we have to target interventions at the community level, as well as in health clinics and hospitals. Paired with positive global trends in factors associated with reduced maternal risk (including reduced fertility rates, increased rates of female education, and increased per capita GDP), we have an unprecedented opportunity to accelerate progress.

Review of the Landscape

USAID's vision: *A world where no woman dies from preventable maternal causes and maternal and fetal health are improved.*

The USAID vision supports international goals and targets for ending maternal mortality:

- The Millennium Development Goal (MDG) 5 target of 75% reduction in maternal mortality between 1990 and 2015.
- The proposed global target for post-2015 of a maternal mortality ratio (MMR) of less than 70/100,000 live births by 2030. No country should have a MMR greater than twice the global target, 140 by 2030.

Globally, there is progress toward reducing maternal deaths

Maternal deaths have declined globally by 47% over the last two decades--from 543,000 (MMR 400/100,000) in 1990 to 287,000 deaths (MMR 210/100,000) in 2010 (Figure 2).¹

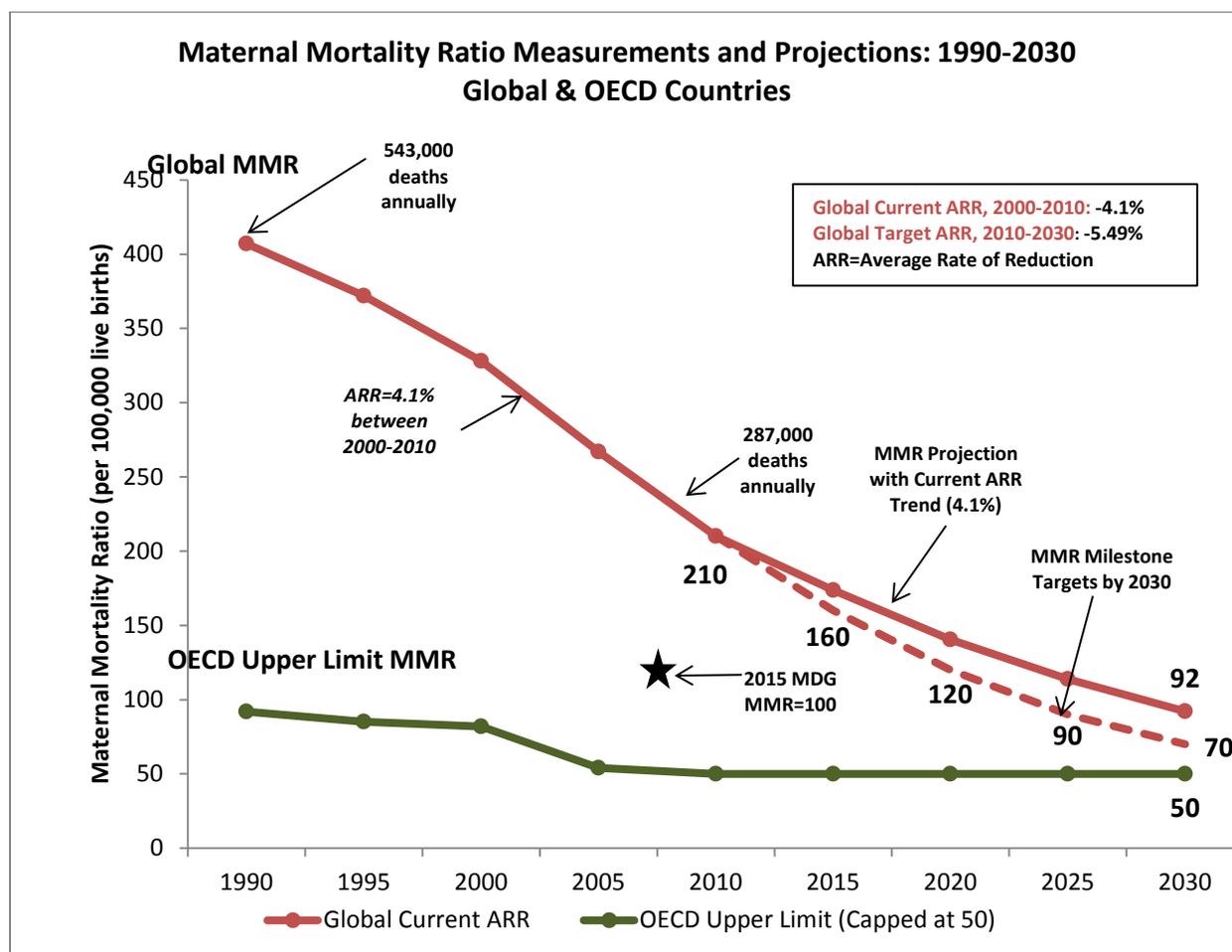


Figure 2: Ending preventable maternal deaths worldwide by 2030—reaching an MMR of 70

¹ Note that UN estimates of MMR (WHO, 2012a) and ARR are used in this strategy to allow for comparability. Countries may use their own best measures or estimates to show change over time.

While the global MMR decline since 1990 is impressive, a maternal death in low and middle-income countries (LMIC) remains 100 times more likely than in high-income countries (Lozano R et al, 2011).

Among the LMIC, progress towards ending maternal mortality remains uneven across regions, countries and within countries. Averaged across all countries, the annual rate of reduction (ARR) of the MMR accelerated between 2000 and 2010 but reached only 4.1% (Figure 3). To reach a global target of less than 70 by 2030, national targets can be set by reducing their MMRs by at least two-thirds from the 2010 baseline MMR by 2030. For all countries with baseline MMR <420 (the majority of countries worldwide), this amounts to an annual rate of reduction of 5.5%. For the approximately 25 countries with a baseline MMR >420, the rate of decline will be steeper to reach the MMR ceiling of 140 by 2030 (see Figure 3).

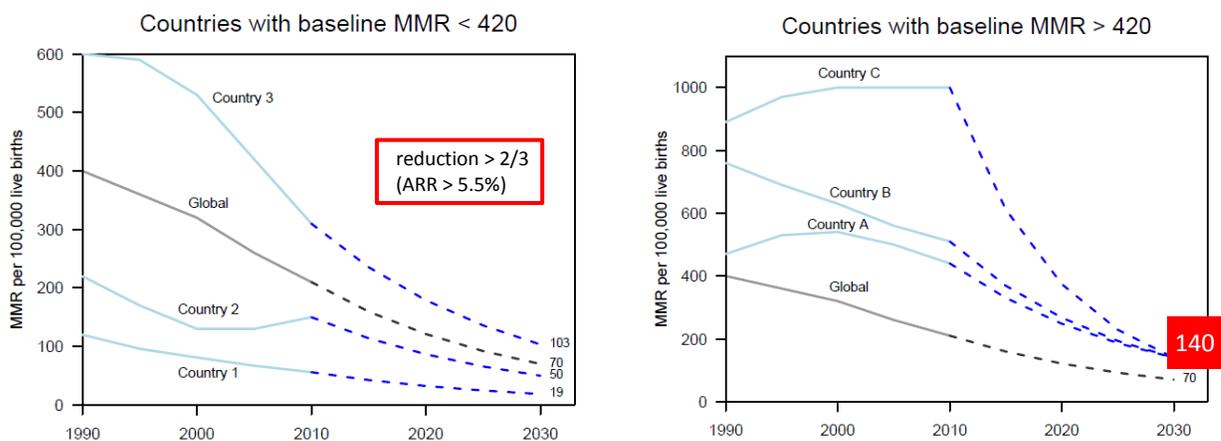


Figure 3: Reaching global MMR=70 by 2030: Maternal mortality ratio declines by countries less than and greater than MMR of 420 (2010 baseline), 1990-2030: (WHO, 2012a)

USAID’s vision goes beyond 2030 to 2035 to a global goal of an MMR of 50/100,000 live births to converge with the high MMR of the OECD countries in 2010.

To reach the future global target in 2030, USAID’s strategy for reduction of maternal mortality:

USAID will focus geographically on 24 countries where most maternal deaths occur.

Selected because of the magnitude and severity of maternal and child deaths, as well as country commitment, USAID health program presence, and opportunity for partnerships, 24 countries are given priority within USAID programs. Classified by USAID region, they include* (Figure 4):

- In Africa: Democratic Republic of the Congo, Ethiopia, Ghana, Kenya, Liberia, Madagascar, Malawi, Mali, Mozambique, Nigeria, Rwanda, Senegal, South Sudan, Tanzania, Uganda and Zambia
- In Asia and the Middle East: Afghanistan, Bangladesh, India, Indonesia, Nepal, Pakistan, and Yemen
- In Latin America and the Caribbean: Haiti

*Note that the country list is not static; it is reviewed and revised periodically.

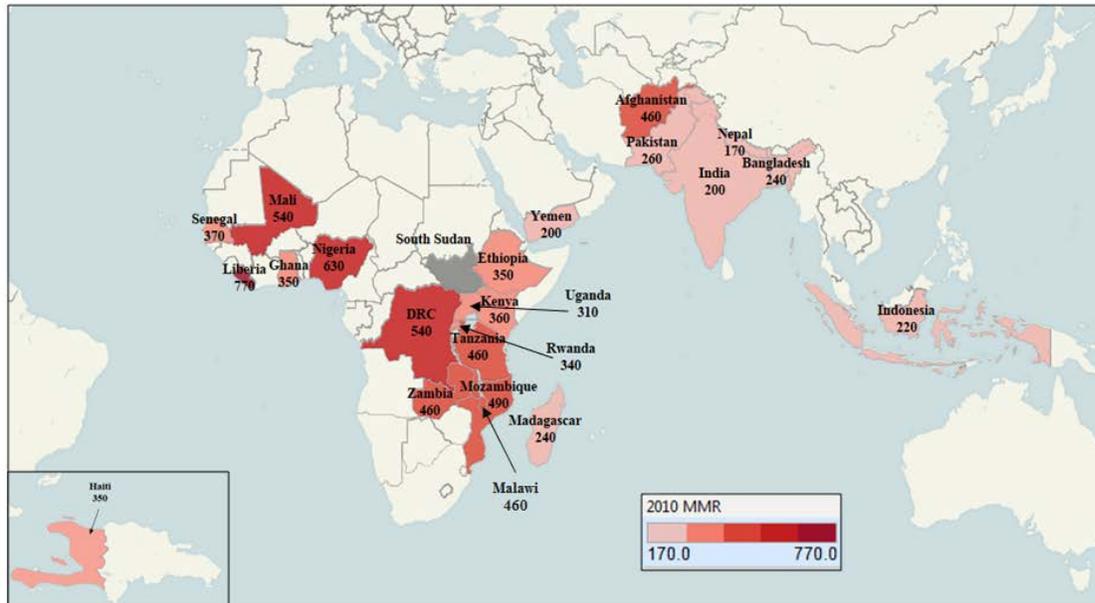


Figure 4: MMR in 24 MCH priority countries (2010) (WHO, 2012a)

Notes: No MMR data for South Sudan

Nearly 75% of all maternal deaths worldwide occur in these 24 countries —with some progress made since 1990 to decrease the numbers of deaths per region (Figure 5). But the numbers of maternal deaths still remain very high.

Four of the 24 USAID MCH priority countries are on track, or very close, to achieving the MDG 5 target by 2015 with an ARR of over 5% since 1990—Nepal, Bangladesh, Yemen and India (Figure 6). Note that although the MMR estimates for Afghanistan remain uncertain, progress has been recently reported that translates into an ARR of 5.1%; even so the starting value of a MMR of 1300 in 1990 is very high (WHO 2012a).

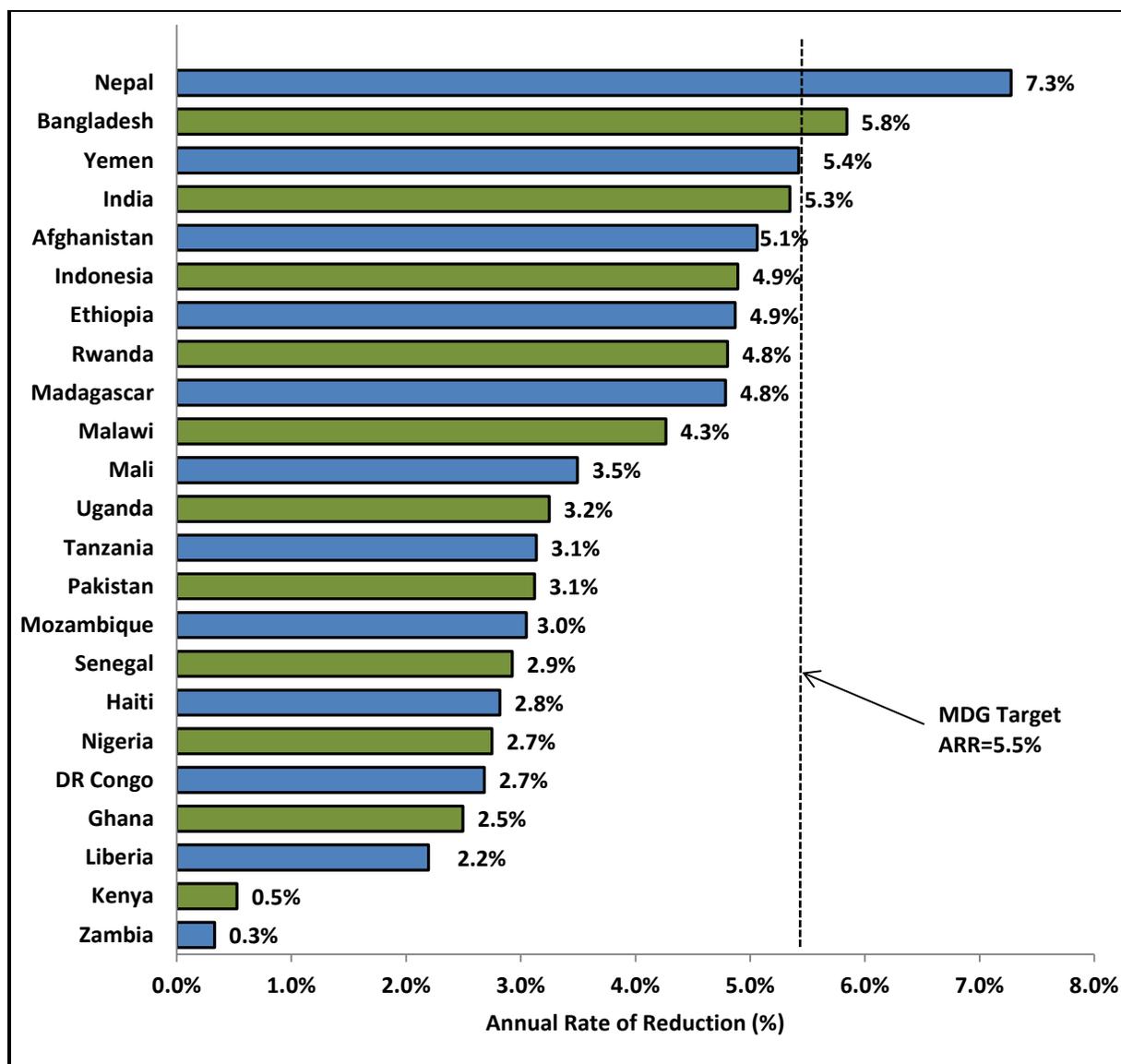


Figure 6: Annual Rates of Reduction (1990-2010) within MCH priority countries (WHO 2012a); no data available for South Sudan.

Post-2015, the MMR target of less than 70 by 2030 at the global level necessitates countries above an MMR of 420 in 2010 to achieve a secondary target of at least 140. Among the 24 MCH priority countries, 10 start with a MMR over 420 (2010) and will require accelerated reduction to achieve the 140 secondary target. With the exception of Afghanistan, these are countries in sub-Saharan Africa. The MCH priority countries with MMRs less than 420 must achieve at least a two thirds reduction from their 2010 MMR baseline level to ensure they contribute to the global 2030 target.

