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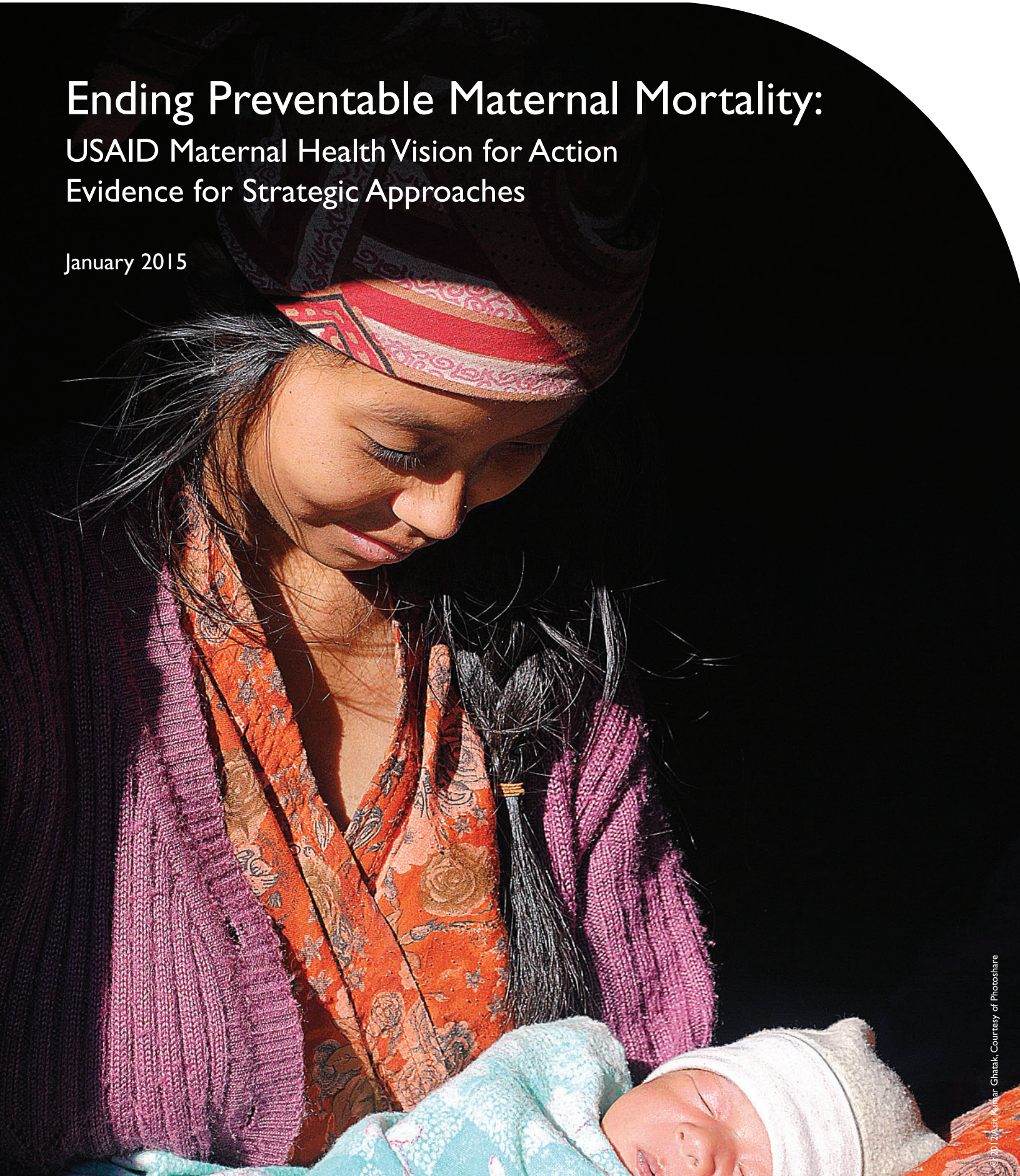
Ending Preventable Maternal Mortality:

USAID Maternal Health Vision for Action
Evidence for Strategic Approaches

January 2015



ABBREVIATIONS AND ACRONYMS

AMTSL	Active management of the third stage of labor
ANC	Antenatal care
ARR	Annual rate of reduction
ART	Antiretroviral therapy
BEmONC	Basic emergency obstetric and newborn care
CDC	U.S. Centers for Disease Control and Prevention
CEmONC	Comprehensive emergency obstetric and newborn care
COIA	Commission on Information and Accountability
C-section	Cesarean section
CPR	Cardiopulmonary resuscitation
DHS	Demographic and Health Survey(s)
EMOC	Emergency obstetric care
EPCMD	Ending preventable child and maternal death
EPMM	Ending preventable maternal mortality
GH	USAID Bureau for Global Health
HTSP	Healthy timing and spacing of pregnancies
IFA	Iron folic acid
IPTp	Intermittent preventive treatment in pregnancy for malaria
KMC	Kangaroo Mother Care
LAM	Lactational amenorrhea method
LMIC	Low- and middle-income countries
M&E	Monitoring and evaluation
MCH	Maternal and child health
MDG	Millenium Development Goal
MDSR	Maternal Death Surveillance and Response
MICS	Multiple Indicator Cluster Surveys
MMR	Maternal mortality ratio
NGO	Nongovernmental organization
NIH	National Institutes of Health
OECD	Organization of Economic Cooperation and Development
PAC	Post-abortion care
PE/E	Pre-eclampsia/eclampsia
PMTCT	Prevention of mother-to-child transmission of HIV
PNC	Postnatal care
PPH	Postpartum hemorrhage
PPF	Postpartum family planning
SBA	Skilled birth attendant
SBR	Stillbirth rate
STI	Sexually transmitted infection
TB	Tuberculosis
UBT	Uterine balloon tamponade
UNFPA	United Nations Population Fund
USAID	U.S. Agency for International Development
UTI	Urinary tract infection
WASH	Water, sanitation and hygiene
WHO	World Health Organization

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Executive Summary

The U.S. Government is committed and working toward the goal of Ending Preventable Child and Maternal Deaths (EPCMD) in a generation. In June of 2014, the U.S. Agency for International Development (USAID) released a vision for maternal health, *Ending Preventable Maternal Mortality: USAID Maternal Health Vision for Action*. The document lays out a vision for "a world where no woman dies from preventable maternal causes and maternal and fetal health are improved" and sets out a plan for USAID to contribute to accelerating reductions in the maternal mortality ratio (MMR) and improving maternal and fetal health with targets for 2020. This document, *Ending Prventable Maternal Mortality: USAID Maternal Health Vision for Action, Evidence for Strategic Approaches*, lays out the evidence that will help achieve this vision.

Maternal mortality has nearly halved over the past two and a half decades, yet 289,000 women worldwide still die each year as a result of pregnancy and childbirth. As mortality has declined, disparities have become more apparent. The risk of death is disproportionately highest among the most vulnerable women in the poorest of nations.

Yet, most maternal deaths are preventable – as are many of the other poor health consequences of pregnancy. Among the 189 million women who are pregnant annually, 122 million have a live birth, and nearly 3 million suffer a stillbirth. About 10 percent of mothers suffer a maternal complication during pregnancy or in the intrapartum period, and up to 40 percent may have morbidities or disabilities post-birth that are attributable to the pregnancy or birth. Among all babies born, 15 million are preterm, and 1 million of these will die within the first week; many more are born small for gestational age. The toll of death and ill health related to pregnancy and birth adversely affects not only mothers' and children's health, but also their development and ability to contribute productively to their communities and societies. Furthermore, the financial costs of maternal complications and ill health and associated problems for newborns are a drain on families and society.

Access to affordable, high quality, respectful maternal health care is fundamental to the survival of pregnant and childbearing women and girls, as well as newborns. It includes access to services, goods, and information and the removal of inequities. Yet, discrimination impedes a woman from her right to access such maternity care due to age or marital status or to social, cultural, racial, ethnic, geographic, economic, legal, and political barriers. Women's lack of agency to utilize services contributes to needless death and suffering. Beyond lack of decision-making authority, women are less likely to have control over or access to the financial resources needed to pay for transportation and direct or incidental fees for maternal services.

Weak health systems, including those lacking leadership or management or having inadequate staffing and supplies, underlie poor care and contribute to the poor health outcomes. Inadequate financing and budgetary allocations, as well as poor infrastructure (space, water, sanitation, and electricity), poor or disjointed information systems and lack of use of data for improved policy formulation and implementation, ensure weak systems remain weak.

Ending Prventable Maternal Mortality: USAID Maternal Health Vision for Action, Evidence for Strategic Approaches sets out a plan for USAID to contribute to driving accelerated MMR

reduction and improving maternal and fetal health from now through 2020 by:

- Focusing geographically on the 24 USAID Maternal and Child Health (MCH) priority countries.
- Promoting 10 strategic drivers that together:
  - Enable and mobilize individuals and communities to improve healthy behaviors, expand use of appropriate services, and hold health systems accountable.
  - Advance quality, respectful care that reduces maternal morbidity, disability, and mortality and improves fetal health.
  - Strengthen health systems and continuous learning to support the system of care needed from pregnancy through the postpartum period.
- Ensuring that we reach the most vulnerable by incorporating consistently applied approaches for action in all programming.

Ending Prventable Maternal Mortality: USAID Maternal Health Vision for Action, Evidence for Strategic Approaches provides technical evidence for the each strategic driver. It recognizes and builds on the changing landscape of programs and knowledge since the 2003 USAID maternal health strategy. Specifically, it incorporates programming related to the increasing proportion of maternal deaths due to indirect causes, the need to improve fetal health, and the opportunities and challenges presented by increasing urbanization, decentralization, privatization, and the new financial initiatives. It acknowledges the need for better information and data to ensure accountability for quality respectful care through national and global advocacy as well as information in the hands of citizens to know their rights and the means to act on them.

Ending Prventable Maternal Mortality: USAID Maternal Health Vision for Action, Evidence for Strategic Approaches, however, is not prescriptive; it provides a broad selection of strategies and leaves the strategy selection to those in-country. It also does not cover the baby once born (see the Every Newborn Action Plan – PMNCH 2014; Salam et al., 2014).

What *Ending Preventable Maternal Mortality: USAID Maternal Health Vision for Action, Evidence for Strategic Approaches* means

USAID Bureau for Global Health (GH) will work alongside USAID Missions, governments, and partners in countries with MCH funding to use the *Ending Preventable Maternal Mortality: USAID's Maternal Health Vision for Action* and *Ending Prventable Maternal Mortality: USAID Maternal Health Vision for Action, Evidence for Strategic Approaches* documents to inform country programs. This may include:

- Developing and conducting assessments, such as needs assessments and situation analyses.
- Informing program and project designs.
- Informing project-specific annual work plans, activities, and midterm reviews.
- Informing Health Implementation Plans and other USAID Mission reporting.
- Developing monitoring and evaluation (M&E) plans, including the selection and measurement of key indicators.
- Advocating for integration with related health, health systems, and other sectors where appropriate.
- Developing or revising of national reproductive and maternal health strategies and plans at the appropriate time in national planning cycle.
- Engaging with governments and in global dialogue with multilateral and bilateral development partners, nongovernmental organizations (NGOs) and the private sector to guide strategic investments for maternal health and improvement of fetal health to enhance newborn and child survival.

Improving maternal and fetal health requires partnerships – to address the wider health system issues of human resources, commodities, and referral coordination – and shared action with those involved in programming for reproductive health, infectious diseases, malnutrition, newborn health, and water and sanitation. Where appropriate and feasible, services should be integrated. To address access issues, it requires partners closely aligned with universal health coverage, transportation, and communications. Most of all, improving maternal and fetal health means partnering with country leadership and international partners to build capacity to scale evidence-based interventions, stimulate innovations to overcome gaps, seize opportunities to work collaboratively across disciplines and sectors, and to invest in evidence and research to drive progress toward the goal.

With recent accelerated economic growth in many developing countries, reduced fertility rates, increased rates of female education, and broad international support, we have an unprecedented opportunity to achieve the bold vision of ending preventable maternal mortality in a generation.

Introduction

Kate Holt/Jhpiego

The world has made impressive progress in reducing maternal mortality by nearly half over the past two and a half decades. Despite this progress, millions of women around the globe still do not receive the maternal health care and family planning services they need to survive pregnancy and thrive. An estimated 289,000 women worldwide die each year as a result of pregnancy and childbirth. Most of these women live in poor nations, and the disparities among and within countries are immense: Ninety-nine percent of preventable maternal deaths occur in low- and middle-income countries. The lifetime risk of maternal mortality in women living in sub-Saharan Africa is more than 47 times greater than for those in the United States. Within countries, risk of death is disproportionately high among the most vulnerable segments of the society, yet most maternal deaths suffered each year are preventable. Among the 122 million women who have a live birth annually, approximately 10 percent suffer complications, and many more suffer post-birth morbidities and disabilities. This tally of ill-health related to pregnancy and birth adversely affects both children's and mothers' continuing survival, health, development, and ability to contribute productively to their communities and societies. Yet, the knowledge, tools, and resources to end this disparity are available. With a concerted effort from the international community and with strong political commitment, we can end preventable maternal deaths within a generation.

The U.S. Agency for International Development's (USAID's) efforts to end preventable maternal death will also contribute to the end of preventable newborn and child death. Recognizing the direct link between maternal and child survival, the U.S. Government is determined and committed to the bold vision of Ending Preventable Child and Maternal Death (EPCMD) in a generation. To that end, the USAID vision for maternal health is:

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

Ending Preventable Maternal Mortality: USAID Maternal Health Vision for Action (June 2014) endorses an integrated and holistic approach to improve maternal and fetal health at the country level. Emphasis is placed on equity, respect for women, and convergence of countries in the effort to reduce disparities in women's risk of maternal death. Specifically, the *Vision* sets out a plan for USAID to contribute to driving accelerated maternal mortality ratio (MMR) reduction by:

- Focusing geographically on the 24 USAID Maternal and Child Health (MCH) priority countries.
- Promoting 10 strategic drivers that together enable and mobilize individuals and communities; advance quality, respectful care; and strengthen health systems and continuous learning.
- Ensuring that we reach the most vulnerable by incorporating consistently applied approaches for action in all programming.

In support of USAID's contribution toward further reduction in maternal mortality between now and 2020, *Ending Prventable Maternal Mortality: USAID Maternal Health Vision for Action, Evidence for Strategic Approaches* provides the technical evidence for the approach and for each strategic driver. USAID will continue to contribute to leadership in the international community to support achievement of an effective end of preventable maternal mortality. USAID health officers and implementation partners hopefully will find this document useful in policy development and design or adjustment of maternal health programs.

WHAT'S NEW IN THE STRATEGIC APPROACHES?