The priority countries include countries with high fertility where population momentum will continue to add to the growth in the annual number of births, putting more women at risk of maternal death.

At present, there are more births in Asian countries annually than in sub-Saharan African countries, but

the number of births in Asia plateaued in the late 1980s and is now declining. In sub-Saharan Africa, the numbers of births are climbing and will continue to do so until at least 2035 (Figure 8), reflecting the large populations of adolescents and young women giving birth. As fertility drives infrastructural needs, health systems in some sub-Saharan African countries, for example, may be covering 100 births now, but in 5 years' time they may have to cope with 120, then 140 in 10 years and so on. With declining fertility in Asian countries health systems targeting 100 births now may only need to be prepared for 88 births in 5 years' time. Clearly USAID will continue to have a major focus on health systems strengthening and service delivery in Africa for some time to come.

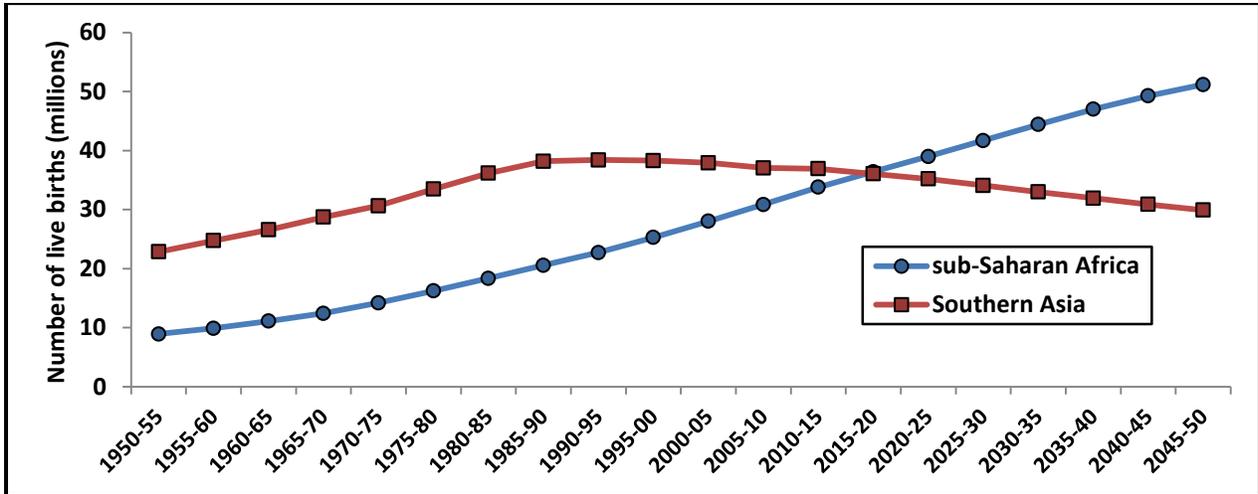


Figure 8: Number of live births by year in sub-Saharan Africa and Southern Asia (UNDESA, 2012)

Although the world is urbanizing, most of the 24 priority countries continue to have a majority of their population living in rural areas (Figure 9). Priority countries with 50% or more of the population in urban areas include Ghana, Nigeria, Haiti and Indonesia. USAID will continue to focus on rural areas where health services are inaccessible to more women for a variety of reasons, while developing new strategies for the urban populations where effectiveness of interventions is not as well documented.

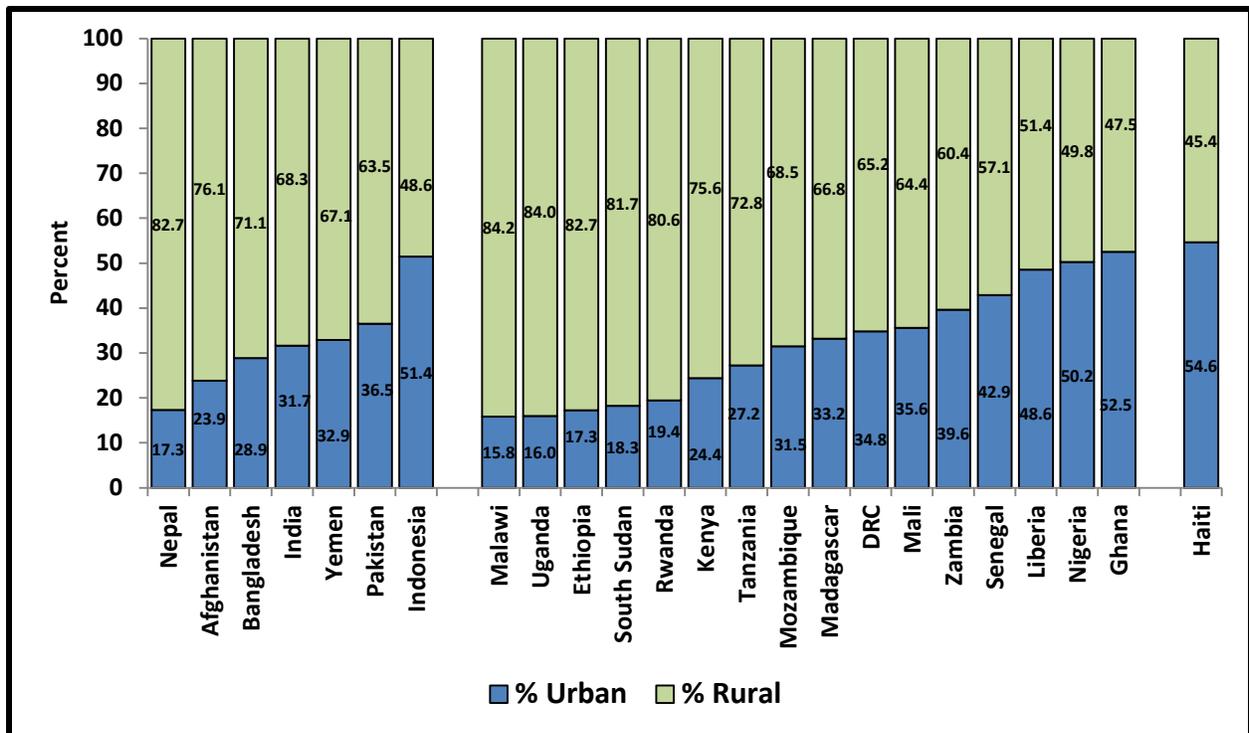


Figure 9: Population breakdown by urban/rural in MCH priority countries (2012)
 (World Bank, 2013)

USAID's Strategic Themes to Prevent Maternal Mortality

Achieving USAID's vision of: *“A world where no woman dies from preventable maternal causes and maternal and fetal health are improved”* requires strategies that fall under three major pillars:

- **Individual, community and societal enablers** that target behaviors and practices in the home, community and the larger societal environment to ensure optimum health prior to, during and after pregnancy and increased and equitable use of appropriate services.
- **Quality, respectful care** that reduces maternal morbidity, disability and mortality and improves fetal health, and
- **Strengthened governance of health services and continuous learning** to support the system of care needed from pregnancy through the postpartum period.

Individual, community, and societal enablers for improved maternal and fetal health

THEME 1: Improve individual, household, and community behaviors and norms

Promote a healthy outcome for both mother and baby by ensuring all women and families, including adolescent girls, have adequate knowledge and are supported by their community to choose whether and when to become pregnant, enter pregnancy infection free and with good nutritional status, and maintain healthy behaviors during pregnancy, birth and postpartum, by accessing antenatal care, skilled care for delivery, postnatal care and family planning services.

USAID's strategies to improve individual, household, and community behaviors and norms include:

- Improve appropriate maternal and household behaviors, including care seeking, through increased knowledge and awareness of maternal and fetal health and family planning.
- Support community mobilization efforts to build capacity of women, families, and communities to actively engage with each other and health providers and managers to improve the quality of services and to hold health systems accountable.

Supporting evidence:

Women often have limited knowledge of reproductive and maternal and newborn health, especially those that become pregnant or get married at young ages. In South Asia and sub-Saharan Africa, 40% of girls are married by the age of 18 (PMNCH, 2012). In addition, women may have limited decision-making power around reproductive and maternal and newborn health. Often men make the decisions around health care, especially when to become pregnant, how often pregnancies should occur, and what type of services can be accessed once pregnant (PMNCH, 2013). As a result, many women often have high unmet need for family planning as well as limited decision-making power over when and where to seek care. The roles of men and influential family members, such as mothers-in-law, in reproductive and

maternal care need to be recognized, understood and addressed, so that women are enabled to make informed choices.

Health communication and other behavior change interventions to improve knowledge on maternal and fetal care and family planning are essential to improving household behaviors and care seeking for potentially life-threatening complications. Culturally appropriate information and messages can be shared through a variety of channels such as mass media, interpersonal counseling, and women's groups. Messages should be tailored to the context and target men, boys, and their families, influential leaders and other decision-makers, as well as women and girls. However, health communication that imparts knowledge is more effective if it involves dialogue and problem solving skills (Rosato et al, 2008; Wallerstein 1991), and is provided through community participation or empowerment approaches that support longer-term processes in which communities are actively involved in shaping their health (Rifkin, 1996). Interventions include community-based identification of problems, understanding root causes (such as barriers to use of care), mobilizing necessary resources, and demanding rights to health and quality services (Rosato et al, 2008; Costello et al, 2006) as well as promoting supportive community norms.

Community-based efforts such as women's groups and community participation, aimed at improving women's and family's knowledge of danger signs of maternal complications, where to seek care, the importance of facility birth, the risks of female genital mutilation, and the importance of pregnancy and postnatal home visits by community health workers, have met with success in improving use of facilities for birth, referral for complications, improvement in traditional birth attendant care practices during home births, reduction of maternal morbidities, and reductions in stillbirths and perinatal mortality (Marston et al, 2013; Prost et al, 2013; Lassi et al, 2010; Lassi et al, 2013). In a recent meta-analysis, women's groups in three of four South Asian trials demonstrated strong effects on uptake of clean delivery practices and breastfeeding, significant increases in uptake of antenatal care, and institutional deliveries (Prost et al, 2013). Another recent meta-analysis on community participation demonstrated that successful interventions involved raising community awareness of health problems, encouraging dialogue, community involvement to design and implement interventions, and in some cases, establishing community-generated funds and improving transport to health facilities (Marston et al, 2013). There is also evidence that intervention packages that combine one-on-one home visits by trained community health workers with participatory approaches such as women's groups, can have an added benefit (Lassi et al, 2010). As these interventions are scaled up within existing service delivery and community health sub-systems,² it is essential to conduct rigorous monitoring, including coverage of intervention components, quality of the intervention, and differences in local context. USAID will seek to conduct rigorous evaluations where no evidence exists and/or where the findings of an evaluation are needed.

² Community health sub-systems include the following essential community assets that influence health outcomes: community members; community structures, such as groups, organizations and associations; and community processes and relationships that can provide equitable access to people-centered prevention and care." (LeBan, 2011).

THEME 2: Improve equity of access to and use of services by the most vulnerable

Among USAID’s 24 MCH priority countries, those in Asia have shown progress in use of maternity services over the past decade -- for antenatal care, skilled birth attendants (SBA) and facilities for births, and cesarean section (C-sections) (Figure 11). African priority countries have made some improvements in use of birthing care (SBA and facilities), but remained relatively stagnant over a 10 year period in antenatal care use and use of cesarean section. One reason for this stagnation is the great inequities within countries.

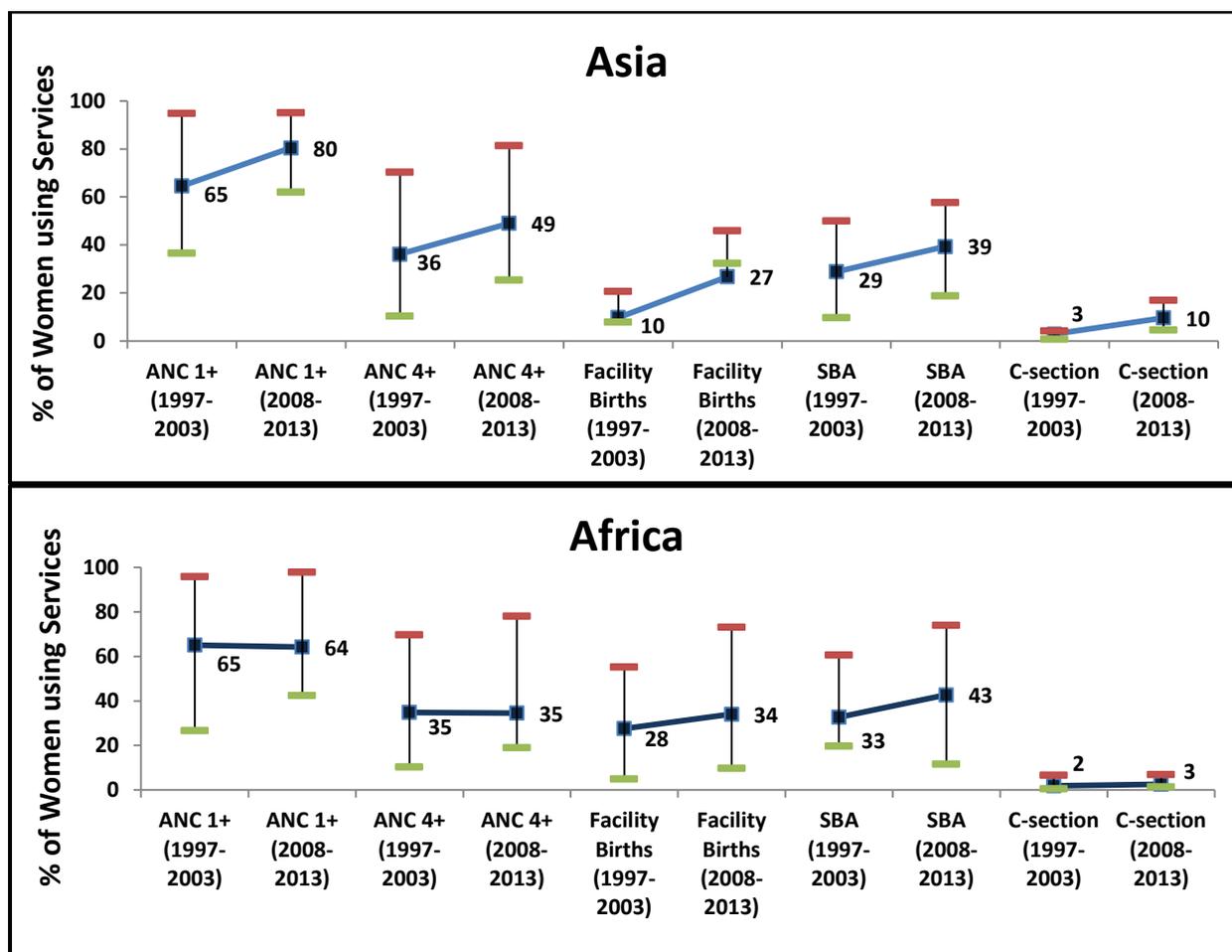


Figure 11: Distribution of maternal health service utilization in MCH priority countries by DHS phase (STATCompiler, 2012a-e)

USAID’s strategies to reduce inequity-mediated barriers to care:

- Support the transformation of social and cultural norms through community-led initiatives and programs in the context of maternal and fetal health.
- Link with other sectors to support improvements in educational, training, and employment opportunities for girls and women and to decrease child marriage and delay childbearing.

- Reduce geographic, financial and cultural barriers to safe delivery services and rapid referral for emergency obstetric and neonatal care using a systems approach that incorporates both public and private facilities, transportation, and new communication networks.
- Catalyze governmental action to increase national budget allocations for Maternal and Newborn Health (MNH). This must accompany other innovative financing reforms to decrease economic barriers, e.g. the use of demand- and supply-side financial incentives. These have promise to be effective strategies for addressing financial constraints as well as improving quality of services.

Supporting evidence:

Entrenched poverty continues to be the major barrier to accessing life-saving services. In most USAID priority countries, women in the lower wealth quintiles attend fewer antenatal care visits and utilize facility deliveries less often than do those in the top quintiles, as can be seen in Figure 12 for both Malawi and Bangladesh. Among 20 countries with a recent Demographic and Health (DHS) Survey, on average, half (52%) of women surveyed identified lack of money as the biggest barrier to using health services (Measure DHS, 2013). When considering whether or not to access care, poor women must weigh not only the formal costs of quality care but also the indirect costs to their families including payment for transportation and medications as well as opportunity costs and informal fees to providers.

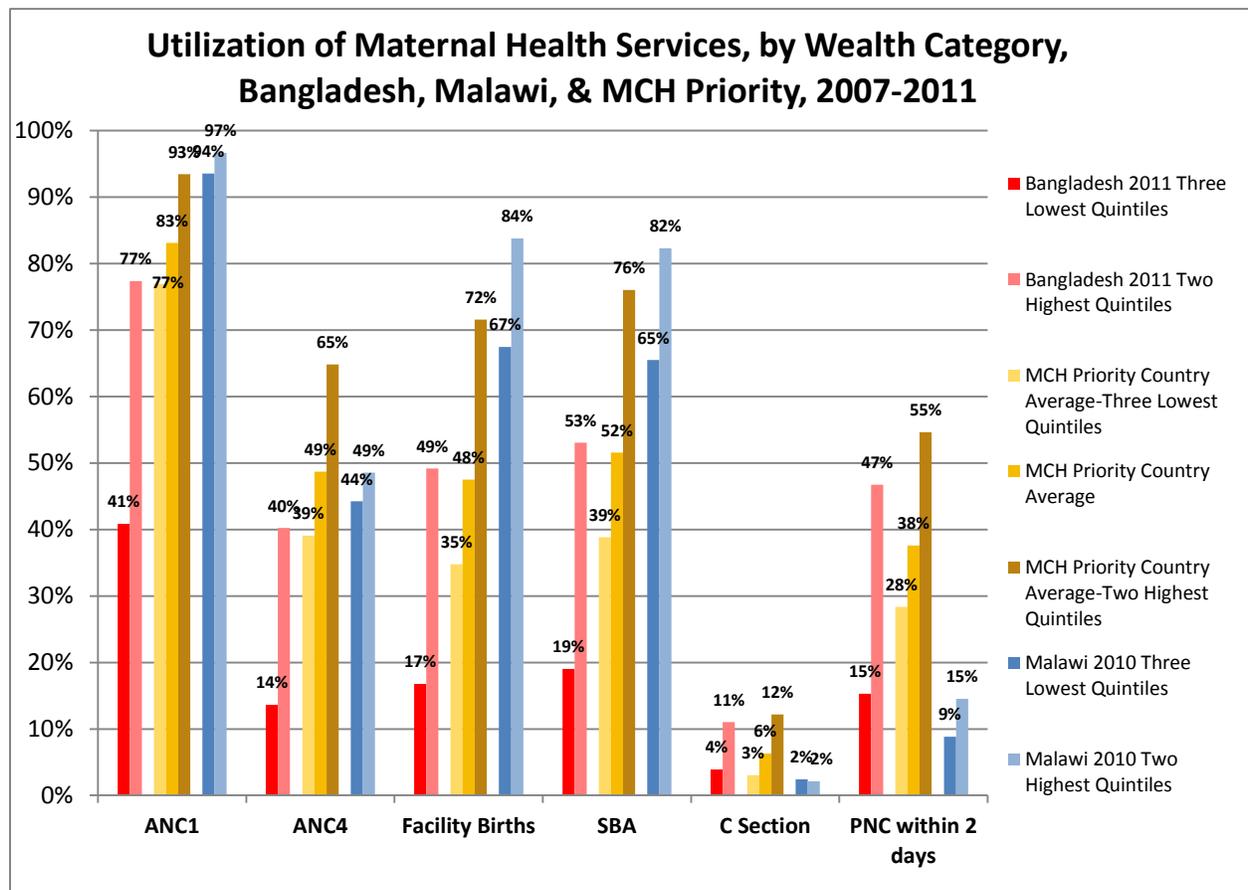


Figure 12: Utilization of maternal health services in Bangladesh, Malawi, and MCH priority countries by wealth levels, 2007-2010

(Measure DHS, 2010; Measure DHS, 2011; STATCompiler, 2012a-e; Measure DHS, 1987-2012a)

Access to life-saving services is also a gender issue. The vast majority of maternal deaths are preventable with known evidence-based interventions. But needless death and suffering persist due not only to a failure to provide quality services but also because women lack the agency to utilize services. Beyond lack of decision-making authority, women are also less likely to have control over or access to the financial resources needed to pay for transportation and cover direct or “incidental” fees for maternal services.

Sub-nationally, women who live in rural areas are less likely to use maternity services than those in urban areas. Only 30% of women in rural areas of the priority countries in sub-Saharan Africa and 37% in Asian priority countries have a skilled birth attendant compared with nearly double those levels in urban areas within those same countries (Figure 13).

Disparities in use of facilities for birth can also be seen in the context of social, ethnic, racial, religious and age discrimination. For example, in Guatemala only 36% of indigenous women have institutional deliveries as compared to 73% of their more westernized mestizo (*ladina*) counterparts (Ishida et al, 2012). Adolescent births, specifically those concentrated within populations with poorer access to high-quality maternal health care, will affect the ratio of adolescent maternal mortality compared to those of other age groups. For most countries, however, the risk of maternal mortality for adolescents is no greater than for women older than 30 years, and compared with women aged 35 years and older the risk is substantially lower for adolescents (Nove et al, 2014) (see Figure 14). But adolescent pregnancy is associated with poor pregnancy outcomes, such as prematurity, low birth weight and severe neonatal conditions (Ganchimeg et al 2014).

Social stigma against women who are living with HIV may also drive them away from use of maternity services (Mahajan et al, 2008). Disrespectful care of women seeking post-abortion care can also dissuade use of life-saving services.

Yet the right to the enjoyment of the highest attainable standard of physical and mental health includes the right to quality maternal health care. This right includes access to services, goods and information, and removal of age, marital status, social, cultural, economic, legal and political barriers that put pregnant women and their newborns at peril. Women and girls must have access to quality, respectful maternity care, while men, boys and other decision makers must be engaged as advocates and change agents. Improving maternal health strengthens not only the individual woman, but also her family and community.

USAID will continue to address the key drivers of inequity in coverage and access to quality services based on cultural and gender norms, age, ethnicity/religion, economic status, and geographical location, in order to achieve universal access to comprehensive maternity services.

Quality, respectful care to address maternal morbidity, disability and mortality and improve fetal health

THEME 3. Strengthen integration of maternal services with family planning for prevention

Family planning is an integral part of maternal and fetal health care, acting through:

1. Diminished annual numbers of births (e.g. population momentum)
2. Reduction of high-risk pregnancies by ensuring healthy timing and spacing of pregnancy, and
3. Meeting the modern contraceptive needs of millions of women who do not intend to become pregnant.

To reduce unmet need and increase healthy timing and spacing of pregnancies, USAID strategies include:

- Educate women, girls and their families on family planning's role in ensuring that pregnancies are timed and spaced at the healthiest point in a woman's life
- Expand the mix of available contraceptives to help effectively delay, time, space and limit pregnancies in order to achieve fertility intentions
- Promote post-abortion and postpartum family planning care that offers a full range of family planning information, counseling and services, including LAM, at health points of contact for women, newborns, and children.
- Enact policies to support women and girl's family planning, health and education needs.

Much of the impact of contraception to prevent maternal death comes simply from reducing the number of births. However, preventing pregnancy also reduces the MMR because higher risk births and unsafe abortions are more likely to be prevented. Every year about 42 million women with unintended pregnancies (e.g., those with unmet need or contraceptive failure) choose abortion, and nearly half of these procedures – 20 million – are unsafe. Some 68,000 thousand women die of unsafe abortion annually (Haddad and Nour, 2009).

Supporting evidence:

More risky pregnancies include those that are poorly timed or those among women with higher parity (Figure 14). Mothers' survival improves if women become pregnant between the ages of 18 and 34. And perinatal mortality is lower among babies born to women ages 20-29 versus those born to adolescents (WHO, 2012b).

Studies have found that the risk of maternal death, adverse perinatal outcomes, and under-five deaths also rises as the number of children per woman increases from 2 to 6 or more. A recent study found that, even controlling for income, high parity women were less likely to access health services (Stover & Ross, 2010). In Bangladesh, rapid, repeat pregnancies are associated with increased risk of miscarriage, induced abortion, and stillbirth (DaVanzo, 2007) — and maternal deaths are more common amongst these women (Rahman et al, 2011). Children born at least three years after a preceding birth are at lower risk of mortality and under-nutrition (Rutstein, 2005).

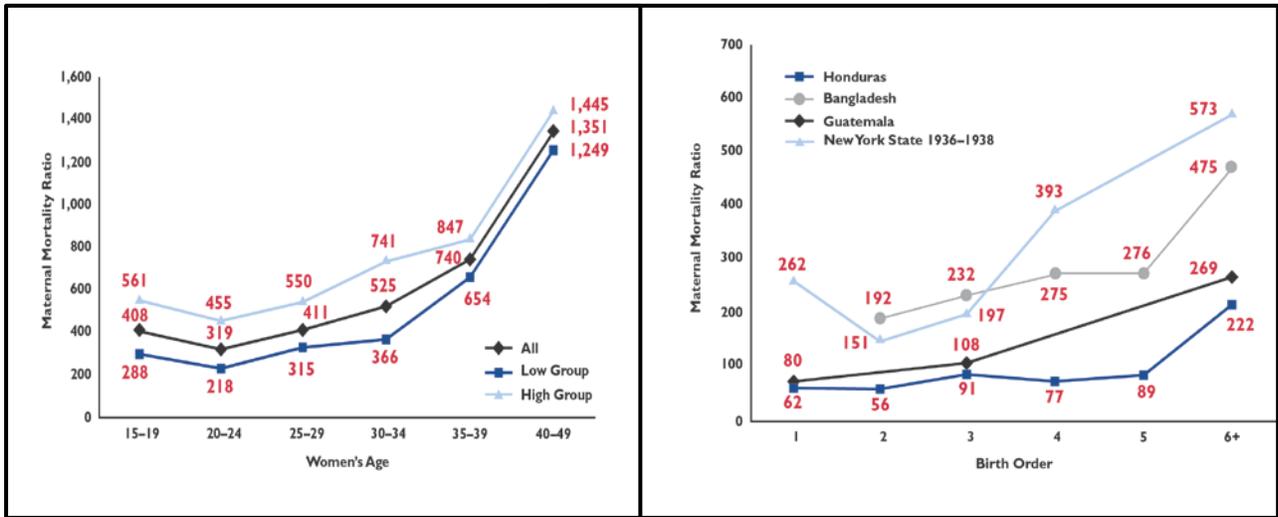


Figure 14: Maternal mortality ratio by age and birth order
(Blanc et al, 2013; Stover & Ross, 2010)

An estimated 222 million women in low and middle-income countries (LMIC) have unmet need for modern family planning (e.g., women want to avoid pregnancy but are not using modern contraceptives) (Singh & Darroch, 2012). For every woman using modern contraception in the sub-Saharan African priority countries, one to five women have unmet need. In the large South Asian countries this ratio is typically 1:1 or less (Figure 15).

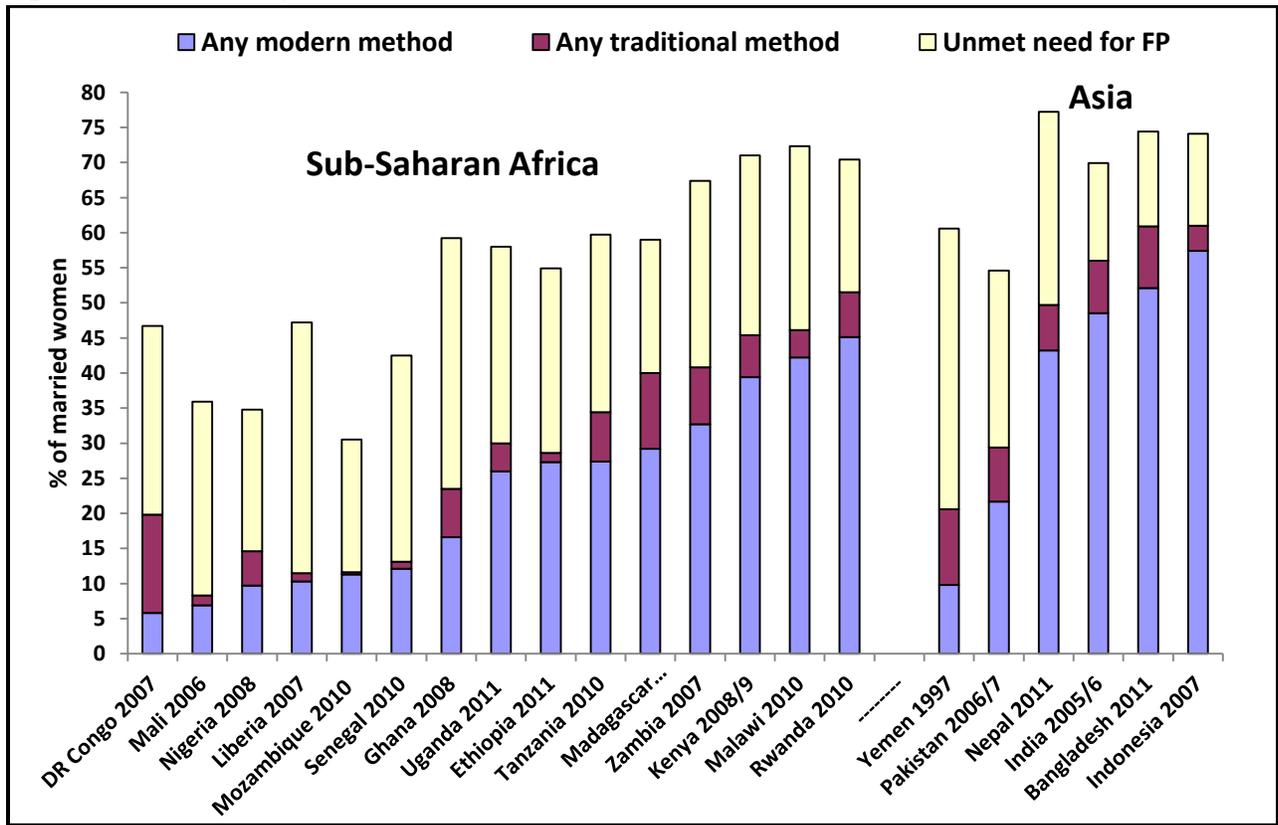


Figure 15: Modern and traditional method utilization and unmet need among married women in MCH priority countries
(Measure DHS, 1987-2012b)

In 2012 80 million unintended pregnancies occurred in the LMIC—an estimated 63 million due to unmet need and 17 million from contraceptive failure (Singh & Darroch, 2012). Meeting unmet need for modern contraceptives would reduce pregnancy related mortality by 100,000 deaths, and prevent 20,000 newborn deaths annually (Singh & Darroch, 2012). Continued advocacy for family planning for improved maternal and newborn health and survival is crucial.

THEME 4: Scale up quality maternal and fetal health care

Quality maternity care is best provided by trained health providers in facilities working in teams to ensure all women can be attended throughout the antepartum, intrapartum and postpartum periods, with back up support through referral mechanisms (Campbell and Graham, 2006). Such care addresses the leading causes of maternal death, both direct and indirect, and improves maternal as well as fetal health.