The context for maternal health programming has changed significantly over the last decade. Simultaneously, there has been growth and refinement of knowledge about what works and what is needed to improve maternal health and reduce maternal deaths. USAID-funded programs are adapting to such changes in context and knowledge by recognizing the following:

- Focusing maternal care to address:
  - The indirect causes of maternal death, including HIV and AIDS, malaria, tuberculosis, other sexually transmitted infections, malnutrition (both undernutrition and obesity), and chronic diseases (e.g., high blood pressure, diabetes, cardiac disease), which are contributing a larger proportion of the deaths.
  - Fetal health, including stillbirths, with attention to policies, services, as well as data collection on such outcomes and program processes, to inform decision-making and promote accountability.
- Broadening the focus of maternal care necessitates working beyond the intrapartum and immediate postpartum period to ensure antenatal and extended postpartum care can diagnose, treat or prevent, follow up both pregnant and postpartum women and connect women with appropriate services beyond the postpartum period.
- 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 sharpening the focus on workforce planning and coordination of the levels of care to address normal and complicated deliveries.
- Ensuring financial initiatives, culturally sensitive programs, and other effective efforts address local barriers to use of care in order to reduce inequities and to move toward universal health coverage.
- Advancing partnerships with the increasingly available private sector presents important opportunities.
- Building programs at scale requires new partners and new methods of working as countries experience increasing urbanization and decentralization.
- Ensuring accountability for quality respectful care demands national and global advocacy as well as information in the hands of citizens to know their rights and the means to act on them.

Despite the economic downturn over the past few years in many parts of the world, recent accelerated economic growth in many developing countries is providing opportunities for improved infrastructure and investments in education and health by countries that will facilitate these USAID-funded efforts. In addition, there is now broad international support for Ending Preventable Maternal Mortality (EPMM).

A BOLD VISION: ENDING PREVENTABLE MATERNAL MORTALITY

The Millennium Development Goal (MDG) 5 target of 75 percent reduction in maternal mortality between 1990 and 2015 stimulated much progress: a 45 percent decline in maternal mortality between 1990 and 2013 has been achieved (Figure 1).[1] Nevertheless, many countries will not reach the 2015 target. If we are to end preventable maternal mortality, the rate of global maternal mortality ratio reduction must accelerate.

Ending Preventable Maternal Mortality, now an internationally accepted goal, reflects a convergence in the focus of rich and poor nations on reducing maternal deaths. In an article in *The Lancet Global Health* in 2013, representatives from the World Health Organization (WHO) and USAID proposed an ambitious but achievable future target: reduce the global average maternal mortality ratio (MMR) to less than 50 per 100,000 live births by 2035 (Bustreo et al., 2013). This target is equivalent to the highest MMR in 2010 among member countries of the Organization for Economic Cooperation and Development (OECD). In April 2014 at a consultation hosted by WHO, the United Nations Population Fund (UNFPA), USAID, the Maternal Health Task Force, and the Maternal and Child Health Integrated Program, representatives from 30 countries agreed on a 2030 global target MMR of less than 70 per 100,000 live births with no country level greater than 140. The 2030 global target was selected as it aligns with the end year of the U.N. proposed Sustainability Development Goals.

Among the low- and middle-income countries (LMIC), progress toward ending maternal mortality remains uneven across regions, countries, and within countries. Averaged across LMIC countries, the annual rate of reduction (ARR) of the MMR accelerated between 2005 and 2013 but reached only 3.4 percent ((WHO et al, 2014a). 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. For all countries with baseline MMR <420 (the majority of countries world-

1. Note that U.N. estimates of MMR and of the annual rates of reduction (ARR) (WHO, 2014a) are used in this strategy to allow for comparability.

Global Targets toward Ending Preventable Maternal Mortality

2015

- Millennium Development Goal 5 (MDG 5) sets a target of 75 percent reduction in maternal mortality, from 400/100,000 live births to 100/100,000 between the 1990 baseline and 2015.
- Although progress has fallen short of achieving this MDG by 2015, every region of the world has made important gains, and globally, maternal mortality has fallen by 45 percent over the past 2 decades.

2030

- In April 2014, the World Health Organization, Maternal Health Task Force, United Nations Population Fund, USAID and the Maternal Child Health Integrated Program, and representatives from 30 countries agreed on a global target for a maternal mortality ratio (MMR) of less than 70/100,000 live births by 2030, with no single country having an MMR greater than 140. This will require that we collectively build on past efforts, accelerate progress, and ensure strong political commitment from all stakeholders.

Source: Targets and Strategies for Ending Preventable Maternal Mortality. Consensus Statement. April 2014. Geneva: WHO

USAID's Contribution toward Ending Preventable Maternal Mortality

2020

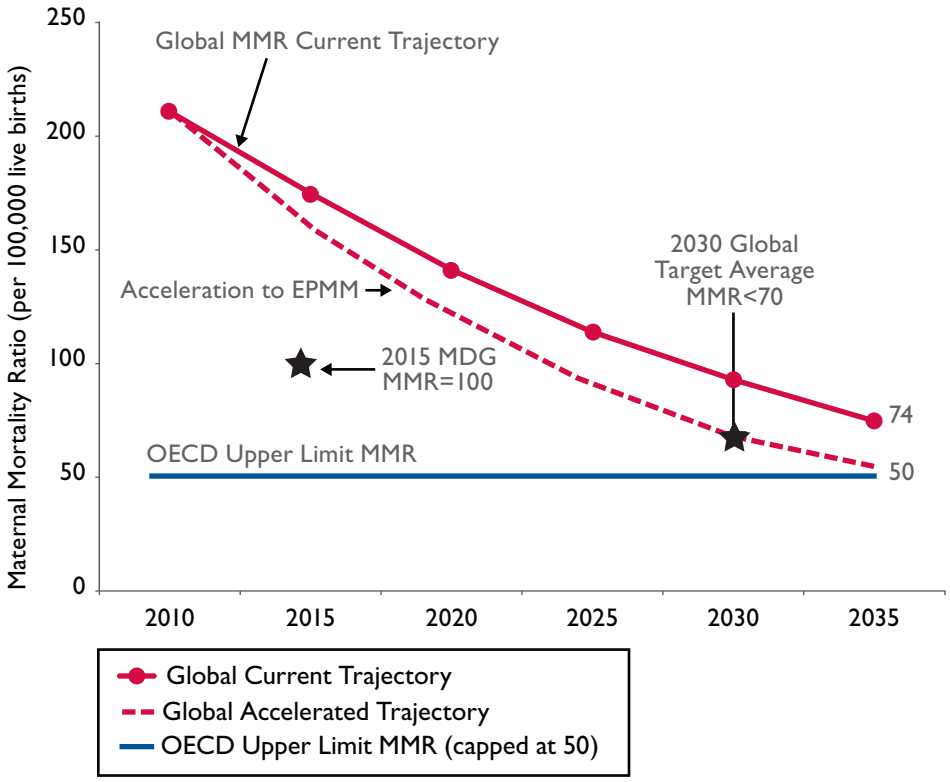
- As a pathway to the agreed upon global targets for 2030 and beyond, USAID will contribute to ending preventable maternal mortality in 24 priority countries by increasing use of family planning, maternity care, and infectious disease and nutrition services.

2035

- USAID will contribute to leadership of the international community to achieve an effective end to preventable maternal mortality.
- In practice, this equates to a global MMR target of less than 50/100,000 live births. This target is the high end of Organization for Economic Cooperation and Development countries in 2010.

Hugh Rigby

Figure 1: Toward Ending Preventable Maternal Mortality (EPMM) Worldwide – Reaching MMR of 70 by 2030 and MMR of 50 by 2035



Source: WHO et al., 2014a

wide), this amounts to an ARR of 5.5 percent. For the 25 countries with a baseline MMR >420, the rate of decline must be steeper to reach the MMR ceiling of 140 by 2030 (Figure 2).

ACHIEVING THE VISION IS POSSIBLE

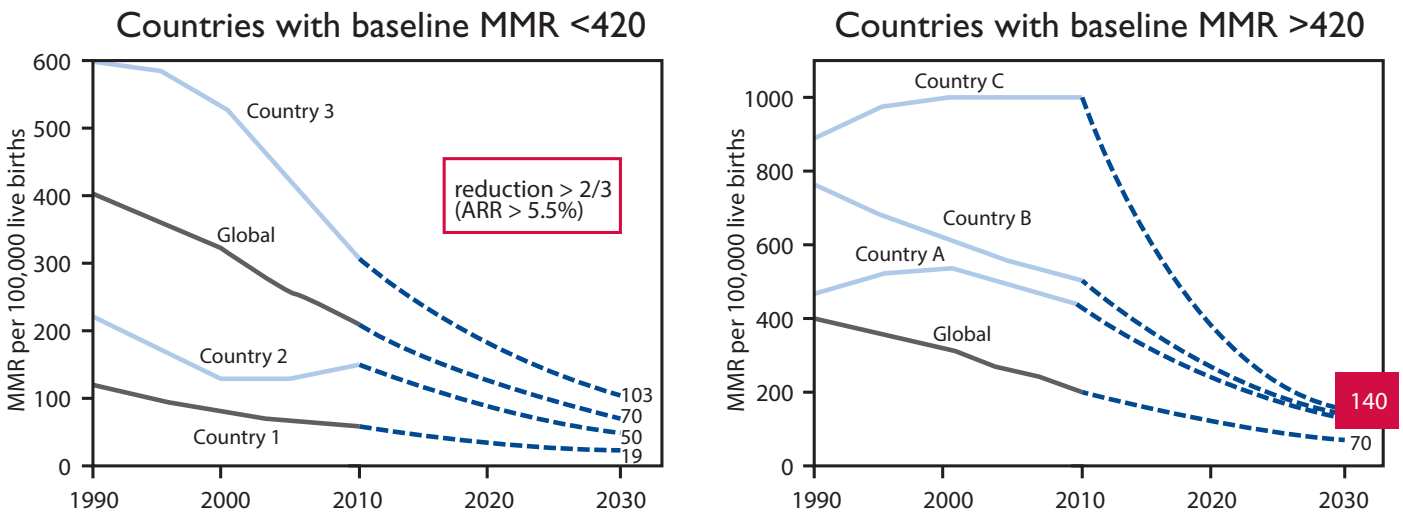
Leadership of national and local governments in joint efforts with civil society and the private sector and with support from USAID and other development partners has contributed to the significant progress in reducing maternal deaths since 1990. Successful countries have taken different pathways to reduce maternal mortality – approaches that are designed to meet the needs in local contexts. Examples of success in countries facing challenges of significant poverty, geographic features that limit access to services, cultural norms that isolate women, and weak health systems show that, despite these challenges, improving maternal and fetal health globally is achievable. For example, Cambodia reduced maternal mortality by 84 percent, surpassing the MDG 5 goal, and graduated from USAID maternal and child health priority country status. The country's rapid economic growth, improved communications with more than 60 percent mobile phone ownership, and government investment in transport infrastructure and in health facilities has contributed to this dramatic progress (WHO Western Pacific, 2014).

Improvements in maternal health in Rwanda, which has already achieved MDG 5, is due in part to a national health insurance that made maternity care affordable and increased use of modern health care services. Transport for referrals improved, as did quality of care (Overseas Development Institute, 2012).

Despite poverty and other challenges, Bangladesh has achieved a 5 percent annual rate of reduction in maternal mortality since 1990. Economic growth, decreased fertility, increased use of facilities, improved roads, and girls' education have all contributed to progress in Bangladesh (icddr,b, 2011).

Overall, developing countries increased their annual rate of reduction of MMR from 2.2 percent in the period from 1990 to 2005 to 3.4 percent between 2005 and 2013 (WHO et al., 2014a). By seizing on positive global trends in factors associated with reduced maternal risk (including reduced fertility rates, increased rates of female education, improved communications and transport, and increased per capita gross domestic product), we have an unprecedented opportunity to realize a world where no

Figure 2: Reaching Global MMR=70 by 2030: Maternal Mortality Ratio Declines by Countries Less than and Greater than MMR of 420 (2010 Baseline), 1990–2030



Source: WHO, 2014b

woman dies from preventable maternal causes and maternal and fetal health are improved.

Projections from past progress in maternal mortality reduction since 1990 show that many countries, particularly in Asia, are close to reaching a trajectory to achieve the 2030 targets. However, approximately 25 countries with very high MMRs, specifically those with an MMR>420 in 2010, which are largely in sub-Saharan Africa, will need to triple annual rates of reduction of MMR. To reach the 2030 targets will require a concentrated effort by national governments working closely with international partners, civil society, and the private sector to accelerate progress. While such a level of progress may seem unrealistic, recent signs are encouraging. For example, in the past few years, we have seen new country government policies, as in Kenya, address financial barriers by providing free maternity care (Bourbonnais, 2013). In India, conditional cash transfers have resulted in increased uptake of maternity services (Glassman et al., 2013). Performance-based incentives to improve quality of care and encourage women to seek maternity care show positive results in increased institutional deliveries and the quality of antenatal care (Eichler et al., 2013).

In addition, the international community is galvanizing and supporting countries to meet women's need for family planning, and international initiatives are more effectively addressing infectious diseases and malnutrition that influence pregnancy outcomes. By focusing on high burden countries, collaborating with a wide array of partners, concentrating on improving access, quality of care and referral systems, and holding governments accountable, the vision is achievable.

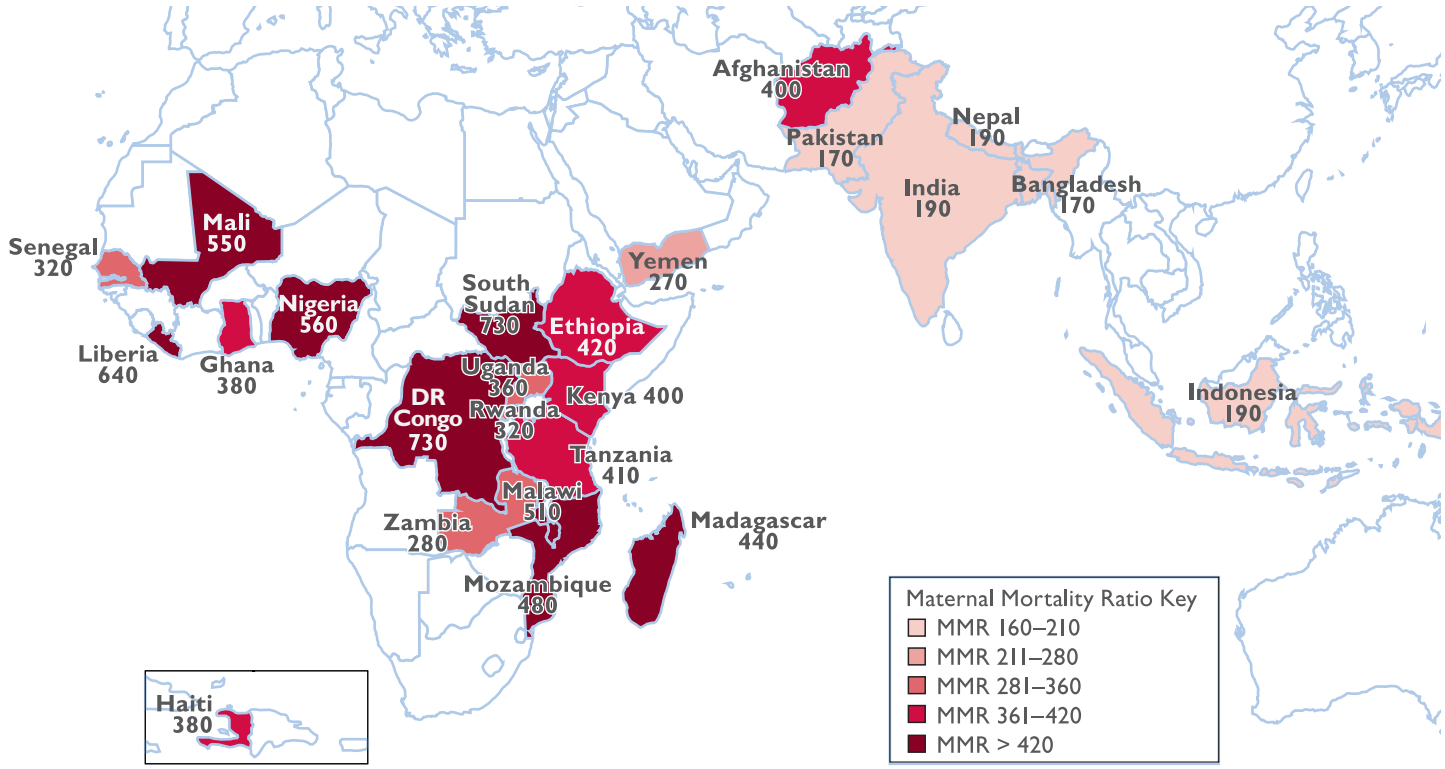
USAID WILL FOCUS GEOGRAPHICALLY ON 24 COUNTRIES:

Where Most Maternal Deaths Occur

Ending Preventable Maternal Mortality: USAID Maternal Health Vision for Action focuses geographically on 24 countries where 70 percent of maternal deaths worldwide 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, the 24 countries given priority within USAID Maternal and Child Health (MCH) programs are (Figure 3):

- Africa: Democratic Republic of the Congo, Ethiopia, Ghana, Kenya, Liberia, Madagascar, Malawi, Mali, Mozambique, Nigeria, Rwanda, Senegal, South Sudan, Tanzania, Uganda, and Zambia

Figure 3: MMR in 24 USAID MCH Priority Countries (2013)



Source: WHO, UNICEF, UNFPA, World Bank, United Nations, 2014a

- Asia: Afghanistan, Bangladesh, India, Indonesia, Nepal, and Pakistan
- Middle East: Yemen
- Latin America and the Caribbean: Haiti

The country list is not static; it is reviewed and revised periodically. Also USAID will continue with targeted support to select non-priority countries and regions according to country context and need. For example, some countries coming out of conflict are initiating or restarting development programs; others may be progressing to diminishing need for external assistance while strengthening health systems for sustainability.

While there has been progress since 1990 in reducing the numbers of deaths per country, they remain comparatively high. Four of the 24 USAID MCH priority countries are on track, or very close, to achieving the target for Millennium Development Goal 5 by 2015. Bangladesh, Ethiopia, Nepal, and Rwanda each have had an annual rate of reduction of 5 percent or more since 1990 (Figure 4) (WHO, 2014a).

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.[2] Among USAID's 24 MCH priority countries, 10 start with a MMR over 420 in 2010 (WHO et al., 2012a) and will require accelerated reduction to achieve the 140 secondary target by 2030 (Figures 3 and 4). With the exception of Afghanistan, these are countries in sub-Saharan Africa. The MCH 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. This will require them to accelerate annual reduction as well to 5.5 percent (compare with Figure 4).

Where Fertility Remains High

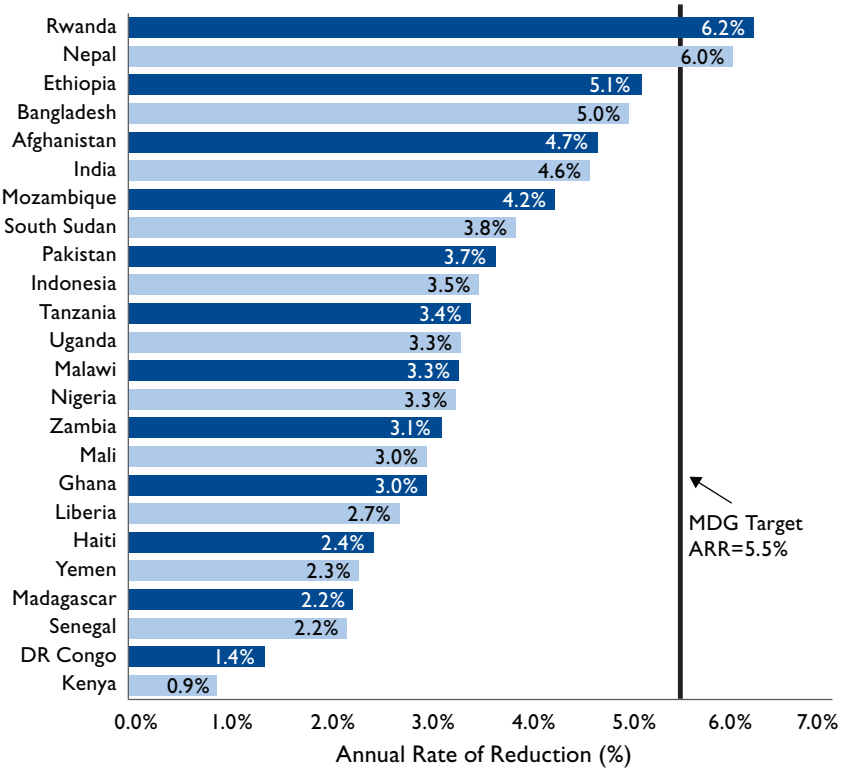
USAID's MCH priority countries include countries with high fertility where population momentum will continue to add to the growth in the annual number of births, putting more women at risk of maternal death.

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 5), reflecting the large populations of adolescents and young women giving birth. Over the next 5 years, health systems in sub-Saharan Africa will need to provide care for a greater numbers of births while health systems in Asia will need to provide care for fewer births. As a result, especially in Africa, health systems strengthening and service delivery, including expanding capacity of the health system to cover births over the next few decades, will continue to be an important priority.

Where Rural Areas Still Dominate

Although the world is urbanizing, the majority of the population in most of the 24 USAID MCH priority countries still lives in rural areas (Figure 6). Even in the four priority countries – Ghana, Haiti, Indonesia, and Nigeria – that report 50 percent or more of the population in urban areas, USAID will continue to focus on rural areas where health services are not sufficiently accessible to enough women. USAID will develop new strategies for urban populations where the effectiveness of maternal health interventions is not as well documented.

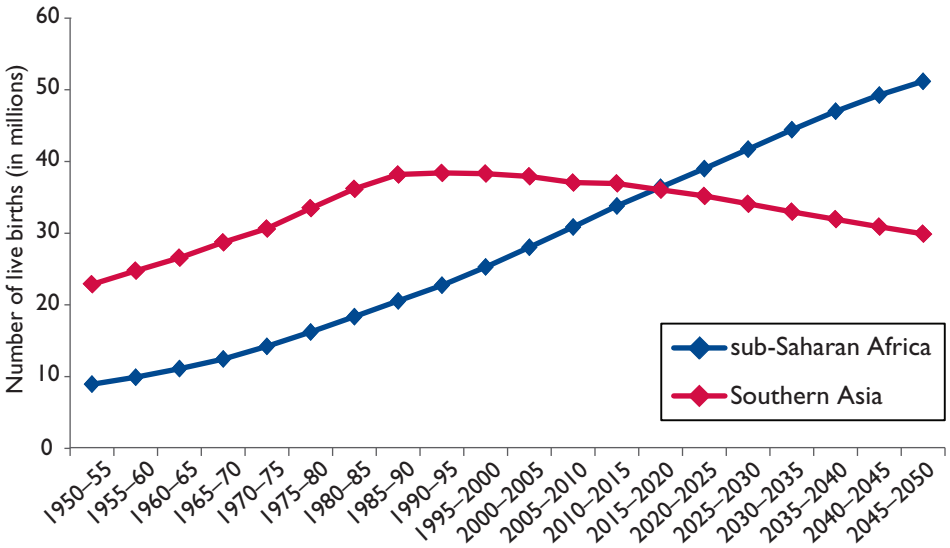
Figure 4: Annual Rates of Reduction (1990–2013) within USAID MCH Priority Countries



Source: WHO, 2014a

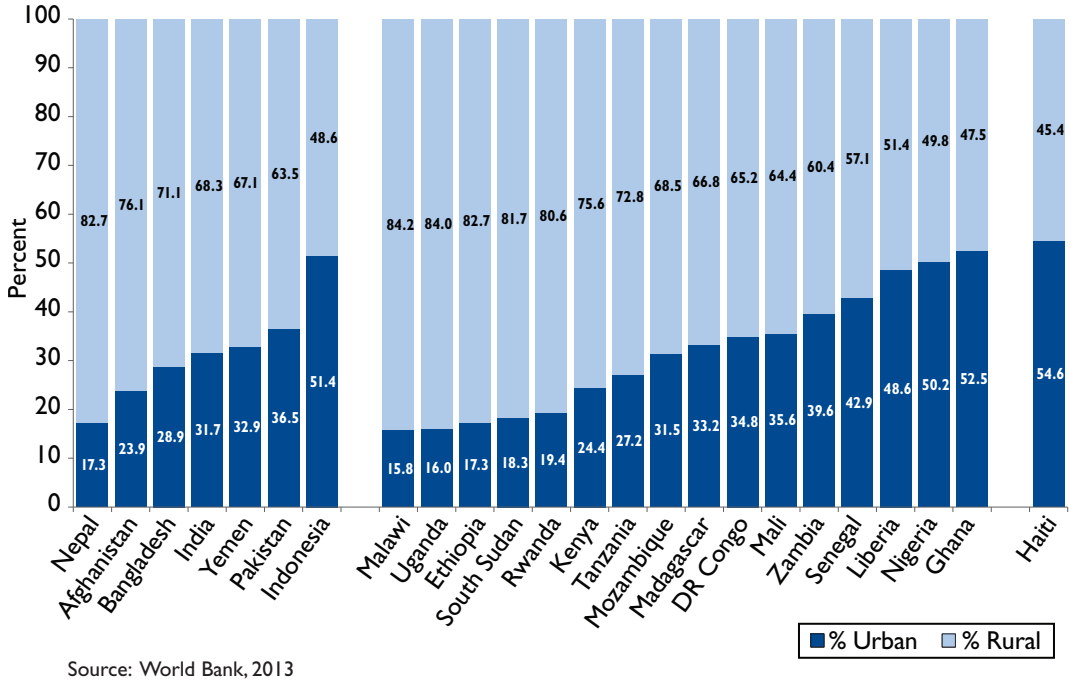
2. The WHO Trends in Maternal Mortality1990–2013 (WHO, 2014a) did not publish estimates for 2010. Calculations for the post-2015 targets came from WHO et al. Trends in Maternal Mortality 1990–2010 (WHO, 2012a).

Figure 5: Number of Live Births by Year in Sub-Saharan Africa and Southern Asia, 1950–2050



Source: UNDESA, 2012

Figure 6: Population Breakdown by Urban/Rural in USAID MCH Priority Countries (2012)



Source: World Bank, 2013

To achieve global and national MMR targets, the Framework for Change illustrates the overall process to achieve the MMR target reductions and improved pregnancy outcomes. The implementation approaches, which are specific to maternity care, are essential for holistic care for maternal, fetal, and newborn survival and health. In programs, the strategic drivers should be considered separately and together along with the core approaches for action. As each country context differs, and since no one single program can address all components of maternal health, some drivers may require more attention than others. *Ending Prventable Maternal Mortality: USAID Maternal Health Vision for Action, Evidence for Strategic Approaches* is not meant to be didactic but rather reinforcing and encouraging of creativity, innovation, and consideration of the many factors that affect maternal health. For this reason, individuals working in maternal health projects and programs may find it necessary to conduct, at the appropriate time, an assessment of new and existing maternal health and related services and programs to analyze the current situation and to gain a better understanding of existing gaps, available resources, and strategic priorities.

Taken together, the Framework for Change, implementation approaches, and strategic drivers can be used to:

- Develop and conduct assessments, such as needs assessments and situation analyses.
- Inform new program and project designs and redesigns.
- Inform project-specific annual work plans and activities and midterm reviews.
- Inform Health Implementation Plans, MCH action plans, and other USAID Mission reporting.
- Develop monitoring and evaluation plans, including the selection and measurement of key indicators.
- Develop and conduct baseline, midterm, and end-line program evaluations.
- Advocate integration of MCH with related health initiatives and into health systems and other sectors where appropriate.
- Contribute to development or revision of national reproductive and maternal health strategies and plans.
- Engage in global dialogue with multilateral and bilateral development partners, nongovernmental organizations, and the private sector to guide strategic investments for Ending Preventable Maternal Mortality and improving fetal health to increase newborn and child survival.

USAID's Bureau for Global Health will work alongside USAID Missions, governments, and partners in the 24 USAID maternal and child health priority countries and others to use this document with the Framework, approaches, and the strategic drivers as a set of lenses to guide country assessments and new USAID program and project designs and to contribute to development or revision of national reproductive and maternal health strategies and plans. Further, USAID will use *Ending Prventable Maternal Mortality: USAID Maternal Health Vision for Action, Evidence for Strategic Approaches* for global dialogue with governments, multilateral and bilateral development partners, nongovernmental organizations, and the private sector to guide strategic investments.

BUILDING ON USAID'S DEVELOPMENT CAPACITY

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 (USAID 2012). To realize the aims of global health

and development, we must meet our commitment to women and girls. This is not only imperative in its own right, but also it is imperative because of the critical roles that women play in the nurturing and education of their children, as productive contributors to their economies and societies, and as leaders in contributing 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.

Maternal and child health has long been a priority of USAID's health programming (USAID 2014). We, the U.S. Agency for International Development place women and girls at the center of our global health programs because we know that improving women's and girls' health is the foundation to almost every area of human development and progress. Since reproductive and maternal health is a fundamental component of women's health, USAID has been and continues to be a leading voice in the growing global consensus to end preventable maternal mortality.

Ending Preventable Maternal Mortality: USAID Maternal Health Vision for Action and *Ending Prventable Maternal Mortality: USAID Maternal Health Vision for Action, Evidence for Strategic Approaches* focus closely on those USAID investments in health that exert the most proximate positive effects on maternal and fetal health outcomes, as well as on newborn and child survival. Healthy pregnancy outcomes for mothers and their children are integral to our global health objectives as well as other Agency priorities, including our core mission to partner to end extreme poverty and promote resilient, democratic societies. This vision addresses the social determinants of health such as poverty, gender bias, and lack of access to education.[5]

In addition to focusing on health sector improvements, USAID will leverage investments in other sectors and seize opportunities to work collaboratively across disciplines to yield greater benefits for women and for development. As a development agency, USAID brings skills, experience, and resources to bear across many fields that ultimately influence women's health, such as infrastucture development, girls' education, economic growth and productivity, food security and nutrition, and democracy and governance. These areas have a long-term impact on women's desire and opportunity to stay healthy and to use life-saving health services, including family planning and maternity care. Vulnerable women are a major target group for assistance in times of crisis and natural disaster and can be powerful forces for peace and security in fragile and conflict-affected countries. Women of reproductive age who are refugees or are internally displaced are at particular risk of unwanted pregnancy and require quality care in pregnancy and birth. USAID continues 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. Country ownership and partnerships are essential to achieving the ambitious targets that are described in *Ending Prventable Maternal Mortality: USAID Maternal Health Vision for Action, Evidence for Strategic Approaches*. When country leadership commits to improving maternal health, the likelihood of national-level buy-in, strengthened capacity, and sustainability is greater.