USAID’s strategies to strengthen, improve and scale quality antenatal, intrapartum, postnatal/postpartum and post-abortion services from the household to hospital levels include:

- Expand and scale up use of high-impact interventions to address the major direct obstetric causes of maternal mortality
- Support the integration of interventions that address stillbirth and preterm birth
- Strengthen and improve the referral system and response to manage complications and life-threatening emergencies with comprehensive care
- Promote use of standards and evidence-based guidelines for improved quality care
- Increase use of evidence-based process improvement and assurance strategies.

Supporting evidence:

Addressing the direct maternal causes of death

The direct causes of maternal death are well-known—obstetric hemorrhage (primarily postpartum), severe pre-eclampsia and eclampsia, puerperal sepsis, and unsafe abortion—as are effective interventions to mitigate them. Figure 16 shows the causes of maternal deaths by percentage at global level along with the interventions known to impact them.

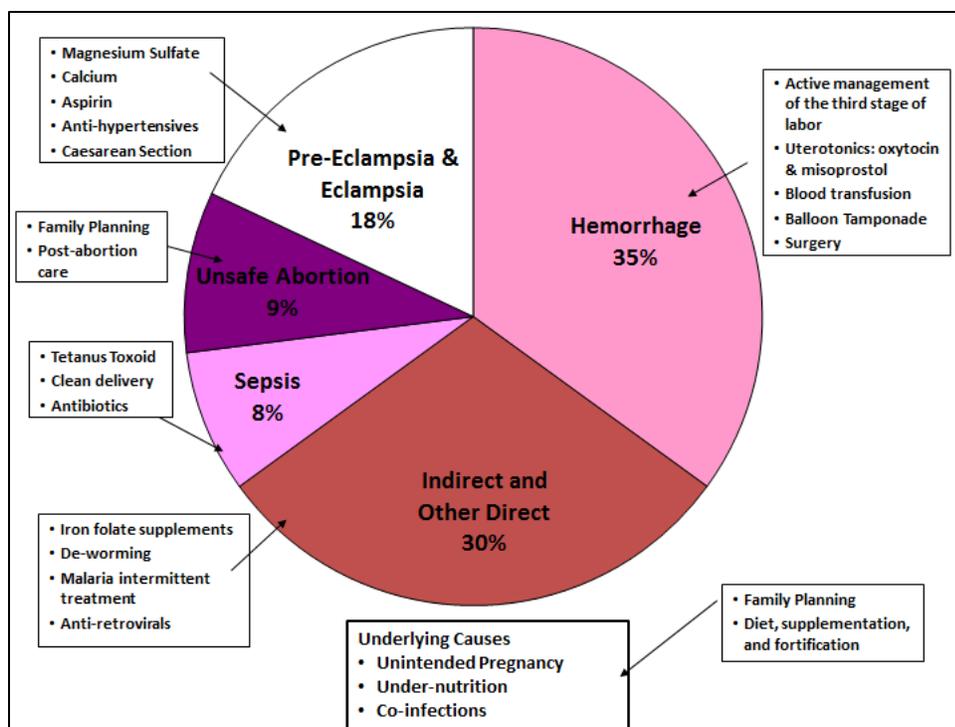


Figure 16: High Impact Practices—proven interventions can address leading causes of maternal death (Requejo et al, 2012)

Postpartum hemorrhage (PPH) is responsible for approximately 35% of maternal mortality worldwide (Requejo et al, 2012), reaching as high as 60% in some countries. PPH can also cause long-term severe morbidity: approximately 12% of women who survive PPH have severe anemia (Abouzahr, 2003). Given immediately post-birth, uterotonics in facilities or at community level are the preferred intervention and decrease blood loss and prevent 50 – 60% of PPH (Tuncalp et al, 2012; Derman et al, 2006). The WHO recommendations for the prevention and treatment of PPH identify uterotonics as the preferred first line intervention treatment, followed by interventions such as the balloon tamponade (with the non-pneumatic anti-shock garment as an intervention for stabilization) and surgical interventions (WHO, 2012b).

Severe pre-eclampsia/eclampsia (PE/E), a pregnancy complication characterized by elevated blood pressure and protein in the urine, can progress to convulsions and death if not treated. Worldwide, PE/E is the second highest cause of maternal death after hemorrhage, accounting for 18 percent of maternal deaths (Requejo et al, 2012). Magnesium sulphate more than halves the risk of eclampsia, and reduces maternal death (WHO 2011). To prevent PE/E, low dose aspirin and calcium supplements (in populations with low calcium intake), are also effective (WHO, 2012b). Antihypertensive medications are necessary in the treatment of severe pre-eclampsia.

Maternal sepsis, often known as puerperal sepsis, remains a significant cause of maternal mortality in LMICs (AbouZahr et al, 1998). Factors predisposing women to puerperal infections include anemia, poor nutrition, prolonged labor with frequent vaginal examinations, and premature ruptured membranes (AbouZahr et al, 1998). A growing body of evidence identifies caesarean section as the single most

important risk factor for the development of puerperal sepsis (Smaill & Hofmeyer, 2002; Yokoe et al, 2001). Appropriate and timely use of antibiotics is essential to manage and treat this cause of maternal mortality.

Approximately 68,000 women die of unsafe abortion annually, primarily from severe infections, bleeding caused by the procedure, or organ damage (Grimes et al, 2006). Timely identification and management of the complications (severe bleeding, sepsis, etc.) with which women present are key to their survival. Evacuation of the uterus is also a key intervention and is included as part of post-abortion care along with family planning.

At country level, the availability and use of effective interventions for direct causes of maternal death are increasing but need further promotion for consistent use (Mfinanga et al 2009; Souza et al 2013). Community use of uterotonics has been initiated in a number of countries as well but also needs further promotion (Ejembi et al, 2013). Additionally, there is the need to go beyond the essential interventions of prophylactic and therapeutic use of uterotonics and magnesium sulfate to include anti-hypertensives, prophylactic antibiotics for caesarean section and parenteral antibiotics for sepsis (for both puerperal sepsis and sepsis from unsafe abortion), and to improve care for severe complications, including shock management, surgery, and hypertension management (Souza et al 2013). The ability to manage complications, either through assisted vaginal births or a cesarean section, is also essential components of maternity care needed to save lives.

Addressing maternal health to improve fetal care

Every year, out of 190,000 million pregnancies, there are 2.65 million stillbirths, 3 million newborns deaths, and 15 million pre-term births. Maternal complications contribute to 1.5 million newborn deaths in the first week of life. Many effective interventions that improve maternal health and reduce mortality will also reduce stillbirths and premature births (Lassi et al, 2013). For example, maternal infections, pre-eclampsia/eclampsia, and hypertension contribute to the toll of stillbirth, along with intrapartum asphyxia (Gravett et al, 2010). Interventions to improve maternal health and reduce stillbirths include antihypertensive drugs and magnesium sulphate for management of hypertension and pre-eclampsia and eclampsia, emergency obstetric care, Caesarean section for complications and elective induction for post-term pregnancies.

Among the 15 million premature births, 1 million babies die within the first month, making prematurity the leading cause of newborn death (March of Dimes et al, 2012). Many preterm babies who survive beyond their first month of life are prone to a lifetime of disabilities. Causes include maternal or fetal complications, such as maternal illness or fetal growth restriction and infections. Variables associated with prematurity include a woman's age at pregnancy, multiple pregnancies, short birth intervals, smoking and cook stoves without ventilation, and non-medically indicated Caesarian sections (March of Dimes et al, 2012).

Proper maternity care, in the antenatal and intrapartum periods, can improve maternal health, reduce stillbirths and preterm births and improve the survival of neonates. Screening for and management of sexually transmitted infections, high blood pressure and diabetes, targeted care of women at imminent risk of preterm birth, education for smoking cessation and provider education on appropriate use of

induction and cesarean section, are all approaches recommended to prevent stillbirth and preterm birth (March of Dimes, 2012; Bhutta et al, 2011; Goldenberg et al, 2008). Antepartum interventions to improve the chances of survival of preterm newborns include antenatal corticosteroids (Goldenberg et al 2008), and antibiotics for premature rupture of the membrane (March of Dimes et al, 2012).

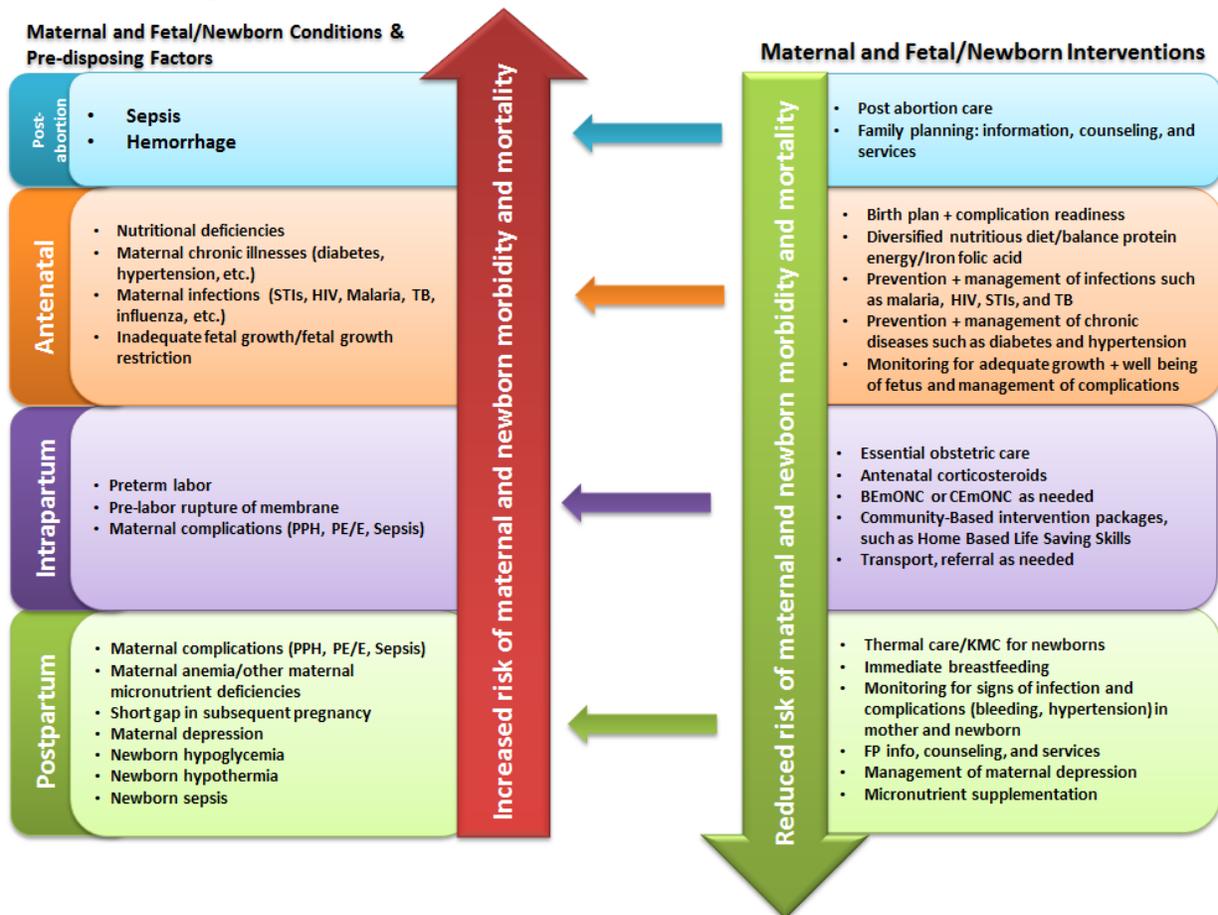


Figure 17: Interconnections between Maternal, Fetal, and Immediate Newborn Health and Interventions (Adapted from Lassi et al, 2013)

Through a programmatic framework supporting demand, sustainable service quality and an enabling environment (Figure 17), USAID will assist the design, implementation, and evaluation of integrated strategies to improve maternal and fetal health, including quality obstetric care and integration of maternal and neonatal care, along with care related to infectious disease prevention and management during pregnancy. This diagram illustrates the strong interconnectedness of both the conditions/ predisposing factors and subsequent interventions and care provided to ensure the health of the mother and fetus/ newborn.

Yet many programs do not implement the accepted low cost, high impact interventions well enough or with high enough levels of coverage. Ensuring quality of care requires specific, evidence-based standards of care and a process to ensure implementation of the standards. A process improvement strategy is a specific response, evidence-based for each application, and extends beyond compliance with standards to include community services and management and incorporates sustainability and

institutionalization (Bates et al 2003). To date, few MNH programs in high burden countries have a large scale process improvement initiative underway.

Process improvement methods, specifically the Collaborative Improvement Approach (Tawfik et al, 2011), and others such as the Standards-Based Management and Recognition (Rawlins et al 2013) and the Client-Oriented, Provider-Efficient approach (COPE), have shown positive increases in use of effective interventions (Figure 18 gives an example using the Collaborative Improvement Approach). These approaches vary in their purposes and documented results and the choice of approach needs to be evaluated with respect to outcomes based upon the evidence and program situation.

Promoting quality care in the private sector has additional challenges. Regulatory approaches such as accreditation, certification, and licensing require both facilities and practitioners to meet externally defined standards. Promoting process improvement is inherently voluntary and a learning-based approach to improving quality of care that the private sector would need to embrace of their accord.

THEME 5: Prevent, diagnose and treat infectious disease and poor nutrition in pregnant women

For many of the infections and nutritional deficiencies during pregnancy, evidence-based prevention and treatment interventions, such as condoms to prevent STIs, ITNs and IPTp for preventing malaria, iron folate supplementation to prevent iron-deficiency anemia, and antiretroviral therapy (ART) for women living with HIV, are part of national policies and programs. However, the acceptability, use of, and adherence to many of these interventions need to be improved. USAID's strategies thus include:

- Strengthen the provision of quality integrated ANC for prevention, screening, diagnosis and treatment for HIV, TB, malaria, helminthic infestation, other infections (e.g. UTI, STIs), other non-communicable diseases, and for improving nutritional status (includes both over weight and under nutrition) of every pregnant woman.
- Improve acceptability, adherence to, and quality of evidence-based prevention and treatment interventions for infectious diseases and nutritional deficiencies for pregnant, postpartum and breastfeeding women such as ART for women living with HIV, IPTp for areas with endemic malaria, and iron folic acid.

Supporting evidence:

Addressing Infectious Diseases

The main causes of maternal death vary across countries and regions, and may differ at subnational levels. For example, in Antioquia, Colombia, one in five maternal deaths was linked with H1N1 influenza/pneumonia (Velasquez et al, 2011). In sub-Saharan African countries, indirect causes, especially HIV and AIDS, tuberculosis (TB), malaria, and opportunistic infections, contribute to a large and growing proportion of maternal deaths where these infections are prevalent. Infectious diseases, including maternal infections like sexually transmitted diseases (STIs) and urinary tract infections (UTIs),

also have serious consequences for fetal health and lead to poor outcomes including prematurity, small for gestational age, infections, stillbirth and early neonatal death (Chan et al, 2013).

South Africa’s confidential inquiry and maternal death reviews showed that infections were the primary cause of maternal deaths, specifically HIV and AIDS and TB in 2008-10 (Figure 19) (NCCEMD, 2009). Most of these deaths occurred in the antepartum and postpartum period, unlike direct obstetric causes of death, which occur during the intrapartum and immediate postpartum period. Similar patterns of the timing of death (postpartum vs. intrapartum) emerged in Western Kenya where the major causes included malaria, anemia and HIV and AIDS (Desai et al, 2013). Other sub-Saharan African countries, especially in East and Southern Africa, are likely seeing similar patterns among pregnancy-related deaths because of the burden of HIV, malaria and TB, but most countries lack data on national and sub-national causes of death for pregnant women.