BUILDING ON GLOBAL EFFORTS

A steady drumbeat is already underway to end preventable maternal mortality. *Ending Preventable Maternal Mortality: USAID Maternal Health Vision for Action* and *Ending Prventable Maternal Mortality: USAID Maternal Health Vision for Action, Evidence for Strategic Approaches* together support global efforts aiming to reduce maternal deaths. *The Global Strategy for Women's and Children's Health* (2010) 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 the area of women's and children's health and in the acceleration of progress toward the 2015 Millennium Development Goals 4, 5, and 6 to reduce child mortality, improve maternal health, and combat HIV and AIDS, malaria, and other diseases (United Nations Secretary General, 2010). The goals of other initiatives are also pushing the boundaries to improve the health of women and children. These initiatives include *Family Planning 2020*, the *United Nations Commissions on Information and Accountability* (2011), and *on Life-Saving Commodities* (2013), *A Promise Renewed* to accelerate reductions in child mortality, the *Every Newborn Action Plan*, and USAID's *Ending Preventable Child and Maternal Deaths* (Fabic et al., 2014; UNICEF, 2013; COIA 2013; WHO, 2014a; Stenberg et al., 2013; USAID, 2014).

The international community has consensus on the technical approaches to improve survival during pregnancy and around labor, delivery, and the immediate postpartum period (Campbell et al., 2006). We know we have to target interventions at the community level as well as in health clinics and hospitals – and connect these levels for referral. Given these achievements, 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 gross domestic product), we have an unprecedented opportunity to accelerate progress. Action is urgently needed on supportive policies, adequate funding, and improved metrics to achieve the ambitious but attainable goals.

5. WHO defines the social determinants of health as "the circumstances in which people are born, grow up, live, work and age, and the systems put in place to deal with illness. These circumstances are in turn shaped by a wider set of forces: economics, social policies, and politics."

Achieving the Vision: Strategic Drivers to Prevent Maternal Mortality

To achieve USAID's vision of **"A world where no woman dies from preventable maternal causes and maternal and fetal health are improved"** requires strategic approaches that fall under three major pillars (Figure 7):

- *Enabling and mobilizing individuals and communities* to improve healthy behaviors, expand use of appropriate services, and hold health systems accountable.
- *Advancing quality, respectful care* that reduces maternal morbidity, disability, and mortality and improves fetal health.
- *Strengthening health systems and continuous learning* to support the system of care needed from pregnancy through the postpartum period.

For each pillar, there are strategic drivers that enable progress toward the mortality reduction target. The strategic drivers may be considered both separately and holistically. For each driver, possible approaches are outlined that could be used and adapted to the local context. In addition to investments in health sector improvements, investments in other sectors and collaboration across disciplines can yield significant progress in maternal and fetal health and may be considered as well.

Figure 7: Achieving the Vision for Improved Maternal and Fetal Health and Survival

Enabling and mobilizing individuals and communities

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

Advancing quality, respectful care

3. Strengthen integration of maternal services with family planning
4. Scale up quality maternal and fetal health care
5. Prevent, diagnose, and treat the indirect causes of maternal mortality and poor birth outcomes
6. Increase focus on averting and addressing maternal morbidity and disability
7. Advance choice and respectful maternity care and improve working conditions for providers

Strengthening health systems and continuous learning

8. Strengthen and support health systems
9. Promote data for decision-making and accountability
10. Promote innovation and research for policy and programs

ENABLING AND MOBILIZING INDIVIDUALS AND COMMUNITIES

Fundamental to saving the lives of childbearing women is recognition that the community is an essential part of the health system and that empowered individuals in the community are indispensable for taking responsibility for their own care. Empowered individuals and communities are also essential to hold the formal health care system responsible for the health and survival of citizens.

STRATEGIC DRIVER 1: Improve Individual, Household, and Community Behaviors and Norms

Prospects for a healthy outcome for both mother and baby improve when all women and families, including adolescent girls, have adequate knowledge and are supported by their communities to engage in healthy behaviors. The behaviors include choosing whether and when to become pregnant and entering pregnancy as free from infections as possible and with good nutritional status, as well as maintaining healthy diets and practices during pregnancy, birth, and postpartum. This involves using such services as family planning, antenatal care (ANC), skilled care for delivery in health facilities, and postnatal care.

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

- Supporting programs to improve healthy maternal and household behaviors, including the seeking of care for uncomplicated pregnancy and birth and for the prompt treatment of complications, by increasing knowledge and awareness of maternal and fetal health and family planning.

- Advancing community mobilization efforts to build capacity of women, families, communities, and citizen groups to actively engage with each other, with health providers and managers, and with government policymakers 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 who become pregnant or get married at young ages. In South Asia and sub-Saharan Africa, 40 percent 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 and 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 women are enabled to make informed choices.

Health communication and other behavior change interventions to improve knowledge of 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, 1992), and is provided through participatory or empowering 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, demanding rights to health and quality services (Rosato et al., 2008; Costello et al., 2006), and promoting supportive community norms.

Women's groups and community participation, and other such community-based efforts have 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. These efforts 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 2013 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 ANC, and institutional deliveries (Prost et al., 2013). Another 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,[3] it is essential to conduct rigorous monitoring,

3 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).

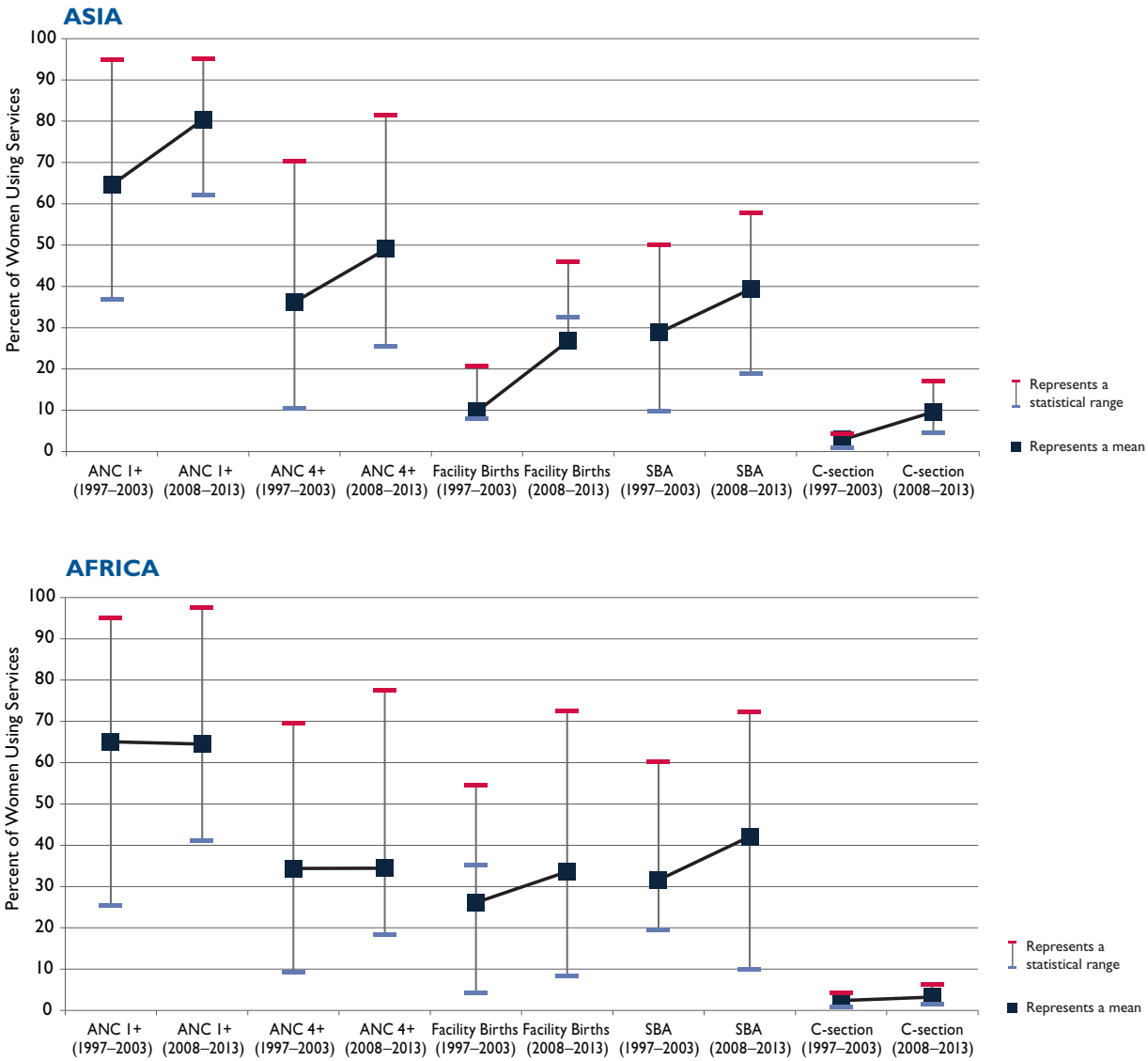
including coverage of intervention components, quality of the intervention, and differences in local context.

In addition to supporting community-based efforts ultimately geared to improve access to information and care, USAID will seek to conduct rigorous evaluations where no evidence exists and/or where the findings of an evaluation are needed.

STRATEGIC DRIVER 2: Improve Equity of Access to and Use of Services by the Most Vulnerable

Access to affordable, high quality respectful maternal health care is fundamental to the survival of pregnant and childbearing women and girls. It includes access to services, goods, and information and the removal of inequities due to age or marital status or to social, cultural, racial,

Figure 8: Use of Maternal Health Services in USAID MCH Priority Countries over a Decade, Asia and Africa



Source: CF International 2012

ethnic, geographic, economic, legal, and political barriers. 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. By striving to improve equity of access and use of health services by women and girls – particularly the most vulnerable – through addressing the key drivers of inequity, women and girls will benefit from increased access to quality services, goods, and information alongside the removal of barriers that put pregnant women and their newborns at peril.

USAID will continue to address the key drivers of inequity in access and provision of quality services by:

- Supporting the transformation of social and cultural norms to access family planning and maternity care through community-led initiatives and programs in the maternal health context (see Strategic Driver 1).

- Reducing geographic, financial, and social/cultural barriers to safe delivery services and rapid referral for emergency obstetric and newborn care using a systems approach that incorporates both public and private facilities, financial initiatives, transportation, and new communication networks.

- Catalyzing government action to increase national budget allocations for maternal and newborn health and for services that impact maternal health (e.g., family planning, infectious diseases, nutrition) and promote innovative financing reforms to decrease economic barriers to use of maternal health services. This must accompany other innovative financing reforms to decrease economic barriers (e.g., the use of demand- and supply-side financial incentives).

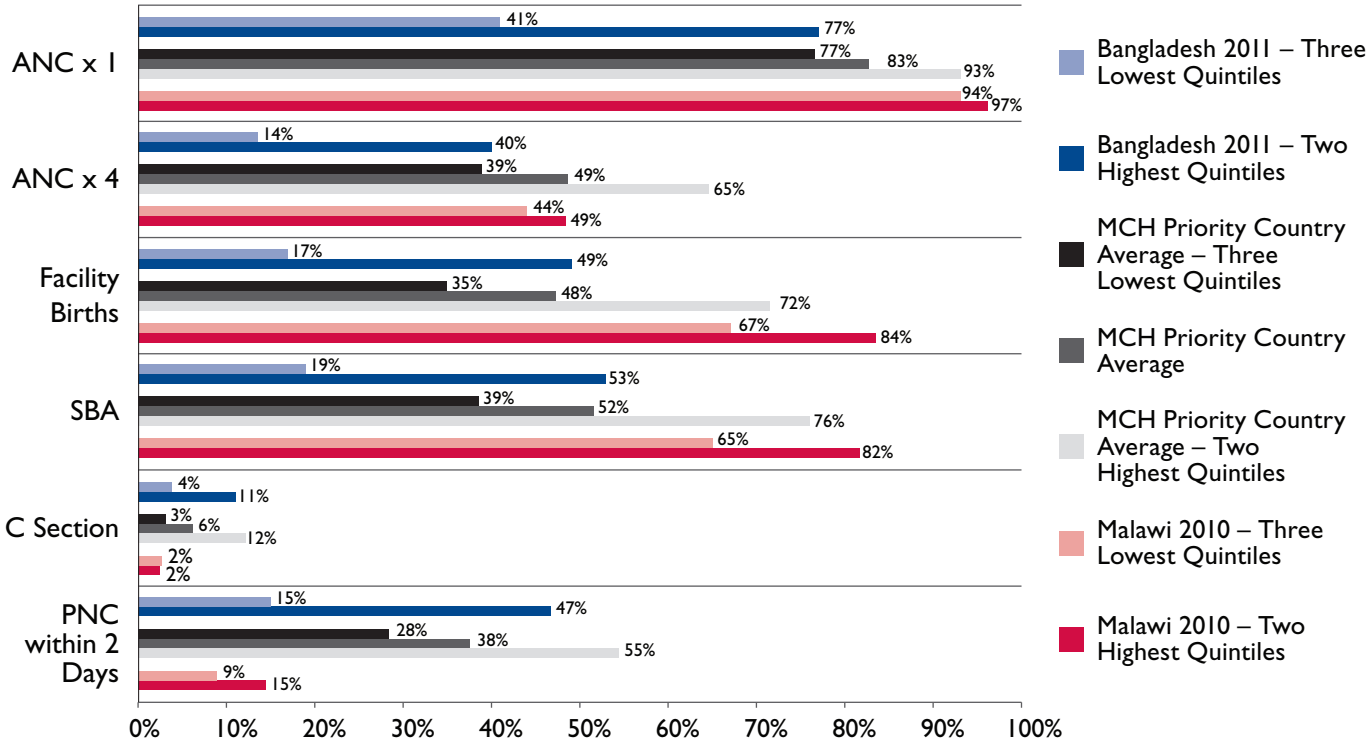
- Linking with other sectors to support improvements in education, training, and employment opportunities for girls and women and to decrease child marriage and delay childbearing.

Supporting Evidence

Among USAID's 24 MCH priority countries, those in Asia have shown progress in use of maternity services over the past decade – for ANC, skilled birth attendants (SBAs) facilities for births, and cesarean section (C-section) (Figure 8). Priority countries in Africa have made some improvements in use of birthing care (SBA and facilities) but remained relatively stagnant over a recent 10-year period in ANC use and use of C-section. One reason for this stagnation is the great inequities within countries.

Entrenched poverty continues to be the major barrier to accessing life-saving services. In most USAID MCH priority countries, women in the lower wealth quintiles attend fewer ANC visits and utilize facility deliveries less often than do those in the top quintiles, as can be seen in Figure

Figure 9: Utilization of Maternal Health Services in Bangladesh, Malawi, and USAID MCH Priority Countries by Wealth Levels, 2007–2010



Source: National Statistical Office [NSO] and ICF Macro. 2011; National Institute of Population and Training et al., 2011; CF International 2012

9 for both Malawi and Bangladesh. Yet women living in poverty often have more need for such services as they may have an inadequate diet and a heavy workload that contribute to poor birth outcomes.

Among 20 countries with a recent Demographic and Health Survey (DHS), on average, about half (52 percent) 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, opportunity costs, and informal fees to providers.

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

Access to life-saving services is also a gender issue. Needless death and suffering persist due not only to a failure to provide quality services, but also to women's lack of agency to utilize services. Beyond lack of decision-making authority, women are less likely to have control over or access to the financial resources needed to pay for transportation and direct or "incidental" fees for maternal services.

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 percent of indigenous women have institutional deliveries as compared to 73 percent of their more westernized mestizo (ladina) counterparts (Ishida et al., 2012). Adolescents may use services less than other age groups, and when this happens adolescents suffer a higher maternal mortality than other age groups (Nove et al., 2014) (see Figure 10). When in facilities, there is also discrimination; for example, in a multi-country survey, adolescents were found to have poorer coverage of prophylactic uterotonics, prophylactic antibiotics for caesarean section, and had 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 drive them away from the use of maternity services (Mahajan et al., 2008) and from accessing family planning services and safe pregnancy counseling. Disrespectful care of women seeking post-abortion care can also dissuade women from utilizing life-saving services.

Achieving universal coverage requires strategies to address these cultural, geographic, and financial barriers, such as financial incentives and the community mobilization efforts (described in Strategic Driver 1). Use of financial incentives in a number of countries have overcome financial constraints to accessing services as well as stimulated improvements in quality of care. Specifically, national or social insurance programs, user fee exemptions, conditional cash transfers, and vouchers, have resulted in increased use of family planning and maternity services, especially facility-based births and skilled birth attendance, in a relatively short time frame and on a relatively large scale (Morgan et al., 2014).

USAID health programs addressing equity issues will link with multi-disciplinary programs with similar aims such as economic growth, education, and democracy and governance programming to further bolster an environment conducive for women to access and receive healthcare.

ADVANCING QUALITY, RESPECTFUL CARE

Family planning, maternity care, infectious disease, and nutrition programs are all critical to reduce maternal mortality. In addition, there are previously neglected maternal and fetal health issues along with the behaviors of childbearing women and their caregivers that relate to quality respectful care and the protection of human rights.

STRATEGIC DRIVER 3: Strengthen Integration of Maternal Services with Family Planning

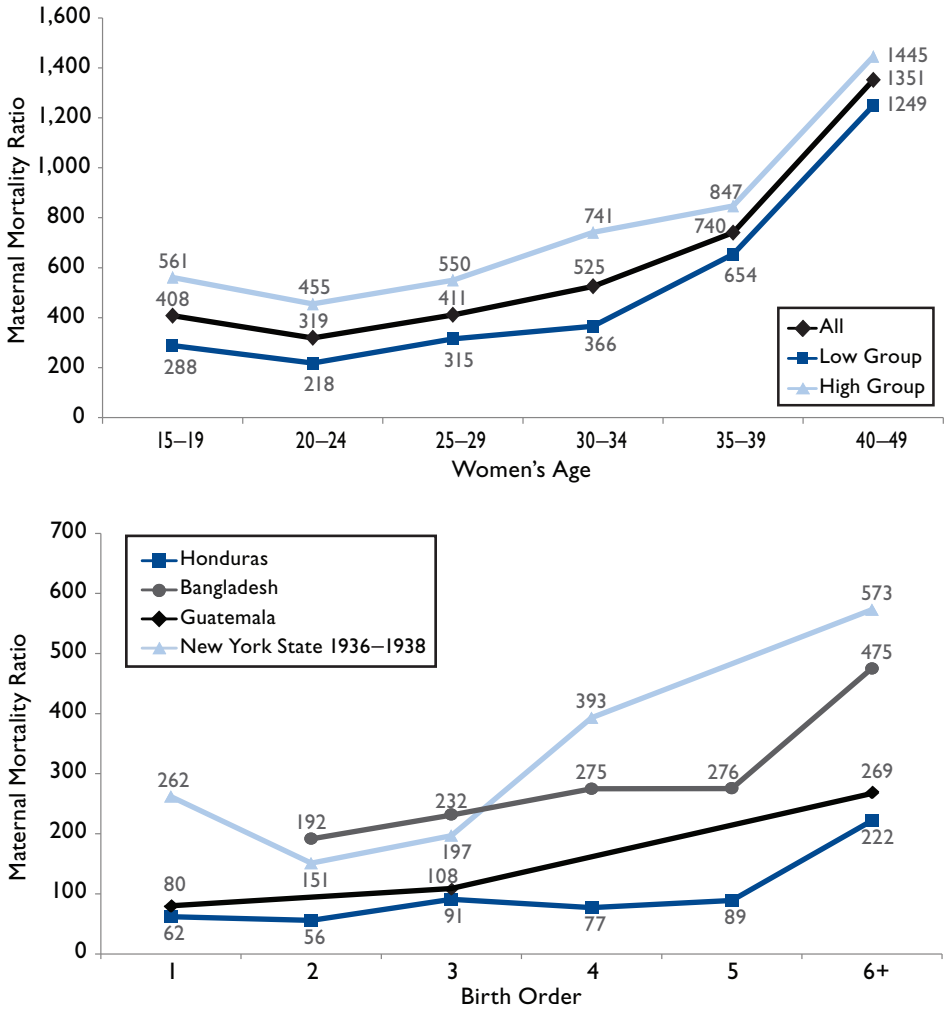
Family planning is an integral element of improved maternal and fetal health. Approximately 57 percent of women of reproductive age in the low- and middle-income countries (LMICs), or approximately 870 million women, need contraception, and of these, about 74 percent of women used a modern contraceptive as of 2012 (Singh and Darroch 2012). Using modern contraception reduces the annual numbers of pregnancies and thus the number of times women are exposed to pregnancy and its associated complications. It ensures healthy timing and spacing of pregnancy, thus reducing the number of high-risk pregnancies. And it meets the modern contraceptive needs of millions of women who want to prevent pregnancy.

To reduce unmet need for family planning among the remaining 222 million women and to increase opportunities for healthy timing and spacing of pregnancies among all women of reproductive age, USAID strategies include:

- Educating women, girls, men, and their families on family planning's role in ensuring that pregnancies are timed and spaced to occur at the healthiest point in a woman's life.

- Expanding the mix and availability of contraceptives to help women effectively delay, time, space, and limit pregnancies to achieve their fertility intentions.

Figure 10: Maternal Mortality Ratio by Age and Birth Order



Sources: Blanc et al., 2013; Stover & Ross, 2010

- Promoting post-abortion and postpartum family planning care that offers a full range of family planning information, counseling, and services, including lactation amenorrhea method (LAM), at health system points of contact for women, newborns, and children.

- Advancing policies to support informed choice, empowerment activities, and gender equality and meeting women and girls' family planning, health, and education needs.

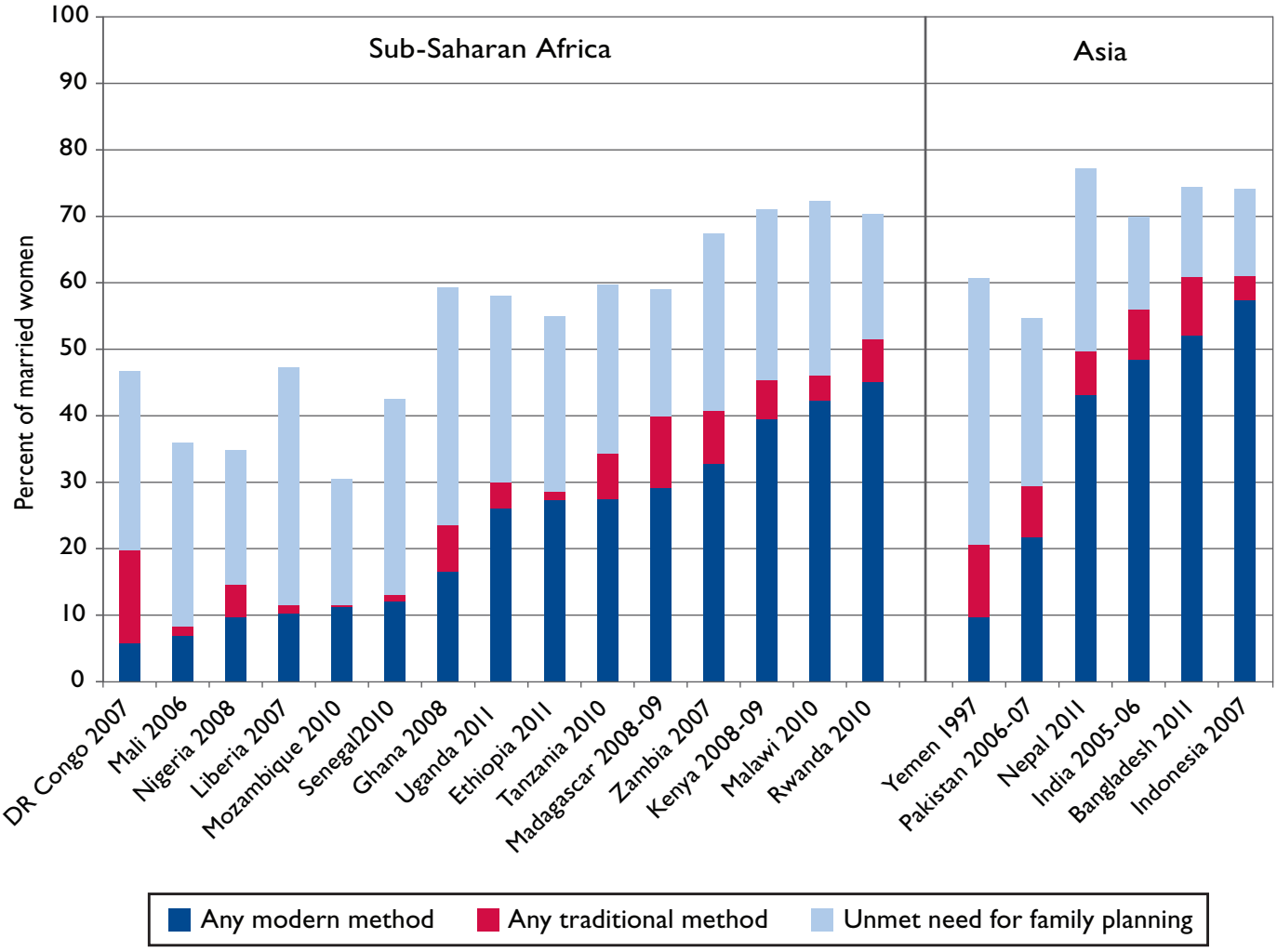
Supporting Evidence

Much of the impact of contraception to prevent maternal death comes simply from reducing the number of births (Ahmed et al., 2012). However, preventing pregnancy also reduces the MMR because higher risk births and unsafe abortions are more likely to be prevented. More risky pregnancies include those with poor timing (under age 18 or over age 34) or pregnancy among women with higher parity (more than 4 children) (Figure 10). Moreover, studies have found that the risk of maternal death, adverse perinatal outcomes, and under-5 deaths, 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). And, perinatal mortality is lower among babies born to women ages 20–29 than those born to adolescents (Ganchimeg et al., 2014).

Spacing pregnancies to at least >24 months after a live birth (and 6 months after an abortion or miscarriage) is also important, especially for the newborn. In Bangladesh, rapid, repeat pregnancies are associated with increased risk of miscarriage, induced abortion, and stillbirth (DaVanzo et al., 2007) – and maternal deaths are more common among these women (Rahman et al., 2010). Under-5 children born at least 3 years after a preceding birth have a lower risk of mortality as well as under nutrition (Rutstein, 2005).

Women in need who are not currently using a modern contraceptive method (e.g., women who use no method or use a traditional method) are considered to have an unmet

Figure 11: Modern and Traditional Method Utilization and Unmet Need among Married Women in USAID MCH Priority Countries



Source: CF International, 2012

need for modern methods (Singh and Darroch, 2012). Unmet need is higher in USAID's MCH priority countries in sub-Saharan Africa than in South Asia. For every woman using modern contraception in sub-Saharan Africa, 1 to 5 women have unmet need. In the large South Asian countries, this ratio typically does not exceed 1:1. (Figure 11).

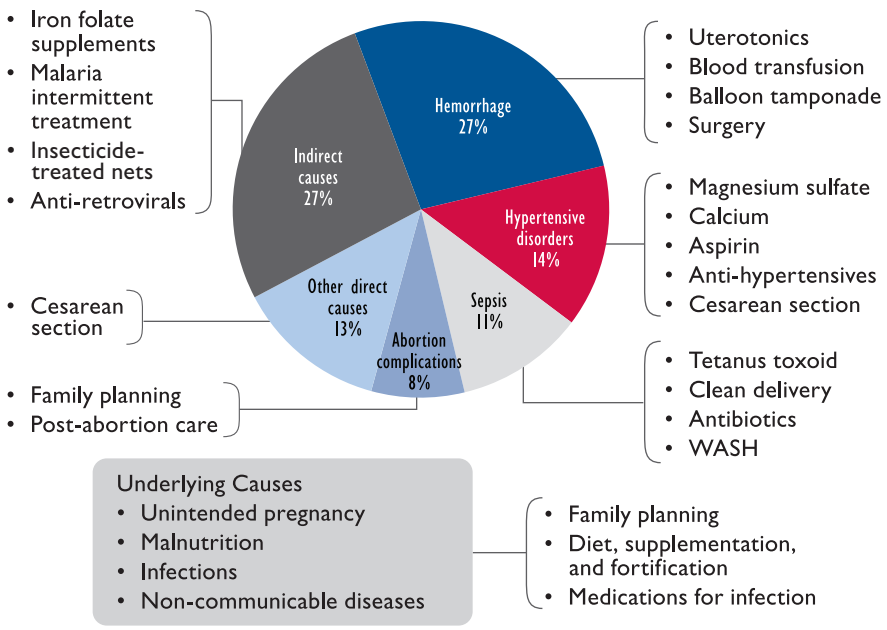
In 2012, 80 million unintended pregnancies occurred in the LMIC – including an estimated 63 million due to unmet need. About 39 million women with unintended pregnancies annually choose abortion, and more than half of these procedures are unsafe (Singh and Darroch, 2012). Some 68,000 thousand women die of unsafe abortion annually (Haddad and Nour, 2009).

Meeting unmet need for modern contraceptives in the developing world would reduce maternal mortality by approximately 80,000 deaths, and prevent 1.1 million infant deaths annually (Singh and Darroch, 2012). In collaboration with reproductive health staff, continued advocacy and programming for family planning to ensure volunteerism and choice, with specific focus on vulnerable populations, is crucial to improving maternal and newborn health and survival.

STRATEGIC DRIVER 4: Scale Up Quality Maternal and Fetal Health Care

The direct causes of maternal death are well known – obstetric hemorrhage (primarily postpartum), hypertensive disorders, puerperal sepsis, and unsafe abortion (Say et al., 2014) – as are effective interventions to mitigate them (PMNCH, 2011; Benova et al., 2014; Bhutta et al., 2013). These interventions can best be delivered through quality maternity care 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 & Graham, 2006). Such care addresses the leading causes of maternal death, both direct

Figure 12: High Impact Practices – Proven Interventions Can Address Leading Causes of Maternal Death



Sources: Say et al., 2014; PMNCH 2011; Benova et al., 2014; WHO 2012b; Requejo et al., 2012

and indirect, and improves maternal and 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:

- Expanding and scaling up high-impact interventions to address the major direct obstetric causes of maternal mortality.
- Supporting the integration of interventions that address stillbirth and preterm birth.
- Strengthening and improving the referral system and response to manage complications and life-threatening emergencies with comprehensive care.
- Promoting the use of standards and evidence-based guidelines for improved quality care.
- Increasing the use of evidence-based process improvement and regulatory strategies.