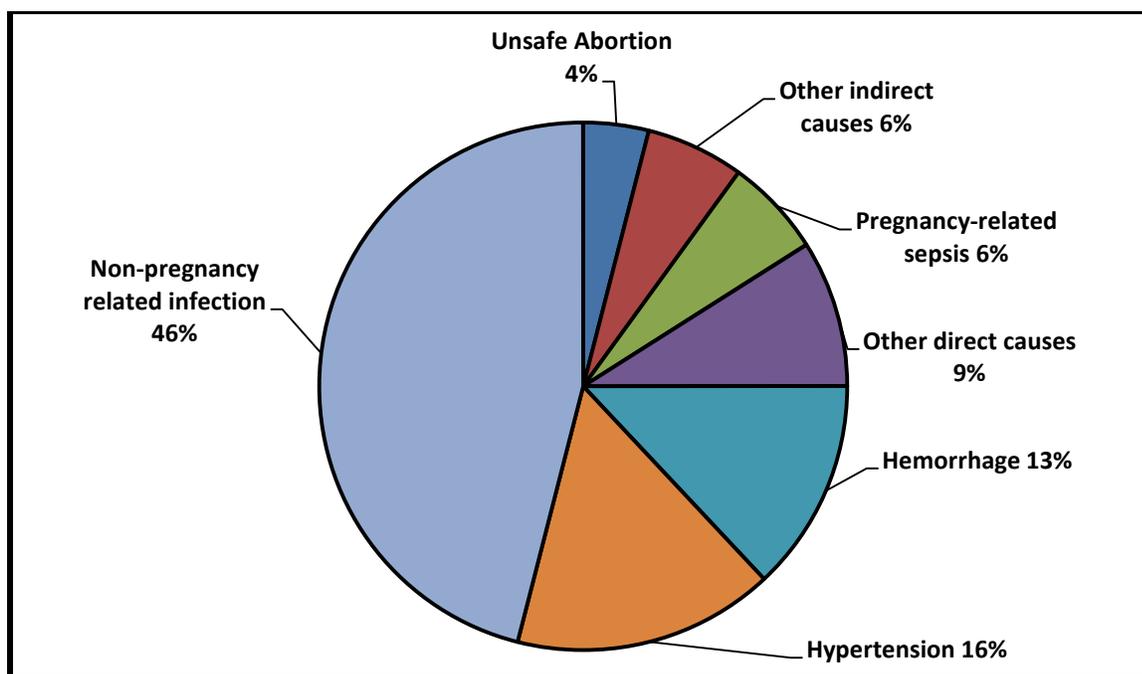


Figure 19: Primary causes of maternal death, South Africa, 2005-2007 (NCCEMD, 2009)

New data raises specific concerns about the impact that HIV and AIDS have on pregnancy outcomes. Generally, as the prevalence of HIV and AIDS increases, maternal mortality also increases (Blanc et al, 2013). These analyses predict that between 12-24% of all deaths during pregnancy and up to one year postpartum are attributable to HIV and AIDS in sub-Saharan Africa, depending on HIV prevalence (Blanc A et al, 2013). Two estimates from a systematic review of available literature and from pooled data from demographic surveillance sites in East and Southern Africa indicate that pregnant women with HIV/AIDS have an eightfold chance of dying when compared to uninfected pregnant women (Calvert & Ronsmans, 2013; Zaba et al, 2013).

HIV and AIDS during pregnancy increases the risk of death not only for the woman but also for her baby, through intrauterine transmission and dual immune suppression and disease/condition interactions that are not completely understood. Women living with HIV are more likely to have low birth weight and preterm babies, and stillbirths (Lassi et al. 2013, Temmerman et al 1990, Martin et al 1997, Markson et al 1996,

Hankins et al 1998). Infants and children who acquire HIV during the perinatal period can develop AIDS and, without ART, are more likely to develop other serious complications (Chen et al 2012; Lassi et al, 2013). Antiretroviral therapy (ART), as one part of a larger PMTCT strategy, is effective in improving the health of the pregnant woman, fetal health and neonatal outcomes, health of future pregnancies, and in preventing transmission to her partner. However as countries elect to implement lifelong ART for HIV infected pregnant women, or Option B+, new concerns are raised about limitations in many health systems to provide both high quality skilled obstetric care and support retention, adherence and transition to chronic HIV care for women living with HIV following the maternity period. The success of integrated HIV and maternal health services are dependent on appropriate and adequate infrastructure, skilled human resources, improved patient flow, respectful attitudes of providers, and sufficient medicines and commodities. The same considerations about retention are also true for post-partum women with TB and chronic diseases or infants living with HIV requiring on-going pediatric care and treatment that require continuous services beyond the maternity period.

In symptomatic HIV-infected women, HIV and AIDS increase the risk of maternal death primarily through infections (e.g., bronchopneumonia, *Pneumocystis carinii* pneumonia, meningitis, tuberculosis and malaria) (Moodley et al, 2010). HIV-infected pregnant women are also reported at greater risk of some obstetric complication (puerperal sepsis, antepartum hemorrhage, uterine rupture, prolonged labor and complications of abortion) than their uninfected counterparts (Calvert & Ronsmans, 2013).

STIs are associated with adverse fetal and newborn outcomes including early spontaneous abortion, preterm birth, stillbirth, congenital anomalies and infant death. Screening, diagnosis and treatment of STIs as early as possible in the antenatal period leads to a decrease in prevalence and incidence, safer sexual behaviors, and improved neonatal outcomes (Lassi et al, 2013).

Increased maternal mortality is also reported in sites where malaria is endemic with significant maternal mortality increases during the rainy season when transmission is high (Anyia 2004; Etard et al, 2003; Menendez et al, 2008). Such reports go contrary to the standard thinking that severe malaria is a cause of death only in countries of non-stable transmission. Fetal and early newborn health is also severely impacted by malaria in pregnancy including low birth weight and prematurity through maternal anemia or placental parasitemia (Menendez 2010). Early newborn health is also severely impacted by malaria in pregnancy including low birth weight, prematurity, stillbirth and early infant death (Menendez 2010, Menendez 2000, Falade 2010, Ngassu 2000, Guyatt and Snow 2004). Intermittent preventive treatment of malaria in pregnant women (IPTp) is an effective intervention to prevent poor maternal and fetal outcomes related to malaria infection and is being widely promoted in malaria endemic countries. However in many malaria endemic countries, coverage of IPTp through ANC is low, especially for the second and later doses (Hill et al, 2013).

Although there are significant gaps in our understanding of the implications of TB and TB/HIV co-infection during pregnancy, research in high burden settings for both diseases have established an association between both illnesses and poor maternal health and birth outcomes. Tuberculosis is increasingly recognized as a contributor to maternal death, particularly where a TB/HIV co-infection is high. Pregnant women living with HIV have more than a 10 fold greater risk of developing TB than women who are not HIV positive (Pillay et al 2002). TB/HIV co-infection during pregnancy is associated with low birth weight, IUGR, fetal death and TB disease in the mother and infant (Marais et al, 2010).

And pregnant women living with HIV are more likely to transmit HIV to their infant if they are diagnosed with TB disease (Gupta et al, 2011). Lastly, while there is little evidence on the burden of TB among pregnant women, a recent study on integration of TB screening diagnosis in PMTCT settings found that one-third of HIV positive pregnant women had suspected TB and prevalence of TB disease among HIV positive women was estimated at 210 per 100,000 (Uwimana & Jackson, 2013).

Promoting Appropriate Nutrition

Maternal under-nutrition and overweight/obesity remain insufficiently recognized as contributors to poor birth outcomes, including maternal mortality, as well as being significant morbidities in their own right. In both Africa and Asia under nutrition is higher than 10% with overweight and obesity rising in both areas, reaching 40% in Africa in 2008 (See appendix for definitions of under nutrition) (Black et al, 2013). While the former has been associated with an increased risk of difficult labor and the need for cesarean section, overweight and obesity have been associated with gestational diabetes mellitus, obstructed labor, neonatal deaths and other poor outcomes (Black et al, 2013).

Pregnancy should start in well-nourished women, with “well-nourished” signaled by appropriate weight (BMI 18.5 - 24.9) plus the absence of micronutrient inadequacies and deficiencies. This requires a diverse and appropriate diet along the life course. For example, adequate folate and vitamin B12 before pregnancy reduces neural tube defects (NTDs) in the baby (Copp et al 2013). NTD prevalence above 10/10,000 is indicative of these deficiencies, and contributes to stillbirths and permanent disabilities in the children who survive. Vitamin A and vitamin D deficiencies may lead to poor immunity, and vitamin D deficiency to impaired bone/calcium metabolism, which is associated with preeclampsia (Stephenson 2001; Thorne-Lyman and Fawzi 2012; Tabesh et al 2013; Wei et al 2013; Bezerra et al 2012). Iodine deficiency also causes miscarriage and stillbirths (Hetzl and Mano 1989).

Maternal anemia (<11g/dl Hb in pregnant women) is an indirect cause of maternal mortality, and a cause of fetal growth restriction contributing to low birth weight; it is caused by dietary iron inadequacy and low bio-availability, other micronutrient deficiencies (vitamin A, vitamin B12, folate), malaria, helminthic infestation, and both infection and treatment for HIV and AIDS (Khan et al, 2006; Stevens et al, 2013). It remains prevalent in many priority countries, in both sub-Saharan Africa and Asia, with nine priority countries reporting levels of anemia of 50% or more in pregnant women (Figure 20).

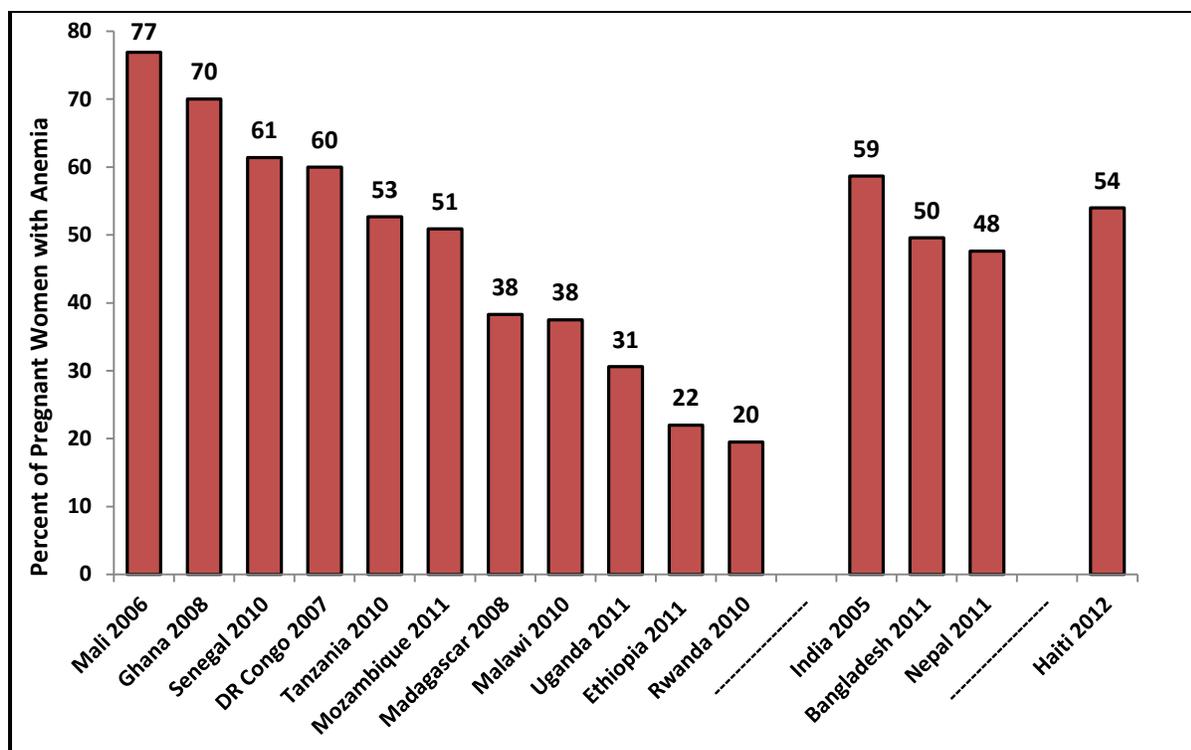


Figure 20: Prevalence of anemia in pregnant women in MCH priority countries

*Note: No data available for Afghanistan, Indonesia, Kenya, Liberia, Nigeria, Pakistan, South Sudan, Yemen, or Zambia (STATCompiler, 2012f)

Use of iron folate (IFA) supplements to address iron deficiency anemia (IDA) has improved in many USAID priority countries, including Nepal, Ghana, Mali, Malawi, Mozambique, Rwanda, Senegal, Uganda, Zambia and Haiti (STATCompiler, 2012g). Even so, promotion of use of IFA for at least 90 days (and preferably 180 days per WHO recommendations) in pregnancy needs to continue to remain on the agenda to make further improvements. Multiple micronutrient supplements have the potential to replace IFA, having shown a similar effect on maternal anemia plus reductions in preterm births, low birth weight and small for gestation age babies (Bhutta, 2013). In countries with low baseline of calcium intake, calcium supplementation has been shown to reduce gestational hypertension and pre-eclampsia along with preterm birth and increase birth weight (Imdad and Bhutta, 2012). In addition, balanced energy protein supplementation, where around 25% of the total energy supplementation is protein, is an important intervention in malnourished women for improved perinatal outcomes, reducing small for gestational age by 32% and the risk of stillbirth by 45% (Bhutta, 2013).

Although the evidence is more difficult to obtain, dietary diversity and adequate protein play a role in maternal outcomes. Iodine sources, including salt or other fortified vehicle, are also vital as iodine deficiency can lead to spontaneous abortion and poor fetal outcomes. Treatment of malaria, deworming, obesity prevention and increasing pregnancy intervals are all important contributions for improving the nutritional status of childbearing women and their babies.

Integration of maternal health services with newborn and child health, family planning, infectious diseases, nutrition and water, hygiene and sanitation will be a priority to promote cost-effectiveness and client friendly services.

THEME 6. Increase focus on averting and addressing maternal morbidity and disability

Among the 190 million women who are pregnant globally each year (Figure 10), 287,000 women die due to complications in pregnancy, childbirth, or postpartum (WHO 2012a). About 122 million pregnancies result in a live birth. Among those that do not result in a live birth, there are:

- an estimated 26 million miscarriages (Singh et al, 2013),
- 39 million abortions including safe (43%) and unsafe abortion (57%) (Singh et al, 2013), and
- 2.6 million stillbirths, of which one million occur in the hours or minutes before childbirth and another 1.5 million during the antepartum period. Women in low-income countries are more likely to suffer stillbirths than women in high-income countries (Lawn et al, 2012).

Among the 122 million babies born alive, there are also:

- 15 million born prematurely, and
- 3 million newborn deaths (Lawn et al, 2012), and

Among the 122 million women who have a live birth,

- 10% of women suffer serious maternal complications and many more suffer less serious morbidities (Huda et al, 2012) and
- an estimated 50,000 to 100,000 women develop fistula yearly. More than 2 million women live with the condition (UNFPA, 2003)

These morbidities have consequences for the well-being of the woman and health and survival of her children (Figure 10), cost of care to the family, ability of the woman to contribute productively to her family and community, and may lead to violence and family disruption. They also contribute to the cost to the health care system more generally.