Supporting Evidence

Addressing the direct maternal causes of death

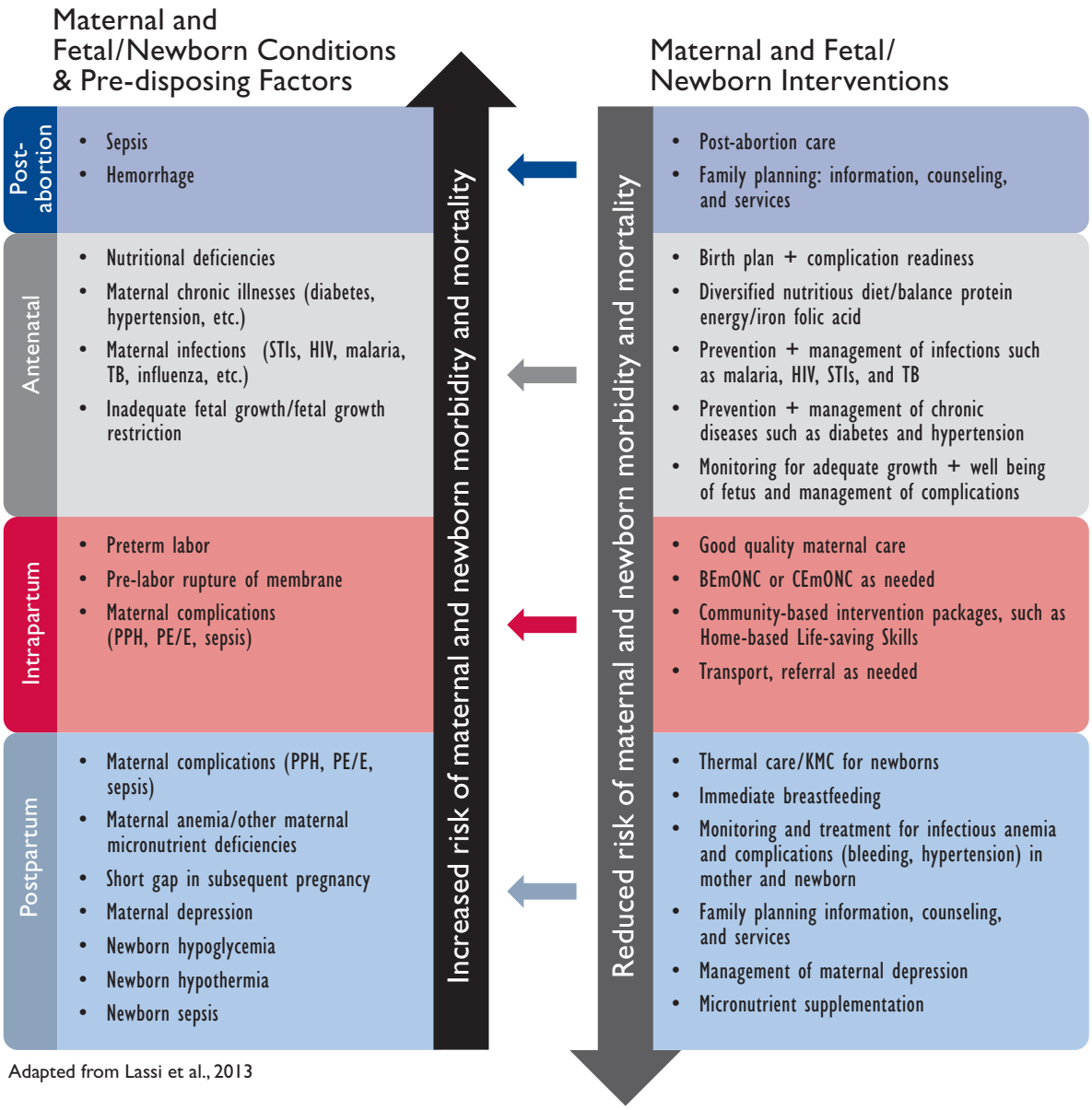
Figure 12 shows the causes of maternal deaths by percentage at the global level along with the key interventions known to impact them.

Postpartum hemorrhage (PPH) is responsible for approximately 27 percent of maternal mortality worldwide (Say et al., 2014). PPH can also cause long-term severe morbidity: approximately 12 percent 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. They decrease blood loss and prevent 50 percent to 60 percent 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).

Hypertensive disorders, a pregnancy complication characterized by elevated blood pressure and protein in the urine, can progress to convulsions and death if not treated. Worldwide, hypertensive disorders are the second highest direct obstetric cause of maternal death after hemorrhage, accounting for 14 percent of maternal deaths (Say et al., 2014). Magnesium sulphate more than halves the risk of eclampsia and reduces maternal death (WHO, 2011). To prevent pre-eclampsia/eclampsia (PE/E), low-dose aspirin and calcium supplements (in populations with low calcium intake) are also effective (WHO, 2011). 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 low- and middle-income countries (AbouZahr et al., 1998). Fac-

Figure 13: Interconnections between Maternal, Fetal, and Immediate Newborn Health and Interventions



Adapted from Lassi et al., 2013

tors 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 & Hofmeyr, 2002; Yokoe et al., 2001).

In addition, non-hygenic water and sanitation practices are associated with maternal mortality and hence a plausible pathway of direct infection at the time of birth (Benova et al., 2014). Appropriate and timely use of antibiotics is essential to manage and treat this cause of maternal mortality.

Eight percent of maternal deaths are directly attributable to abortion (Say et al., 2014), primarily from severe infections and also from bleeding caused by the procedure or organ damage (Grimes et al., 2006). Timely identification and management of the complications that post-abortion women present with (severe bleeding, sepsis, etc.) are critical 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 the 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, which has been initiated in a number of countries, also needs further promotion (Ejembi et al., 2013).

Beyond the essential interventions of prophylactic and therapeutic use of uterotonics and magnesium sulfate,

there is a need for the interventions of anti-hypertensives, prophylactic antibiotics for caesarean section, and parenteral antibiotics for sepsis (for both puerperal sepsis and sepsis from unsafe abortion) to improve care for severe complications, plus 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 an essential component of life-saving maternity care.

Addressing Maternal Care to Improve Fetal Health

Attention has recently focused on the high toll of poor fetal outcomes and on approaches to improve them (PMNCH 2014). For stillbirths, the target set for all countries is for elimination of all preventable stillbirths and of equity gaps by 2020 among countries with third trimester stillbirth rates (SBR) of less than 5 per 1,000 total births; among other countries, the target aims at reduction of SBRs by at least 50 percent by 2020 from the 2009 global average baseline of 18.9/1,000 total births (Lawn et al. 2014).

Based on recent data, there are annually approximately 2.6 million stillbirths and 15 million preterm births (Lawn et al., 2014). Many effective interventions that improve maternal health and reduce maternal mortality will also reduce stillbirths and premature births (Lassi et al., 2013; Lassi et al., 2014; Salam et al., 2014). For example, maternal infections, pre-eclampsia/eclampsia, and hypertension contribute to the toll of stillbirth (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 (Lawn et al., 2014). The 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. However, recent evidence has raised questions about some practices previously promoted. For instance, the four visit antenatal regimen has come under scrutiny with a WHO analysis linking increased fetal death between weeks 32 and 36 with the reduced visit schedule; they recommend careful monitoring of such programs (Vogel et al., 2013). Guidance will also be needed regarding the use of antenatal corticosteroids for women at risk of preterm birth following findings of increased newborn and perinatal mortality (Althabe et al., 2014).

Specific approaches to prevent stillbirth and also preterm birth are: 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 (March of Dimes et al., 2012; Goldenberg et al., 2008). Antibiotics for premature rupture of the membrane is one antepartum intervention that can improve the chances of survival of preterm newborns (March of Dimes et al., 2012). Figure 13 illustrates the strong interconnectedness of both the conditions and predisposing factors and the interventions and care provided to ensure the health of the mother and fetus/newborn.

Ensuring Quality Care

Many public and private sector programs and services 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 that is evidence-based for each application, extends beyond compliance with standards to include community services and management, and incorporates sustainability and institutionalization (Bates et al., 2003). To date, few maternal and newborn health programs in high burden countries have a large-scale process improvement initiative underway.

Process improvement methods, specifically the Collaborative Improvement Approach (Tawfik et al., 2012), and others such as the Standards-Based Management and Recognition Approach (Rawlins et al., 2013) and the Client-Oriented, Provider-Efficient Approach, have shown positive increases in the use of effective interventions. The choice of approach needs to be evaluated based on the purpose, 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; the private sector would need to embrace a learning-based approach to improving quality of care of their accord.

Through a programmatic framework supporting demand, sustainable service quality, and an enabling environment, USAID will support the design, implementation, and evaluation of integrated strategies to improve maternal and fetal health. These integrated strategies will include quality obstetric care with referral care, integration of maternal

and neonatal care, and care related to infectious disease and malnutrition prevention and management during pregnancy as needed.

STRATEGIC DRIVER 5: Prevent, Diagnose, and Treat the Indirect Causes of Maternal Mortality and Poor Birth Outcomes

Indirect causes of maternal mortality and poor birth outcomes – especially HIV and AIDS, TB, malaria, sexually-transmitted infections (STIs), urinary tract infections (UTIs), and other opportunistic infections – contribute to a large and growing proportion of maternal and fetal deaths and morbidities where these infections are prevalent. Maternal under-nutrition, anemia, and overweight/obesity also contribute to poor birth outcomes.

Evidence-based prevention and treatment interventions are part of national policies and programs for many infections and nutritional deficiencies during pregnancy. Such interventions include condoms to prevent STIs and HIV, insecticide-treated nets and intermittent preventive treatment (IPTp) for preventing malaria, iron folate supplementation to prevent iron-deficiency anemia, and antiretroviral therapy (ART) for women living with HIV. However, the acceptability, use of, and adherence to many of these interventions, including health messages from a variety of disciplines such as water, sanitation and hygiene (WASH), need to be improved. Integration of maternal health services with newborn and child health, family planning, infectious diseases, nutrition, and WASH is a priority to promote cost-effective and client friendly services. USAID's strategies thus include:

- Strengthening the provision of quality integrated antenatal care for the prevention, screening, diagnosis, and treatment of HIV and AIDS, TB, malaria, helminthic infestation, other infections (e.g., UTIs and STIs), and other non-communicable diseases and for the improvement of the nutritional status (both over weight and undernutrition) of every pregnant woman.

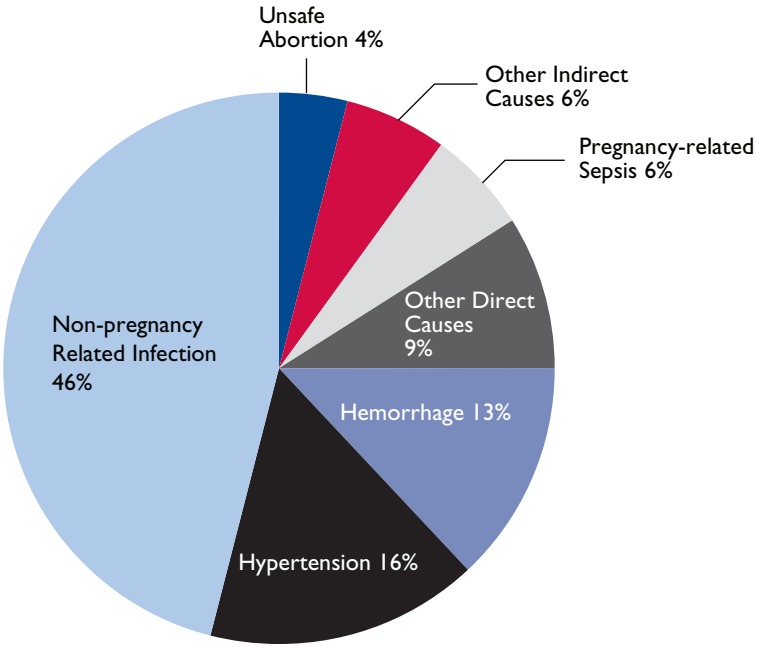
- Improving the acceptability and quality of and the adherence to evidence-based prevention and treatment interventions for infectious diseases and malnutrition for women through pregnancy, labor and delivery, and the postpartum period.

Supporting Evidence

Addressing Infectious Diseases

Though the main causes of maternal death vary across countries and regions and may differ at subnational levels, indirect causes may contribute between a quarter to over half of maternal deaths. Infectious diseases may also contribute to both maternal and neonatal morbidity. In areas of sub-Saharan African countries where HIV and AIDS, TB, malaria, and opportunistic infections are prevalent, these indirect causes contribute to a large and growing proportion of maternal deaths. An analysis of verbal autopsy data in Mozambique found 18 percent of maternal deaths were due to HIV and 23 percent were due to malaria (Singh et al., 2014). In Antioquia, Colombia, one in five maternal deaths was linked with H1N1 influenza/pneumonia (Velasquez et al., 2011). Infectious diseases, including maternal infections like sexually transmitted STIs and UTIs, also have serious consequences for fetal health and lead to poor outcomes including prematurity, small size for gestational age, infections, stillbirth, and early neonatal death (Chan et al., 2013).

Figure 14: Primary Causes of Maternal Death, South Africa, 2005–2007



Source: NCCEMD, 2009

South Africa's confidential inquiry and maternal death reviews have shown that infections were the primary cause of maternal deaths, specifically HIV and AIDS and TB in 2008–2010 (Figure 14) (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 antepartum and postpartum timing of death, as opposed to intrapartum deaths, 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. However, most such countries lack data on national and sub-national causes of death for pregnant women. 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 percent and 24 percent 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 and 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; Lassi et al., 2014; 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 antiretroviral therapy (ART), are more likely to develop other serious complications (Chen et al., 2012; Lassi et al., 2013).

Antiretroviral therapy, as one part of a larger prevention of mother-to-child transmission (PMTCT) of HIV strategy, is effective in improving the health of the pregnant woman, the fetus, and neonates, and the health of the mother and baby in future pregnancies. ART also reduces the risk of a woman transmitting HIV to her partner. However, as countries elect to implement lifelong ART for HIV-infected pregnant and breastfeeding women, or Option B+, new concerns are raised about limitations in many health systems to provide high quality skilled obstetric care, initiate ART treatment, and to 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 is 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 relevant for postpartum women with TB and chronic diseases and infants living with HIV who need ongoing pediatric care and treatment that require continuous service delivery 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).

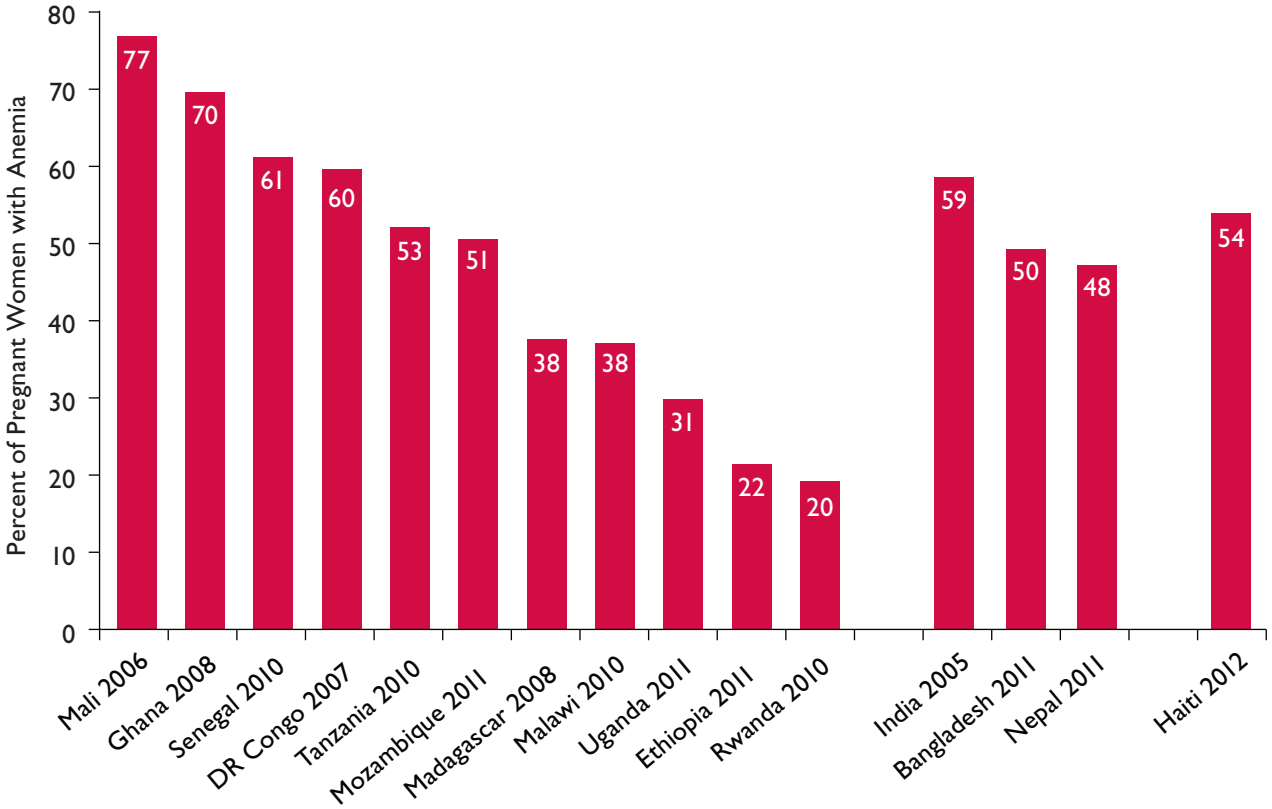
STIs, particularly congenital syphilis, are associated with adverse fetal and newborn outcomes including early spontaneous abortion, preterm birth, stillbirth, congenital anomalies, and infant death. Screening, diagnosing, and treating STIs as early as possible in the antenatal period leads to a decrease in prevalence and incidence, safer sexual behaviors, and improved neonatal outcomes (Lassi et al., 2013; Lassi et al., 2014).

Increased maternal mortality is reported in sites where malaria is endemic with significant maternal mortality increases during the rainy season when transmission is high (Anya 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.

Malaria in pregnancy places the health of women at risk; it also poses threats to the health of infants including low birthweight and prematurity through maternal anemia or placental parasitemia (Menendez et al., 2010). Other possible consequences include stillbirth and early infant death (Menendez et al., 2010; Menendez et al., 2000; Falade et al., 2010; Guyatt & Snow, 2004; Nagassa, 2000). IPTp is an effective intervention to prevent poor maternal and fetal outcomes related to malaria infection. However, IPTp coverage as a part of ANC is low in many malaria endemic countries, especially for the second and later doses (Hill et al., 2013). USAID is widely promoting IPTp in such countries.

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 has 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 TB-HIV co-infection is high. Pregnant women living with HIV have more than a tenfold 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, intrauterine growth restriction, fetal death, and TB disease in the mother and infant (Marais et al., 2010). 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). TB prevention for pregnant women who are HIV-positive and treatment of TB in pregnancy are important and largely neglected aspects of maternity care. WHO recommends the same

Figure 15: Prevalence of Anemia in Pregnant Women in USAID MCH Priority Countries*



* Note: No data available for Afghanistan, Indonesia, Kenya, Liberia, Nigeria, Pakistan, South Sudan, Yemen, or Zambia
Source: CF International, 2012

6-month TB treatment regimen for pregnant and non-pregnant women (WHO, 2010).

Promoting Appropriate Nutrition

Maternal under-nutrition and overweight/obesity remain insufficiently recognized as contributors to maternal mortality and other poor birth outcomes. In Africa and Asia, under-nutrition is higher than 10 percent, and overweight and obesity are rising on both continents. In 2008, overweight and obesity reached 40 percent in Africa (Black et al., 2013). Under-nutrition 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). Both are also significant morbidities in their own right.

Ideally, pregnancy should start in well-nourished women who are of appropriate weight (body mass index 18.5–24.9) and do not have micronutrient inadequacies or deficiencies. In community-based programs where there are no scales, a mid-upper arm circumference of <210 mm may be used as a measure of maternal underweight. Proper nourishment in pregnancy requires a diverse and appropriate diet along the life course. For example, adequate folate and vitamin B12 before pregnancy reduces neural tube defects in the baby (Copp et al., 2013). Prevalence of neural tube defects above 10/10,000 is indicative of these deficiencies in folate and vitamin B12, which also contribute to stillbirths and permanent disabilities in the children who survive. Vitamin A and vitamin D deficiencies may lead to poor immunity. Vitamin D deficiency also impairs bone/calcium metabolism, which is associated with pre-eclampsia (Stephenson 2001; Thorne-Lyman & Fawzi 2012; Tabesh et al., 2013; Wei et al., 2013; Bezerra et al., 2012). Iodine deficiency also causes miscarriages and stillbirths (Hetzel and Mano, 1989).

Maternal anemia is an indirect cause of maternal mortality. It is also a cause of fetal growth restriction, thus contributing to low birth weight. Maternal anemia is caused by dietary iron inadequacy and low bio-availability, other micronutrient deficiencies (in vitamin A, vitamin B12, or folate), malaria, helminthic infestation, and by both HIV infection and HIV and AIDS treatment (Khan et al., 2006; Stevens et al., 2013). Anemia is prevalent in many USAID priority countries in sub-Saharan Africa and Asia. Nine priority countries report anemia levels of 50 percent or more in pregnant women (Figure 15).

Use of iron folic acid (IFA) supplements to address iron deficiency anemia has improved in many USAID maternal and child health priority countries, including Ghana, Haiti, Mali, Malawi, Mozambique, Nepal, Rwanda, Senegal, Uganda, and Zambia (CF International 2012). Even so, promotion of use of IFA for at least 90 days (and preferably 180 days per WHO recommendations) in pregnancy must remain on the agenda in order to make further im-

provements. Multiple micronutrient supplements have the potential to replace IFA, having shown a similar effect on maternal anemia and on reductions in preterm births, low birth weight, and small for gestation age babies (Bhutta et al., 2013).

In countries with a low baseline of calcium intake, calcium supplementation has been shown to reduce gestational hypertension and pre-eclampsia, preterm births, and to increase birth weight (Imdad and Bhutta, 2012). In addition, balanced energy/protein supplementation, where around 25 percent of the total energy supplementation is protein, is an important intervention in malnourished women. This type of supplementation improves perinatal outcomes, reducing the incidence of small for gestational age by 32 percent and the risk of stillbirth by 45 percent (Bhutta et al., 2013).

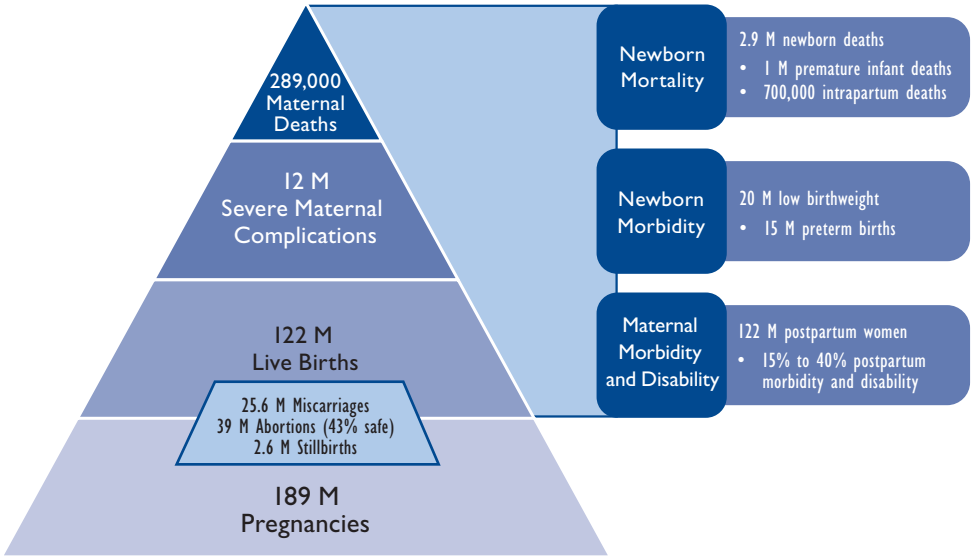
Dietary taboos as well as dietary norms including dietary diversity and adequate protein play a role in maternal outcomes, although the evidence is more difficult to obtain. Iodine sources, including salt or other fortified vehicle, are also vital as iodine deficiency can lead to spontaneous abortion 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. The integration of nutrition into maternal health services is essential. USAID humanitarian assistance programs such as Food for Peace include nutrition initiatives to improve caloric and micronutrient intake of women who are especially vulnerable to dietary insufficiency.

STRATEGIC DRIVER 6: Increase Focus on Averting and Addressing Maternal Morbidity and Disability

Women's ability to feed their infants, nurture themselves and their families, and be productive members of their communities rests on a full recovery from pregnancy. However, an estimated 10 percent of women who give birth each year suffer pregnancy or birth-related complications of varying severity (Huda et al., 2012). For those women who do not die, there can be short- and long-term morbidities and disabilities resulting from the pregnancy or from labor/delivery and its management (Filippi et al., 2006; Ferdous et al., 2012). Such complications and post-birth morbidities and disabilities have consequences for the continued well-being of the woman, the health and survival of her children (Figure 16), the cost of care to the family, and the ability of the woman to contribute productively to her family and community. They may also lead to violence and family disruption. Furthermore, the noted complications and post-birth morbidity and disability add costs to the health care system more generally.

While USAID maternal health programs have long contributed to prevention and management of maternal complications as a consequence of addressing maternal mortality, the Agency will continue to advance programs that prevent and treat post-birth morbidities and disabilities – such as obstetric fistula and anemia – and improve fetal health. USAID's strategies to avert and address pregnancy- and birth-related morbidities and disability include:

Figure 16: Annual Maternal, Fetal and Newborn Mortality and Morbidity, 2008–2010



Sources: Singh and Darroch 2013; Huda et al., 2012; Ferdous et al., 2012; Filippi et al., 2006; Lawn et al., 2014

- Developing, testing, and implementing interventions for selected morbidities that are prominent and disabling, such as fistula, prolapse, anemia, and postpartum depression, with special attention to counting the morbidities/disabilities and their identification and management in the postpartum period.

- Building capacity to manage and sustain programs to address selected maternal related morbidities and disabilities.

- Advocating for global and national attention and programs to address maternal complications and continuing maternal morbidities and disabilities.

Supporting Evidence

Among the 189 million women globally who become pregnant annually, 289,000 women die from complications in pregnancy, childbirth, or postpartum (WHO, 2014a). About 122 million pregnancies result in a live birth.

Among those that did not result in a live birth, there were an estimated:

- 25.6 million miscarriages (Singh et al., 2013).

- 39 million induced abortions – 43 percent safe, 57 percent unsafe (Singh et al., 2013).

- 2.6 million stillbirths, including 1.2 million that occurred in the hours or minutes before childbirth. Women in low-income countries are more likely to suffer stillbirths than women in high-income countries (Lawn et al., 2014).

Among the babies born alive, there are also:

- 2.9 million newborn deaths (Lawn et al., 2014).

- 15 million babies born preterm, contributing to the 20 million babies of low birth weight.

Among the pregnant women:

- 10 percent suffer serious maternal complications, and many more suffer less serious morbidities (Huda et al., 2012).

- Following pregnancy, between 15 percent to 40 percent of women suffer mild to severe morbidities and disabilities (Ferdous et al., 2012; Filippi et al., 2006).

- An estimated 50,000 to 100,000 develop fistula yearly. More than 2 million women live with the condition (WHO 2014c).

Box 1: What Is Maternal Morbidity?

Maternal morbidities vary in terms of severity, timing as related to pregnancy/birth, and duration. They may be one of the four major obstetric complications (e.g., hemorrhage, hypertensive disorders, puerperal sepsis, or abortion complications), result from these complications (e.g., anemia), or be incidental or concurrent – and not related to the obstetric complications (e.g., diabetes, cardiac disease). They may be aggravated by pregnancy, by the obstetric complications, or by birthing (e.g., anemia). They can manifest post-delivery (e.g., postpartum depression) or after many pregnancies (e.g., "maternal deprivation syndrome," malnutrition). Childbirth can also lead to fistula (often termed a disability), genital or uterine prolapse, perineal tears, foot drop, hemorrhoids, or stress urinary incontinence.

Some morbidities may have a "two-way effect"; they are affected by pregnancy and labor, and they affect pregnancy and labor. Examples include medical diseases (e.g., essential hypertension, cardiac disease, sickle cell, thromboembolic disease), metabolic diseases (e.g., diabetes, thyroid disease), and infections and infestations, such as HIV and AIDS, UTIs, or parasites.

Morbidities range in severity from a "maternal near miss" – defined by the 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 has 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 well-being" (Firoz et al., 2013).

(Source: Koblinsky et al., 2012)

Obstetric complications – some of which may be a life threatening "maternal near-miss" – include maternal hemorrhage, puerperal sepsis, hypertensive disorders of pregnancy, and unsafe abortion. They result in more than 16 million years lived with pregnancy-related disability (Murray et al., 2012). 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 1 for further definition of maternal morbidity).

Consequences of maternal morbidity, in addition to potential poor birth outcomes for the perinate and health of the mother, go beyond biomedical conditions and may include: emotional, physical, and sexual violence; economic consequences for the family; and increased 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. In the last 5 years, Demographic and Health Surveys conducted in 8 sub-Saharan African countries have documented fistula prevalence among women of childbearing age that ranges from 0.1 percent to 2.0 percent. However, the incidence and prevalence of other maternal morbidities are typically unmeasured at the population level.

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. USAID, through our nutrition programs, is also addressing the problem of maternal anemia by promoting iron supplementation linkages to antenatal and postpartum care. Determining levels and trends of other maternal morbidities and disabilities and their burden on the health care system and on families may be a focus where opportunities present.