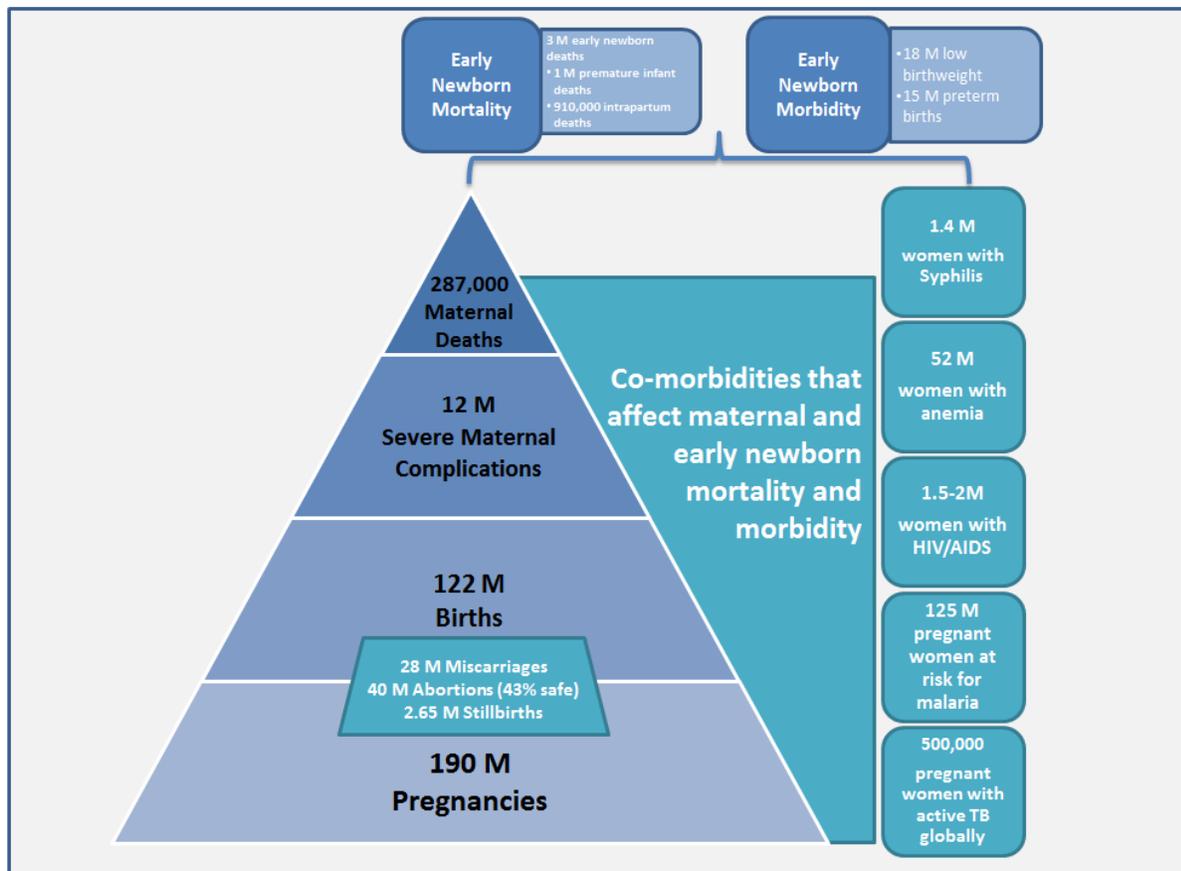


Figure 10: Annual Maternal and Newborn Mortality and Morbidity, 2008-2010
 (March of Dimes et al, 2012; Dellicour et al, 2010; Lawn et al, 2005)

While USAID's overall maternal health program will continue to focus primarily on mortality reduction, USAID will advance programs that prevent and treat maternal complications, other morbidities and disabilities, specifically fistula and anemia, and improve fetal health.

For those women who do not die, there can be long-term morbidities and disabilities resulting from these complications or labor/delivery and its management. USAID's strategies to avert and address maternal morbidities and disability include:

- Develop, test and implement interventions/strategies for selected prominent and disabling maternal morbidities, such as fistula, prolapse, anemia and postpartum depression, with special attention to identification and management in the postpartum period.
- Build capacity to manage and sustain programs to address selected maternal morbidities and disability.
- Advocate for global and national attention and programs to address maternal morbidities and disabilities, e.g., fistula.

Supporting evidence:

Obstetric complications -- some of which may be a life-threatening "maternal near-miss" -- include maternal

hemorrhage, puerperal sepsis, hypertensive disorders of pregnancy, obstructed labor, unsafe abortion and others, result in more than 16 million years lived with pregnancy-related disability (Murray et al, 2012). Long-term morbidities and disabilities resulting from pregnancy or management at delivery include fistula, uterine prolapse, incontinence, anemia, and hypertension. Postpartum depression, which may be severe or even life threatening, may present in the postpartum period. In addition, after many pregnancies, malnutrition or “maternal deprivation syndrome” may ensue. (See Box 2 for definitions of maternal morbidities.)

Box 2: What are maternal morbidities and disability? (Koblinsky 2012)

Maternal morbidities vary in terms of severity, timing as related to birth, and duration. They may be one of the four major maternal complications (e.g., postpartum hemorrhage, pre-eclampsia/eclampsia, puerperal sepsis or post abortion sepsis), result from these complications (e.g., anemia), or be incidental or concurrent—and not related to the maternal complications (e.g., diabetes, cardiac disease). They may be aggravated by pregnancy, the obstetric complications, or birthing, such as anemia; they can also result post-delivery, such as postpartum depression, or after many pregnancies (e.g., “maternal deprivation syndrome”, malnutrition). Some morbidities may have a ‘two way effect’ (they are affected by pregnancy and labor and they affect pregnancy and labor). They can include medical diseases (e.g., essential hypertension, cardiac disease, sickle cell, thromboembolic disease), metabolic diseases (e.g., diabetes, thyroid disease), infections and infestations such as HIV and AIDS, urinary tract infections (UTIs), parasites; or result in a childbirth injury leading to fistula (often termed a disability), genital or uterine prolapse, perineal tears, hemorrhoids, stress urinary incontinence; or a psychological problem (e.g. postpartum depression). They range from a “maternal near miss” – defined by the World Health Organization (WHO) as the near death of a woman who has survived a complication occurring during pregnancy or childbirth or within 42 days of the termination of pregnancy – to a non-life-threatening morbidity. A WHO Maternal Morbidity Working Group recently defined maternal morbidity as “any health condition attributed to and/or aggravated by pregnancy and childbirth that has a negative impact on the woman’s wellbeing.”

Consequences of maternal morbidity, as well as poor birth outcomes for the perinate, go beyond biomedical conditions and may include emotional, physical and sexual violence, economic consequences for the family and cost to the health care system (Stanton & Brandes 2012).

By and large, recent measures or accurate estimates of the burden of individual morbidities and disabilities at the national or global level are unavailable or insufficient; determining incidence and prevalence remains elusive. For fistula, Demographic and Health Surveys in the last 5 years in 8 countries in sub-Saharan Africa gives a range of prevalence from 0.1% to 2.0% of fistula among women of childbearing age, but most other morbidities go unmeasured.

While USAID maternal health programs have long contributed to prevention and management of maternal morbidities as a consequence of addressing maternal mortality, USAID will continue to give special attention to prevention and surgical repair of obstetric fistula, a serious injury that occurs from prolonged and obstructed childbirth. Fistula is highly correlated with poverty and limited access to skilled medical care for cesarean section during delivery and results in permanent incontinence of urine or feces.

THEME 7. Advance choice and respectful maternity care and improve working conditions for providers

There is growing evidence on disrespect and abuse of women giving birth – a deterrent to using life-saving health services and a violation of women's basic rights. Until recently, a “veil of silence” has obscured widespread humiliation and abuse of women in facilities during childbirth, a time of intense vulnerability for women. In many settings, for example, disrespect of women in childbirth has been normalized and accepted by women themselves. Recently there is increasing awareness that positive provider attitudes are a significant component of quality of care.

USAID’s strategies to address the disrespect and abuse of women include:

- Implement and document the effect of various methods, including legal, regulatory, training, incentives, professional codes of ethics, and others, to promote compassionate and respectful treatment of childbearing women.
- With women, communities, professional associations, media, NGOs, governments, UN Agencies and other stakeholders, advocate at global, national and local levels to recognize, address, and hold providers responsible for disrespectful behaviors and unsatisfactory conditions for women giving birth and providing care.
- Promote policies to support women’s choices of care.

Supporting evidence:

Abuse of women in childbirth throughout the world has been documented in the landscape report, *Exploring Evidence for Disrespect and Abuse in Facility-based Childbirth* (Bowser & Hill, 2010). Violations include physical and verbal abuse, humiliation, non-consented and non-confidential care, discrimination, abandonment of care, and detention of the mother and newborn in facilities (Bowser & Hill, 2010). A Tanzania study found that respectful, attentive providers, along with reliable access to drugs and equipment, have the largest influence on a woman’s decision to give birth in a facility (Kruk et al, 2009). Furthermore, these influences were found to be more important in patient preferences in this setting than provision of transport and reducing costs. Drawing from numerous human rights declarations and covenants, the Universal Rights of Childbearing Women addresses rights in maternity care and needs to be fully implemented (Jolivet, 2011).

Freedom to choose or reject individual procedures during maternity care is also a human right, yet women frequently encounter pressure for services perceived as important for various societal reasons. Pressures may vary from subtle encouragement to overt insistence to use family planning services or a particular method, or to accept a medical or surgical intervention such as induction of labor or a Cesarean section (Declercq, 2009). Beyond choice to opt out of a service or an intervention, *choice* also includes opportunity to obtain a desired available medical procedure/intervention, such as pain relief medication for post-abortion care or repair of lacerations incurred during childbirth. Informed choice requires information on the benefits and risks of use of a service, procedure or medication and should be extended to preferences for privacy, companions, position at the time of birth, and incorporation of non-harmful or neutral cultural practices. Implementation of a proactive approach to women's choice must be carefully balanced with available resources, best evidence available, and ethical standards of professional providers who will not be required to offer services that are unavailable, inaccessible or unsafe.

A potentially contributing factor to disrespectful and abusive care is that many skilled birth attendants, especially female providers, work in extremely difficult, stressful, isolated, and unsafe environments. They may have unrealistic expectations and limited appreciation and support from supervisors or from women and families they serve. Some working on 24 hour shifts without security are vulnerable to physical and sexual abuse. The workload is often heavy and devalued/undervalued. Salaries may be low and benefits few. Women's visibility in male-dominated workplaces can leave them vulnerable to a high degree of harassment (Mumtaz & Levay, 2012). Families expect healthy birth outcomes and if something goes wrong, midwives as well as other providers may be held responsible and accused or attacked by family members. Skilled birth providers feel vulnerable to workplace risk, including fear of infection with HIV. Female providers in particular may experience "moral distress" – leading to disengagement and "burn out" resulting in compromised ability to practice in accordance with accepted professional values and standards (Personal Communication, L. Sibley, 2013).

The lack of empowerment, dignity, safety and security for providers is driven by complex and deep-rooted attitudes derived from gender, class, caste, race and cultural values. These problems undermine the resilience of skilled birth providers and negatively impact their capacity to provide quality care and to participate in policy and direction of health services. Evidence of application of approaches to ameliorate disrespectful behaviors and poor working conditions, including their feasibility, cost and effectiveness, is limited, and development of evidence-based programming in this emerging area is needed. Furthermore, standards and codes of ethics are limited, as are measures of accountability to enforce standards and codes, to bolster responsiveness of the health system. At the least, interventions can promote advocacy with skilled birth providers, media, government, health care consumers and policy makers for policies and budgets to improve working conditions, remuneration and benefits, respect, and appreciation for health providers of family planning and maternity care.

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Strengthened health systems and continuous learning

THEME 8. Strengthen and support health systems for improved maternal and fetal health

Beginning in 1987, the Safe Motherhood Initiative determined that maternal health care was necessarily a health systems initiative, working within existing service structures while focused on specific outcomes. Improving maternal health outcomes has thus meant increasing inputs that support maternal care specifically, while strengthening system efforts aimed at improving overall system performance through policies and regulations, among others (Chee et al, 2012).

Given this intertwined relationship with the larger health system, maternal health initiatives must be responsive to the continuously shifting health systems' environment, such as the rapidly growing private health sector and the political imperatives of achieving universal health coverage. At the same time, it must focus on factors more directly affecting maternal health outcomes to be responsive to the needs of every woman and newborn from antenatal through the postpartum period, especially of the most vulnerable.

Yet the health systems in the 24 USAID MCH priority countries, while varying by degree, are challenged most obviously by weak implementation capacity (e.g., lack of skilled health providers for normal and emergency deliveries, poor quality commodities and stock outs, poor coordination with emergency obstetric care) as well as poor overall systems capacity, including a lack of leadership and management skills, inadequate financing and budgetary allocations, lack of water, sanitation and hygiene, poor or disjointed information systems, and lack of use of data for improved policy formulation and implementation. Sustainability will depend largely on improving the systems gaps, such as ensuring appropriate budgetary allocations.

Changes external to the public health system, such as increasing decentralization, privatization, and financing initiatives, can accentuate or mediate these already existing system challenges to improved maternal and fetal care. For example, much of the increase in use of maternal health services in Asia and in some urban centers in Africa has been in the private sector over the last decade (Figure 21). Specialists in particular divide their time between public and private facilities. This changing dynamic requires partnerships to harness the potential of the private sector, and to set standards to promote, coordinate and monitor quality care. It requires work plans that build on this dynamic environment, taking recruitment, deployment, retention and motivational factors into consideration. Effective regulatory structures are also needed, to promote collaborations between the state and other partners such as professional providers, private hospital conglomerates, and citizens groups. These governance issues go beyond the public health system and are at issue in a number of priority countries (Brinkerhoff & Bossert, 2013).

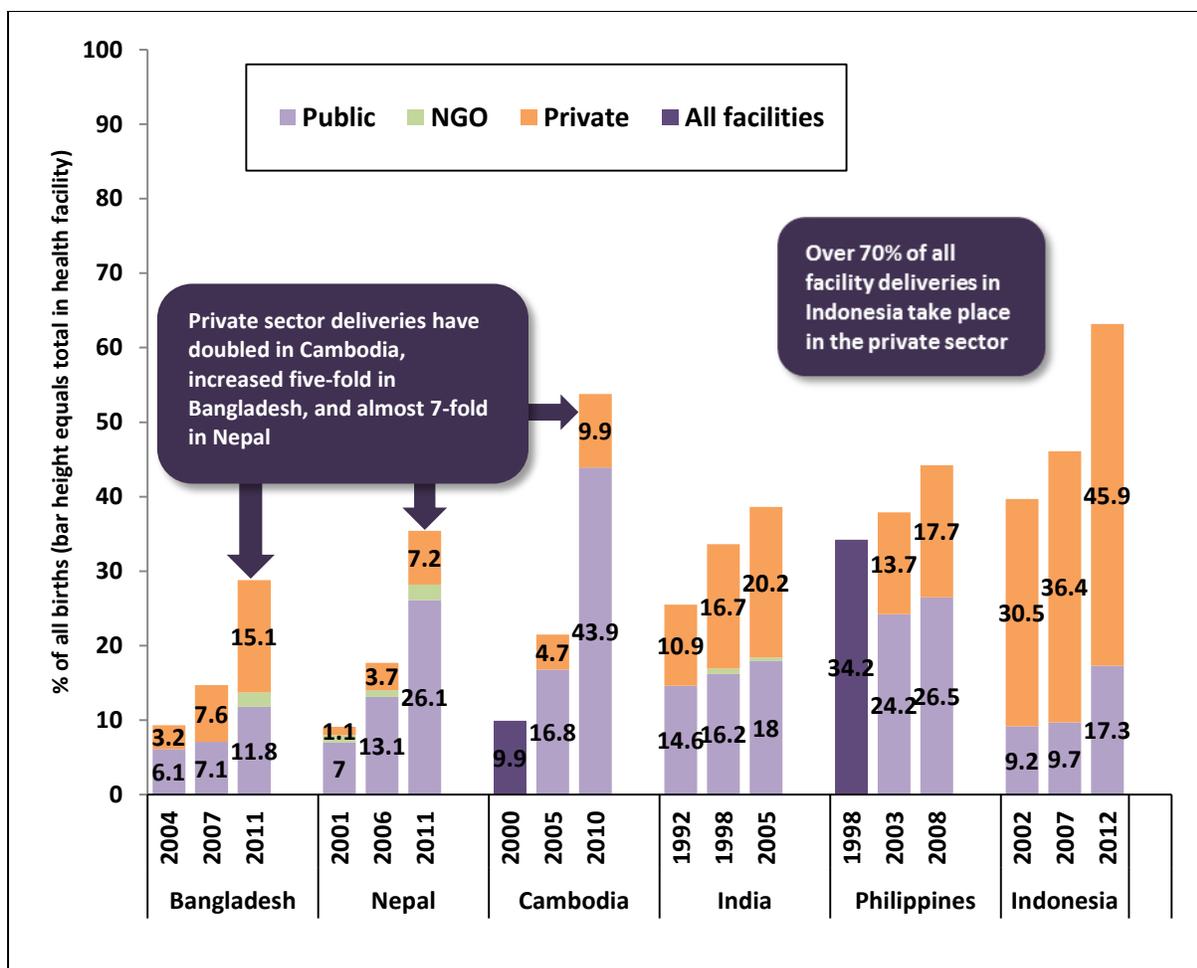


Figure 21: Total facility births in Asian countries by facility type in three most recent DHS surveys (Measure DHS, 2013).

Within the complex environment of service systems, USAID aims to improve maternal and fetal health with specific focus on poor implementation capacity (e.g., training providers and workforce planning, commodities, referral coordination and care) while working with others to strengthen the overall service system (e.g., financing capacity, lack of water and sanitation). Useful health services data systems and accountability, necessary elements of a strengthened health system and good governance, are covered in Theme 9.

USAID's strategies to support and strengthen health systems for improved maternal and fetal health care in the future include:

- Build the skills for competent health providers and promote policies, budgets and regulations to address the needed skill mix and level of skills, appropriate deployment, retention and motivational efforts, including task shifting.
- Strengthen supply chain systems, ensure availability and quality of the necessary commodities, and the availability and maintenance of necessary equipment
- Foster quality of care through regulatory mechanisms with both private and public sector providers e.g. licensing/relicensing, accreditation of educational programs and through process improvement efforts (as described in Theme 4)

- Improve referral capability and coordination at all levels to respond to emergencies in a timely fashion with quality care.

Supporting evidence:

Human resources: Workforce planning is much needed. Persistent low density of skilled health providers for maternity care is an issue in most priority countries. The State of the World’s Midwifery Report 2011 estimated that only three of the 21 countries for which there were data had adequate midwifery providers (6 or more midwives/1000 births), nine need to double their midwifery work force, and six need to at least triple their workforce (Figure 22) (ten Hoope-Bender, 2011). Such calculations for the obstetricians and other specialists to manage obstetric complications are not available but much needed.

Reasons for the midwifery shortage include difficult working conditions, relatively poor pay, difficult and even unsafe living conditions, migration out, lack of education and training opportunities, and chronic under-investment in human resources. Addressing this midwifery shortage has been a major focus of USAID, and will continue to be.

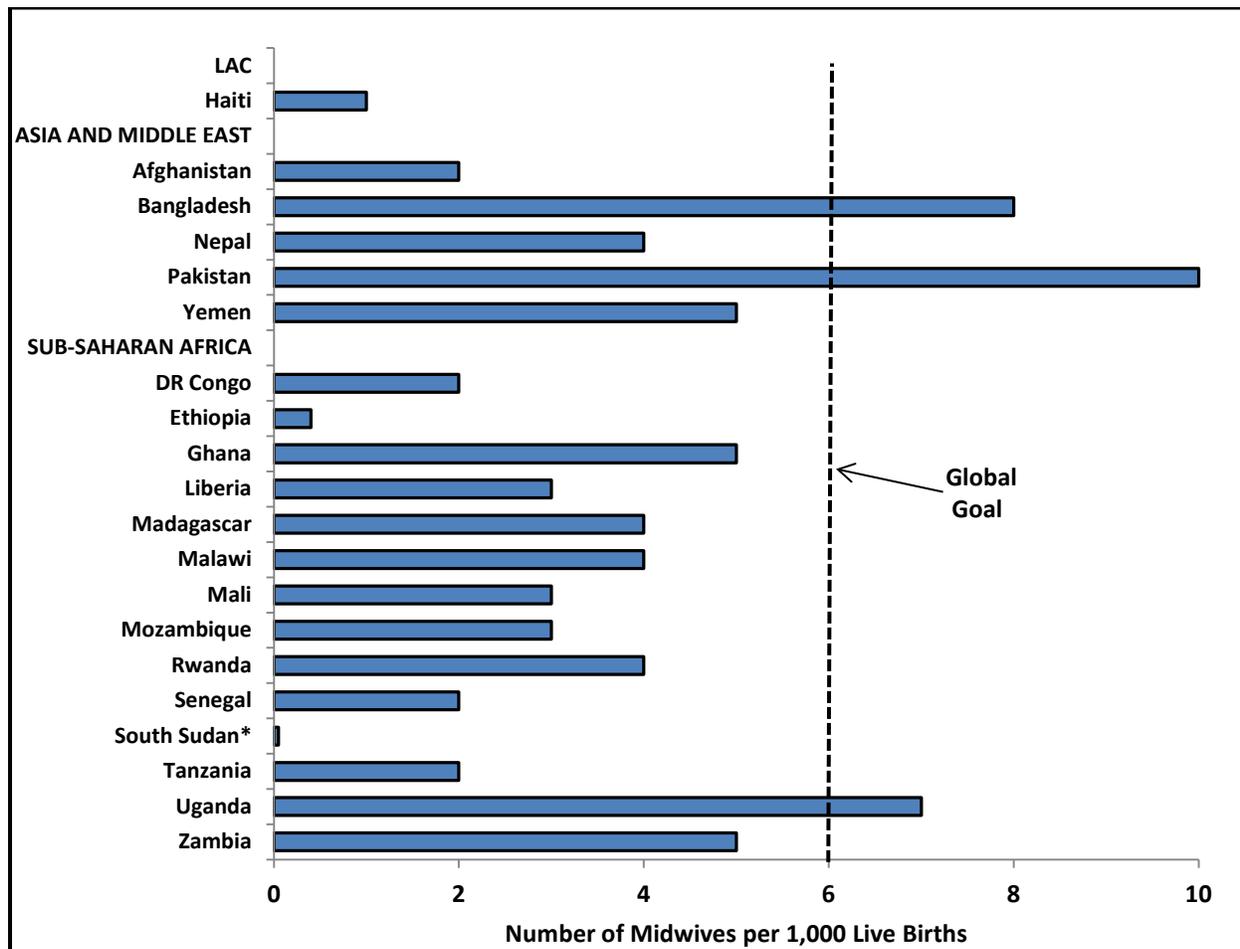


Figure 22: Number of midwives per 1,000 live births in MCH priority countries

Note: No data available for Indonesia, Kenya, and Nigeria. There were 152 registered or community/certified midwives in South Sudan in 2009-10. Rate of 0.4 calculated using U.S. Census Bureau 2009 estimate for number of live births in South Sudan.

(ten Hoop-Bender, 2011; Michael & Garnett, 2011; US Census Bureau, 2009)

In addition to low coverage, basic skills of midwives and medical officers are insufficient both technically/clinically and for ensuring respectful and dignified care. Pre-service, in-service education through more cost-efficient approaches is needed and continuing competency needs to be maintained and assured.

Commodities: Recent attention to MCH commodities by the UN Commission on Life Saving Commodities for Women and Children (UNCoLSC) aims to ensure that essential, quality MCH commodities reach the women, newborns and children who need them. Yet a study in Ghana found over 90% of oxytocin and ergometrine samples necessary for prevention of postpartum hemorrhage had insufficient amounts of the active ingredient or sterility. Almost all injectable oxytocin and ergometrine were not stored as per the recommended refrigerated conditions, and only 3 of 26 products were officially registered with the Ghana Food and Drugs Authority (Karikari-Boateng, 2013).

Though a wide range of commodities (medicines and equipment) are necessary to improve maternal and fetal health and reduce mortality, initial focus will be on three overlooked commodities identified by UNCoLSC: oxytocin and misoprostol for prevention and treatment of postpartum hemorrhage and magnesium sulfate for treating pre-eclampsia and eclampsia and antenatal corticosteroids for premature labor (UN, 2010). Over time, antihypertensive, and antibiotics for sepsis will also be included in this strategy as well as other commodities/medications required for focus interventions.

USAID has been a world leader in supply chain logistics and management and a primary procurement agency for contraceptives for more than 20 years, and more recently, for malaria and HIV/AIDS medicines. As a partner of UNCoLSC, USAID is now supporting efforts to strengthen the policies and systems that get the MCH essential commodities (oxytocin, misoprostol, magnesium sulfate, antenatal corticosteroids) to the women who need them. USAID will focus on supply chain and quality issues with attention to regulatory and manufacturing issues, as needed. In certain instances, drugs for maternity care will be procured, if necessary, with an agreed upon plan for financial sustainability.

Referral system: Reducing maternal deaths, stillbirths, and newborn deaths, often requires referral of the pregnant woman to emergency obstetric services quickly when the need arises. Yet referral is multi-faceted and contextually specific: it requires interventions to reduce the delay between recognition of the problem, decision making and the appropriate facility; coordination to move women between facilities; readiness of the facility to respond; and quality emergency care. Improvements in the referral system and the study thereof are in their infancy. Studies of community efforts to raise funds for transport, provide ambulance services or ensure maternity waiting homes have shown some promise in moving women to the appropriate facility once the decision is made to move, and in reducing neonatal deaths and stillbirths (maternal deaths were too small in number to determine if reduced) (Hussein et al, 2012). Coordination between families and facilities, and between levels of providers or sectors, is however not typically well organized, and even less so when the levels of facilities report to different line ministries or different sectors. Once at a facility, barriers hindered timely appropriate emergency care, the most commonly cited being inadequate training/skills mix (86%); drug procurement/logistics problems (65%); staff shortages (60%); lack of equipment (51%) and low staff motivation (44%) (Knight et al, 2013). Ensuring all the parts are in place to provide timely quality emergency care remains a major challenge in reducing

maternal and fetal deaths. To address this gap, USAID will support programs to focus on coordination starting at community level and between facilities, using appropriate communications technology where feasible, to ensure initiation of treatment (i.e., provision of the first dose of critical drugs) during the referral process and provision of quality emergency care on a timely basis.

Improving water, sanitation and hygiene: Even in the presence of qualified medical care for maternal, fetal, and newborn health, lack of access to a safe water source, sanitation facilities and poor hygiene behaviors can lead to severe risk of infection and death for both mothers and babies. Puerperal sepsis, one of the top four causes of maternal death, may be caused when clean water and adequate sanitation are not available or not used during labor and childbirth. In Tanzania, for example, only 24% of the delivery rooms are WASH safe (i.e., have improved facility water, running water in the delivery room, soap for hand washing, and a functioning latrine for clients) (Benova et al 2013). (Figure 23)

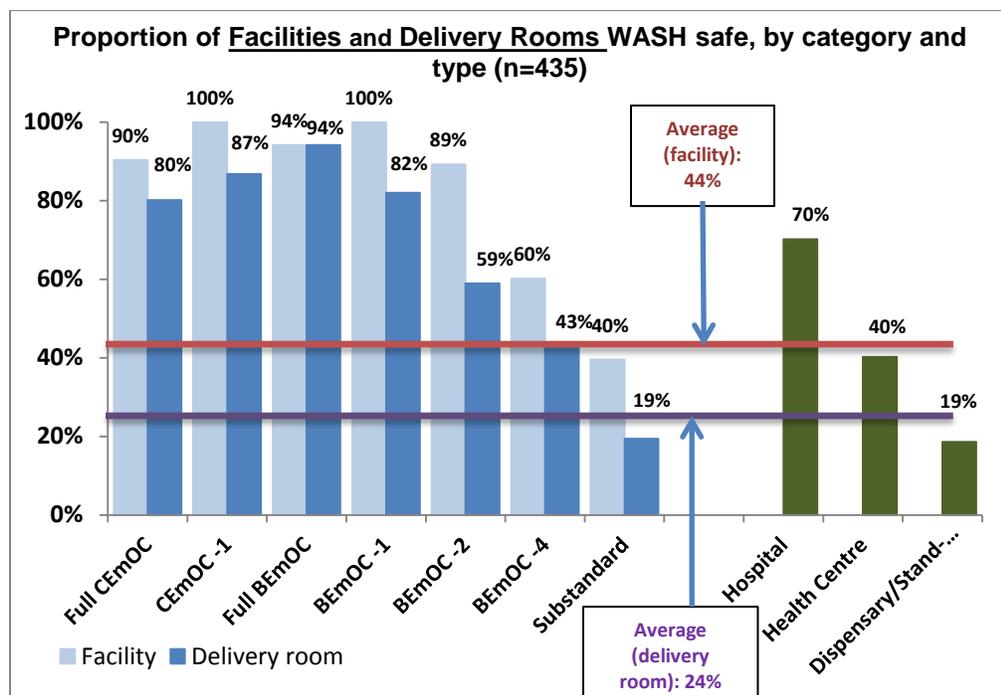


Figure 23: Proportion of delivery rooms that are WASH safe, by category and type
(Source: Benova et al., 2013)

A package of adequate safe water, sanitation, and improved hygiene behaviors should be considered an essential tool for ending preventable maternal deaths and improving maternal and fetal health.

THEME 9: Promote data for decision-making and accountability

To track progress toward global, national, and local goals and targets, there is need to strengthen availability and quality of data on maternal and fetal mortality and health to inform decision making and promote accountability. The Commission on Information and Accountability for Women’s and Children’s Health (COIA) has highlighted the need for improving data to more effectively track results at national and global levels through active engagement of global partners, national governments, communities and

civil society to allow for targeted monitoring, accountability, and action (COIA, 2013).

USAID's strategies to improve data for decision-making and accountability include:

- Develop, test and refine metrics for maternal and fetal health and care that assess service availability, quality of care, coverage of key interventions, and maternal morbidities.
- Develop, test and refine metrics that assess and track equity for maternal and fetal care.
- Support multiple data collection efforts to systematically monitor and evaluate maternal and fetal health processes and outcomes, including household surveys, facility assessments, census, routine health information systems, civil and vital registration, and other efforts.
- Strengthen efforts to enumerate all maternal (and fetal/neonatal) deaths at community and facility levels, including cause of death, so that the magnitude and characteristics of mortality can be understood and addressed.
- Improve use of data by decision makers, community members, civil society and professional organizations to improve the management and quality of programs and inform resource allocation.

There are a variety of internationally endorsed metrics to track maternal and fetal health processes and outcomes. The process measures focus on contact with the health system, such as provision and use of antenatal, delivery, and postpartum care, but do not capture the quality of care received or the coverage of evidence-based interventions for prevention or treatment of potentially life-threatening complications (such as active management of the third stage of labor, treatment for pre-eclampsia/eclampsia, or provision of antenatal corticosteroids for preterm labor).

Maternal mortality measurement is plagued by a variety of methodological challenges. Maternal death, although a relatively rare event in comparison with adult female or child mortality, is highly important because of its family, community and societal consequences. Routine health information systems and vital registration are often non-functional in lower- and middle-income settings. As a result, mortality data are most commonly collected via household surveys. Due to the infrequent nature of maternal deaths, household surveys require large sample sizes that can be expensive and produce mortality estimates with wide ranges of uncertainty. Census data can be used for national level mortality estimates, but there are limitations in terms of the analysis and the capacity for these analyses. For the majority of countries, estimates of maternal mortality are modeled for global and national tracking. Due to the small numbers of deaths, it is often not possible to disaggregate mortality estimates at sub-national levels or among different population groups.

In addition to limited data on process and outcomes, there are limited data on maternal cause of death. Typically, cause of death data are gathered from medical records and verbal autopsies. Both of these methods have limitations in terms of the type of information recorded, the completeness of information, and how cause of death is classified. In 2012, WHO released a new classification system for maternal deaths, and countries are in the process of incorporating this system into routine information systems (WHO, 2012c). Maternal and perinatal audits are an important tool to improve quality of care at facility levels. WHO is currently supporting Maternal Death Surveillance and Response (MDSR) to support the COIA recommendations and improve data and tracking of maternal mortality.

New technologies may help to improve both data collection and use. For example, mobile phones have been used to improve tracking of maternal and fetal health with some success (Labrique et al 2013). Data visualization, such as mapping, dashboards and scorecards, may support communities and civil society to use data to track progress and hold governments and global partners accountable.

USAID builds on its long history of supporting data collection, analysis and use for maternal and fetal health and family planning. The Demographic and Health Surveys have collected data on use of maternal health services (e.g., coverage estimates of antenatal care, skilled care at delivery, postpartum care, and some maternal health services such as tetanus vaccination and iron folate compliance), biological sampling for morbidities (e.g., anemia), maternal mortality, and cause of death information. The Service Provision Assessments (SPA) document availability and quality of services, including numbers of facilities and providers, trainings, and availability and functionality of essential equipment and supplies. USAID has also supported WHO and other partners in development of maternal mortality estimates that are widely used to track progress in maternal health. Further, USAID has supported improving civil and vital registration and health information systems through the Measure Evaluation projects.

In USAID’s 24 MCH priority countries, we will strive to attain the following targets by 2020 (See Table 1 below). In addition to tracking progress on these outcome indicators, USAID will support the monitoring and tracking of process indicators to assess coverage and quality of maternal and fetal interventions in key programs and countries. These indicators will include the availability of Emergency Obstetric and Neonatal Care (EmONC), readiness of facility to provide quality care such as having adequate staffing, 24/7 services, and essential medicines, coverage of uterotonics during the third stage of labor, use of the partograph for all births, and appropriate management of complications. In addition, we will support special studies in USAID-supported programs to measure Unmet Need³[1], near miss, and behavior change interventions to increase demand for and use of life-saving services. (See MNH Indicator Brief for more details).

Indicator	Baseline 2013	Target 2020
Antenatal Care, at least one visit (ANC x 1)	80%	90%
Antenatal Care, at least four visits (ANC x 4)	44%	65%
Use of skilled birth attendant (SBA)	51%	60%
Facility delivery	34%	60%
Facility delivery (rural)	25%	45%
Facility delivery in bottom two wealth quintiles	7%	20%
C-section (rural)	3.7%	5%
C-section women in bottom two wealth quintiles	0.87%	3.5%
PNC for women within 2 days of birth (regardless of birth location)	38.7%	55%

Table 1: Measuring progress in USAID’s 24 MCH priority countries: Coverage indicators and targets

³ Unmet need assesses the proportion of women with absolute maternal indicators or life-threatening complications and who receive major obstetric interventions needed to save her life

THEME 10: Promote research for policy and programs

USAID aims to improve maternal and fetal health and reduce mortality through research to advance improved knowledge and policies as well as uptake and ultimately scale up of high impact maternal health interventions and programs. To address gaps in knowledge and improve continuous decision-making for improved policies and programs USAID relies on identification and testing of new technologies and approaches and implementation research, monitoring and evaluation, as well as secondary data analysis. In collaboration with several partners, including the WHO, UNICEF, UNFPA, the Centers for Disease Control and Prevention (CDC), the National Institutes of Health (NIH), other bilateral agencies and private donors, along with academia, non-governmental and private sector organizations, USAID will focus on the following research areas:

- Build knowledge for improved policies, program design, and implementation of, for example, programmatic and individual factors affecting maternal and fetal health status, outcomes, and the consequences thereof.
- Support demand and utilization for quality services, especially by the most vulnerable, based on contextual needs and opportunities.
- Identify, test and implement innovative and neglected tools, technologies, and approaches to improve the quality of services toward more effective maternity care, integrated services, improved referral systems, and respectful treatment of individuals.
- Facilitate research utilization and uptake of high impact interventions at scale, including of antihypertensive medications and aspirin for hypertensive disorders of pregnancy, antibiotic therapy for puerperal sepsis, and documentation of their use through HMIS and other records.

Going Forward

The challenge to improve maternal and fetal health globally is great, but not insurmountable. Bringing the tools and experience of a development agency to bear, USAID will pursue a holistic strategy that seeks to support and protect women at critical junctures along the continuum of care and promote the health and survival of newborns and children. With increased focus on the ten outlined themes (Figure 1), USAID will support evidence-based strategies aimed at ending preventable maternal and fetal deaths and will link these with strategies to promote newborn and child survival. In each focus country, USAID will design and implement activities based on the country context -- including epidemiology, culture, strength of the health system, country plans, local as well as other evidence, and the roles of other development partners and stakeholders. Plans will vary widely and evolve depending upon where and with whom women give birth and the primary causes, direct and indirect, of maternal mortality. Activities will be designed to effect services and health and survival at a large scale or national level to achieve public health impact. Sharpening ongoing plans or designing new strategies will be undertaken based upon country and mission timelines and build on prior work under USAID's Global Health Initiative, Best Practices at Scale in the Home, Community and Facilities for Family Planning, MNCH, and Nutrition, and A Promise Renewed.

In addition, USAID in its country programs, as well as centrally, will support innovation and research in order to improve approaches that work in local contexts, develop new technologies or their applications that improve effectiveness and efficiencies, and improve understanding of the changing nature of the immediate, underlying and basic determinants of healthy pregnancy outcomes. Women and the families will be supported to give voice to their preferences and choices. Policy makers, managers and health care providers will be supported and appreciated for affordable, effective, life-saving decisions.

Programs will inevitably be influenced by available resources. USAID funding allocations are made annually by Congress and USAID anticipates continued support to maternal survival within the Global Health Initiative that has a stated focus on women, girls, and gender equality.

Beyond health funding, USAID as a development agency supports girls' education, women's empowerment and economic growth that have long term impact on women's desire and opportunity to stay healthy and use life-saving health services, including family planning and maternity care. Likewise, as an Agency that provides humanitarian assistance, vulnerable women are a major target group for assistance in times of conflict and natural disaster. USAID will continue to find points of intersection between these efforts and our health sector programs, leveraging broader efforts and creating linkages that will improve women's lives and help to improve maternal health outcomes. Annual funding allocations by country are carefully made with focus on 24 high burden countries where there is country leadership, USAID mission capability and the opportunity for partnerships to advance results.

We will work even more closely with governments whose own funding for health is increasing as they are realizing the benefits of accelerated economic growth, including recent unprecedented economic growth in Sub-Saharan Africa. Furthermore, we will seek to collaborate more efficiently with other units of the US government and to find new private partners to invest in assisting countries to ramp up health services for women.

Before us, we have an unprecedented opportunity to improve maternal and fetal health. Capitalizing on the known effective technical approaches and interventions, USAID and partners together will strive to achieve the goal to end preventable maternal deaths by 2035. To accelerate progress within the next 7 years, the focus will remain on reducing deaths within a rapidly changing systems environment, with an increasing focus on improving health of both the mother and the fetus.

"Women are not dying of disease we cannot treat...they are dying because societies have yet to make the decision that their lives are worth saving."

....Mahmoud Fathalla

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Annex 1: Glossary of Terms

Active Management of the Third Stage of Labor (AMTSL): AMTSL is a recommended practice to prevent postpartum hemorrhage. AMTSL involves three basic procedures: the use of an uterotonic agent (preferably oxytocin) immediately following the delivery of the baby, delivery of the placenta with controlled cord traction, and massage of the uterine fundus after delivery of the placenta. (Prevention of Postpartum Hemorrhage Initiative, WHO Recommendations for AMTSL 2012)

Anemia, Maternal: Maternal anemia is characterized by <11g/dl Hb in pregnant women, or higher values depending on the altitude. Low hemoglobin concentrations in pregnancy may be associated with increased risk of maternal and perinatal mortality and low size or weight at birth. It is caused by dietary iron inadequacy and low bio-availability, folate, vitamin B12 and vitamin A deficiencies, parasitic infections, and both infection and treatment for HIV AND AIDS (Khan et al, 2006; Stevens et al, 2013).

Antenatal Care: Antenatal care includes recording medical history, assessment of individual needs, advice and guidance on pregnancy and delivery, screening tests, education on self-care during pregnancy, identification of conditions detrimental to health during pregnancy, first-line management and referral if necessary. (WHO Health Statistics and Health Information Systems)

Anti-retroviral Therapy: Standard antiretroviral therapy (ART) consists of the combination of at least three antiretroviral (ARV) drugs to maximally suppress the HIV virus and stop the progression of HIV disease. (WHO, <http://www.who.int/hiv/topics/treatment/en/index.html>)

A Promise Renewed (APR): A global initiative calling for partners to work together with renewed determination to accelerate declines in child and maternal mortality, enabling more countries to achieve Millennium Development Goals 4 and 5 by 2015 and sustaining the momentum well into the future.

Balloon Tamponade, Uterine: A uterine balloon tamponade (UBT) is a minimally invasive intervention that can effectively treat severe postpartum hemorrhage (PPH). When inserted into the uterus and slowly filled with water, it exerts pressure on the uterus until the bleeding stops. (PATH, Technology Solutions for Global Health, November 2013)

BEST: Country-specific USAID action plans for Best Practices at Scale in the Home, Community and Facilities for Family Planning, MNCH, and Nutrition.

Birth preparedness and Complication Readiness: A strategy or process to plan for birth, promoting the timely use of skilled maternal and neonatal care, especially during childbirth, and anticipating actions which may be needed in the case of an emergency. (<http://www.jhpiego.org/files/BPCRtoolkit.pdf>)

Obstetric Fistula: Obstetric fistula consists of an abnormal opening between the vagina and the bladder or rectum--results from unrelieved obstructed labor. (<http://www.k4health.org/sites/default/files/ObstetricFistula.pdf>)

Global Health Initiative (GHI): Initiated in 2009, the U.S. Global Health Initiative unites U.S. global health efforts in a comprehensive, coordinated, integrated, and results-driven approach to health assistance for maximum efficacy (U.S. Global Health Initiative, www.ghi.gov).

Healthy Timing and Spacing of Pregnancies: Healthy timing and spacing of pregnancy (HTSP) is an approach to family planning that helps women and families delay, space, or limit their pregnancies to achieve the healthiest

outcomes for women, newborns, infants, and children. HTSP works within the context of free and informed contraceptive choice and takes into account fertility intentions and desired family size.

(K4Health, <https://www.k4health.org/toolkits/HTSP>)

Hypertension: High blood pressure. (http://whqlibdoc.who.int/publications/2008/9789241546669_6_eng.pdf)

Intrapartum: Occurring during childbirth.

(http://whqlibdoc.who.int/publications/2008/9789241546669_6_eng.pdf)

Intermittent preventive treatment in pregnancy (IPTp): Intermittent preventive treatment of malaria in pregnancy is a full therapeutic course of antimalarial medicine given to pregnant women in moderate to high malaria transmission areas in Africa to reduce maternal malaria episodes, maternal and fetal anemia, placental parasitemia, low birth weight, and neonatal mortality. WHO recommends this preventive treatment be given at each scheduled antenatal care visit except for the first trimester, regardless of whether the recipient is infected with malaria. IPTp (http://www.who.int/malaria/areas/preventive_therapies/pregnancy/en/index.html)

Overweight: Body Mass Index ≥ 25 kg/m²

Obesity: Body Mass Index ≥ 30 kg/m².

Parenteral antibiotics: Antibiotics administered into the body in a way other than the digestive track, such as through an intravenous, subcutaneous, or intramuscular injection

Pre-Eclampsia/Eclampsia: A condition specific to pregnancy, arising after the 20th week of gestation, characterized by hypertension and proteinuria. If not controlled, pre-eclampsia will lead to eclampsia which is characterized by fits (seizures), followed by coma, and has a high mortality rate.

(http://whqlibdoc.who.int/publications/2008/9789241546669_6_eng.pdf)

Perinatal: The perinatal period begins at 22 completed weeks (154 days) of gestation and ends seven completed days after birth. Perinatal mortality refers to the number of stillbirths and deaths in the first week of life.

(http://www.who.int/maternal_child_adolescent/topics/maternal/maternal_perinatal/en/)

PMTCT: Prevention of mother-to-child transmission of HIV. With effective interventions, the transmission of HIV from an HIV-positive mother to her child during pregnancy, labor, delivery, or breastfeeding can be reduced to levels below 5%. (<http://www.who.int/hiv/topics/mtct/en/>; http://www.who.int/hiv/pub/mtct/strategic_vision.pdf)

Post abortion care (PAC): Post abortion care is an approach for reducing morbidity and mortality from incomplete and unsafe abortion and resulting complications. The PAC Consortium's five essential elements of PAC are: Community and service provider partnerships; counseling; treatment; contraceptive and family planning services; reproductive and other health services. (<http://www.pac-consortium.org/>)

Postnatal Care (PNC): Care provided to the mother and baby beginning immediately after the birth of the baby and extending up to six weeks (42 days) after birth. (WHO Technical Consultation on Postpartum and Postnatal Care; http://whqlibdoc.who.int/hq/2010/WHO_MPS_10.03_eng.pdf)

Postpartum Family Planning (PPFP): The prevention of unintended pregnancy and closely spaced pregnancies through the first 12 months following childbirth.

(http://apps.who.int/iris/bitstream/10665/93680/1/9789241506496_eng.pdf)

Postpartum hemorrhage (PPH): Blood loss of 500 ml or more from the genital tract after delivery. The commonest cause is atony (poor muscle tone) of the uterus, or it may be caused by trauma to the genital tract, e.g. tears of the vagina, cervix, or lower segment of the uterus.
(http://whqlibdoc.who.int/publications/2008/9789241546669_6_eng.pdf)

Puerperal Sepsis: An infection of the genital tract at any time between the onset of rupture of membranes or labor and the 42nd day following delivery or abortion.
(http://whqlibdoc.who.int/publications/2008/9789241546669_6_eng.pdf)

Skilled birth attendant (SBA): skilled attendant who is a health professional (midwife, nurse, doctor etc.) educated and trained to proficiency in the skills needed to manage normal pregnancy, childbirth and the immediate postpartum and in the identification and management or referral of complications. (<http://www.afro.who.int/en/clusters-a-programmes/frh/making-pregnancy-safer/programme-components/skilled-attendance.html>)

Skilled care at delivery: Skilled care is defined as quality care to the woman during pregnancy, childbirth and postpartum period and her infant provided by a skilled personnel supported by an enabling environment (necessary equipment, supplies and medicines and infrastructure) and a functional referral system.
<http://www.afro.who.int/en/clusters-a-programmes/frh/making-pregnancy-safer/programme-components/skilled-attendance.html>

Sexually transmitted infections (STIs): Sexually transmitted infections are infections that are spread primarily through person-to-person sexual contact. There are more than 30 different sexually transmissible bacteria, viruses and parasites. (http://www.who.int/topics/sexually_transmitted_infections/en/)

Thromboembolic: The formation of a thrombus (clot) in a deep vein, most commonly in the leg or pelvis.
(http://whqlibdoc.who.int/publications/2008/9789241546669_6_eng.pdf) where is this used?

Under nutrition: Body mass index [BMI] of <18.5 kg/m²

Unmet need for family planning: The percentage of women of reproductive age who are married or in a union who are fecund and sexually active but are not using any method of contraception and report not wanting any more children or wanting to delay the birth of their next child.
(http://www.who.int/reproductivehealth/topics/family_planning/unmet_need_fp/en/)

Unsafe abortion: a procedure for terminating an unwanted pregnancy either by persons lacking the necessary skills or in an environment lacking minimal medical standards or both.
(http://www.who.int/reproductivehealth/topics/unsafe_abortion/hrpwork/en/)

Uterotonics: (also known as “oxytocics”) are medications given to cause a woman's uterus to contract, or to increase the frequency and intensity of the contractions.
(http://www.path.org/publications/files/MCHN_popphi_pph_uterotonic_trop.pdf)