STRATEGIC DRIVER 7: Advance Choice and Respectful Maternity Care and Improve Working Conditions for Providers

Growing evidence is emerging of disrespect and abuse of women giving birth. This evidence includes documentation that disrespect and abuse is widespread throughout the world, the manifestations are highly varied, and the perceptions of abuse differ between women and their caregivers. Disrespect and abuse has been noted in childbirth settings, in ANC and family planning clinics, and more. Disrespect and abuse is not only a violation of women's basic rights, but also it is a deterrent to using life-saving health services. 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. Unfortunately, women may have normalized this disrespect or are unable to freely choose individual procedures.

A potential 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. These health care workers and attendants are often poorly paid, demoralized, and treated with disrespect. Concerted attention to the issue of positive provider attitudes is therefore fundamental to ensuring the rights of health workers and to providing quality of care.

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

- Implementing and documenting the effects of methods, such as legal, regulatory, training methods, incentives, and professional codes of ethics, to promote compassionate and respectful treatment of childbearing women.
- Promoting policies to support women's choices of care.
- Advocating at global, national, and local levels to recognize, address, and hold accountable those responsible for disrespect of and unsatisfactory conditions for women in family planning and maternity care and for their health care providers.

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, and 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 features were found to have a greater influence on patients' choices of a facility setting than were the provision of transport and the reduction of 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 services and procedures during maternity care is a human right, yet women frequently encounter pressure to utilize services that are perceived as important for various medical, economic or societal reasons. Women should have the choice of whether and when to get pregnant and where and with whom to give birth. Pressures may vary from subtle encouragement to overt insistence to use family planning services

or a particular family planning method, to use a health facility for birth, to use a certain category of health care provider, or to accept a medical or surgical intervention such as induction of labor, episiotomy, or a cesarean section (Declercq, 2009). Insistence can include bullying and threats, economic penalties, and imprisonment. Beyond choice to opt out of a service or an intervention, choice also includes opportunity to obtain a desired, available, legal, and indicated 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 or refusal of a service, procedure, or medication. It should be extended to preferences for privacy, companions, position at the time of birth, and incorporation of non-harmful or neutral cultural practices including prayers, food and fluids, rituals, and so forth. 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, unsafe, or beyond their legal scope of practice.

Many skilled birth attendants, especially female providers, work in extremely difficult, stressful, isolated, and unsafe environments, and these working conditions are potentially a contributing factor to disrespectful and abusive care. Some work in 24-hour shifts without security and are vulnerable to physical and sexual abuse. Women's visibility in male-dominated workplaces can also leave them vulnerable to a high degree of harassment (Mumtaz & Levay, 2012). The workload of birth attendants is often heavy and devalued/undervalued. Salaries may be low and benefits few. In addition, birth attendants may face unrealistic expectations and limited appreciation and support from supervisors or from women and families whom they serve. 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 risks 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 (Lutzen et al., 2012; Kalvemark et al., 2004).

The lack of empowerment, dignity, safety, and security for providers is driven by complex and deep-rooted attitudes derived from gender, class, caste, race, cultural values, and other factors. These attitudes undermine the resilience of skilled birth providers and may have a negative impact on 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 and 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.

STRENGTHENING HEALTH SYSTEMS AND CONTINUOUS LEARNING

Good maternal and fetal health necessarily depends on a functioning health system. Such health systems are crucial for promoting health, saving lives and preventing disability in the short term and are essential for long-term sustainability. New opportunities as well as challenges for health systems and the critical need to invest more wisely, demand targeted research and analyses, and country-led processes based on evidence to guide decision-making among policymakers, programmers, and clinicians, toward more effective scaled-up efforts to reach every pregnant woman.

STRATEGIC DRIVER 8: Strengthen and Support Health Systems

In 1987, the Safe Motherhood Initiative determined that improving maternal health care necessitated a health systems initiative because of the need to work within existing service structures while focused on specific outcomes. Improving maternal health outcomes has thus meant increasing inputs that specifically support maternal care while strengthening health system governance through policies and regulations, among other vehicles (Chee et al., 2012).

Box 2: Saving Mothers, Giving Life

A recent U.S. Government effort in partnership with development partners, nongovernmental organizations, private sector, and professional associations – Saving Mothers, Giving Life – has received global attention for its rapid reduction in maternal mortality in targeted districts. The model, focused on the time around birth, strengthens district health systems, including attention to community involvement, functioning referral systems, quality service delivery, robust monitoring and evaluation systems, and high level government support. The model demonstrates that investing in all of the various building blocks of the health system will achieve significant mortality reduction.

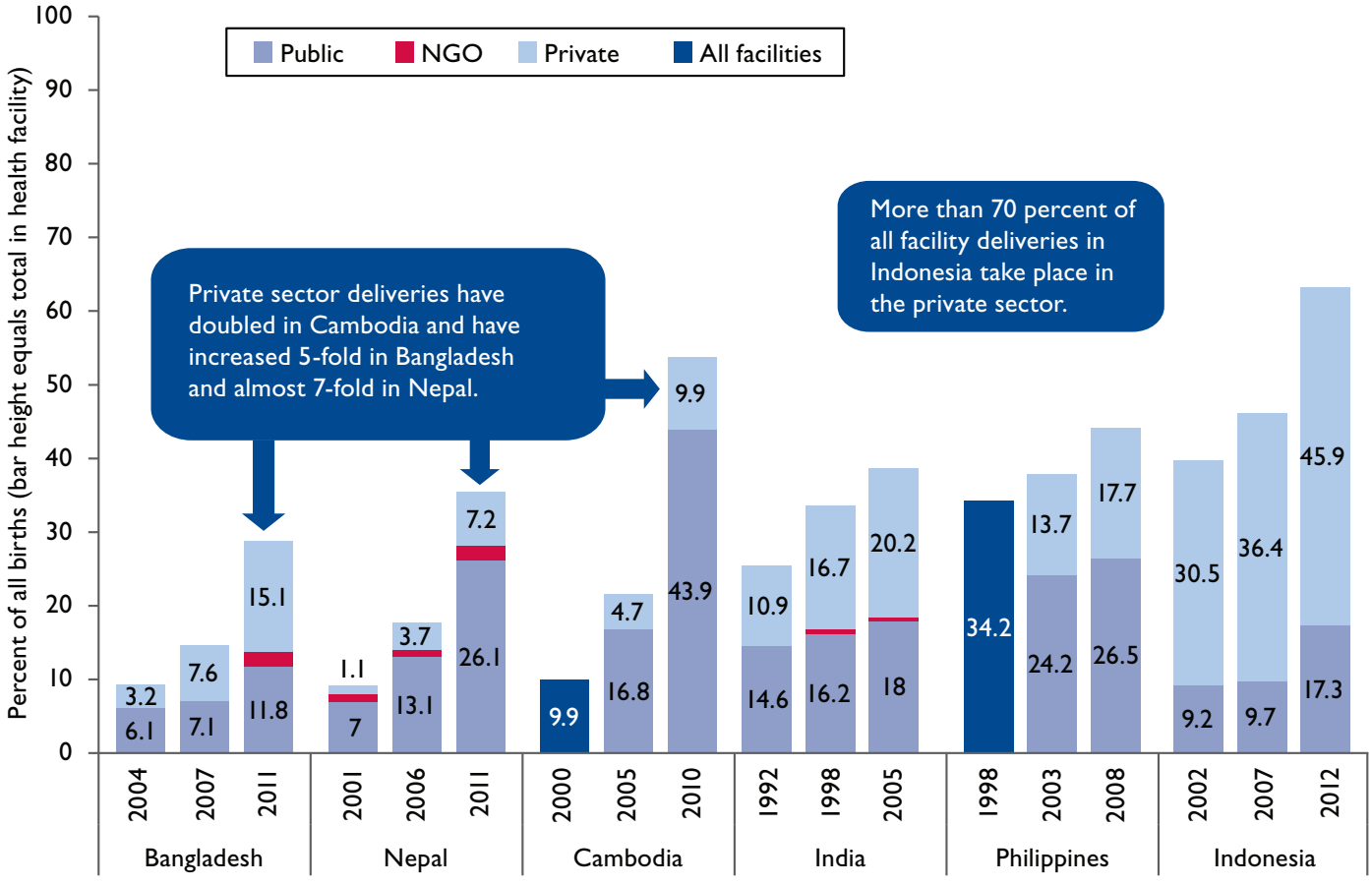
(Source: Saving Mothers, Giving Life. 2013; www.savingmothersgivinglife.org/)

Given the connection with the larger health system, maternal health initiatives must actively engage health system governance to address factors directly affecting maternal outcomes, such as the recent shifts in financing, devolution, urbanization, and privatization. At the same time, the initiatives must be responsive to the needs of every woman and newborn – especially the most vulnerable – from the antenatal through the postpartum period. USAID aims to improve maternal and fetal health with specific focus on poor implementation capacity (e.g., poor capacity to train providers, conduct workforce planning, manage commodities, and coordinate referrals and care) while working with others to strengthen the overall health system (e.g., strengthening financing capacity, addressing lack of water and sanitation, building on universal health coverage efforts) (see Box 2: Saving Mothers, Giving Life). Useful health services data systems and accountability, necessary elements of a strengthened health system and good governance, are covered in Strategic Driver 9.

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

- Promoting public and private sector resource mobilization to transition to greater sustainability of health systems.
- Building the competency of health providers, with specific focus on the midwifery shortage, and promoting policies, budgets, and regulations to address the needed skill level mix, appropriate health worker deployment, retention, and motivational efforts, including task shifting.
- Strengthening supply chain systems, supporting regulatory efforts, and ensuring the availability and quality of the essential maternal and newborn health commodities – particularly overlooked commodities – and the availability and maintenance of necessary equipment. Specific quality issues may include attention to manufacturing of supplies and in instances, procurement of drugs for maternity care if necessary, with an agreed upon plan for financial sustainability.
- Fostering quality of care through process improvement efforts (as described in Strategic Driver 4) and also through advocacy, legal, and regulatory mechanisms with both private and public sector providers. These mechanisms can include licensing/relicensing and accreditation of educational programs.
- Improving referral capability at all levels to ensure women receive timely and appropriate quality emergency obstetric services.

Figure 17: Percent of All Births in Asian Countries by Facility Type in Three Recent DHS Surveys



Sources: Pomeroy et al., 2014

- Advocating for availability and use of essential water, sanitation, and electricity in maternal newborn facilities.

Supporting Evidence

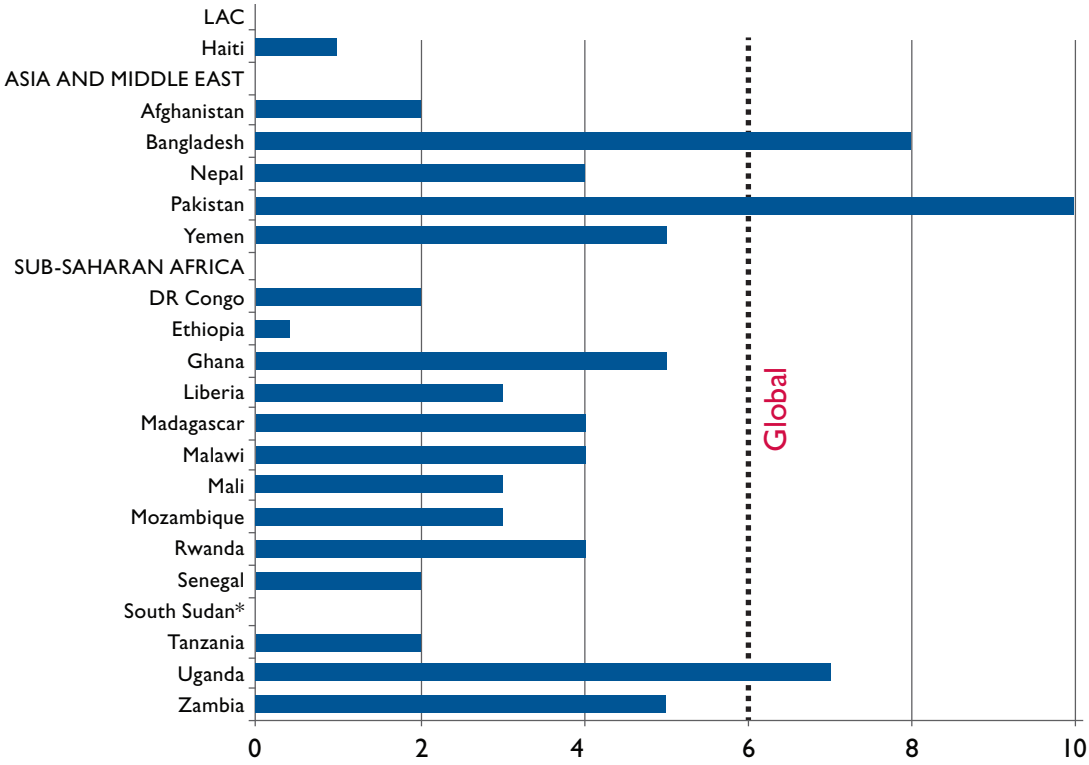
The health systems in the 24 USAID MCH priority countries are challenged by varying implementation capacity: lack of skilled health providers for antenatal/postpartum care and normal and emergency deliveries, poor quality commodities and stock outs, and poor coordination with emergency obstetric care. In addition, these health systems frequently have poor overall systems capacity, such as a lack of leadership and management skills, inadequate financing and budgetary allocations, lack of water and electricity, poor sanitation and hygiene, poor or disjointed information systems, and lack of use of data for improved policy formulation and implementation.

Changes external to the public health system also have an impact on program functioning. 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 17). Specialists in particular often 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 overall quality care. It requires plans for adequate recruitment, deployment, and retention, taking motivational factors into consideration in this evolving environment. Effective regulatory structures may also be 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, 2014).

Human Resources

Workforce planning and human resource management are critical elements for sustained progress in maternal health. 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 3 of the 21 priority countries for which there were data had adequate midwifery providers (6 or more midwives/1,000 births), 9 needed to double their midwifery workforce, and 6 to at least triple their workforce (Figure 18) (UNFPA 2011; ten Hoope-Bender et al., 2011). Such calculations for obstetricians and other specialists to manage obstetric complications are not available but urgently needed. *The State of the World's Midwifery 2014* documented improvements – country efforts to retain workforce, to increase recruitment and deployment, to develop and/or implement new regulatory frameworks, and to improve workforce data (UNFPA 2014). Even so, they reported only 4 of the 73 low- and middle-income countries have a midwifery workforce capable of meeting the global need of 46 es-

Figure 18: Number of Midwives per 1,000 Live Births in USAID MCH Priority Countries, 2011*



*Note: No data available for Indonesia, Kenya, and Nigeria. There were 152 registered or community/certified midwives in South Sudan in 2009–2010. Rate of 0.4 calculated using U.S. Census Bureau 2009 estimate for number of live births in South Sudan.
Sources: UNFPA 2011; ten Hoope-Bender, 2011; Michael & Garnett, 2011; U.S. Census Bureau, 2009

sential interventions for sexual, reproductive, maternal, and newborn health.

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. Cost-effective approaches are needed for pre-service and in-service education and to ensure competency is maintained.

Commodities

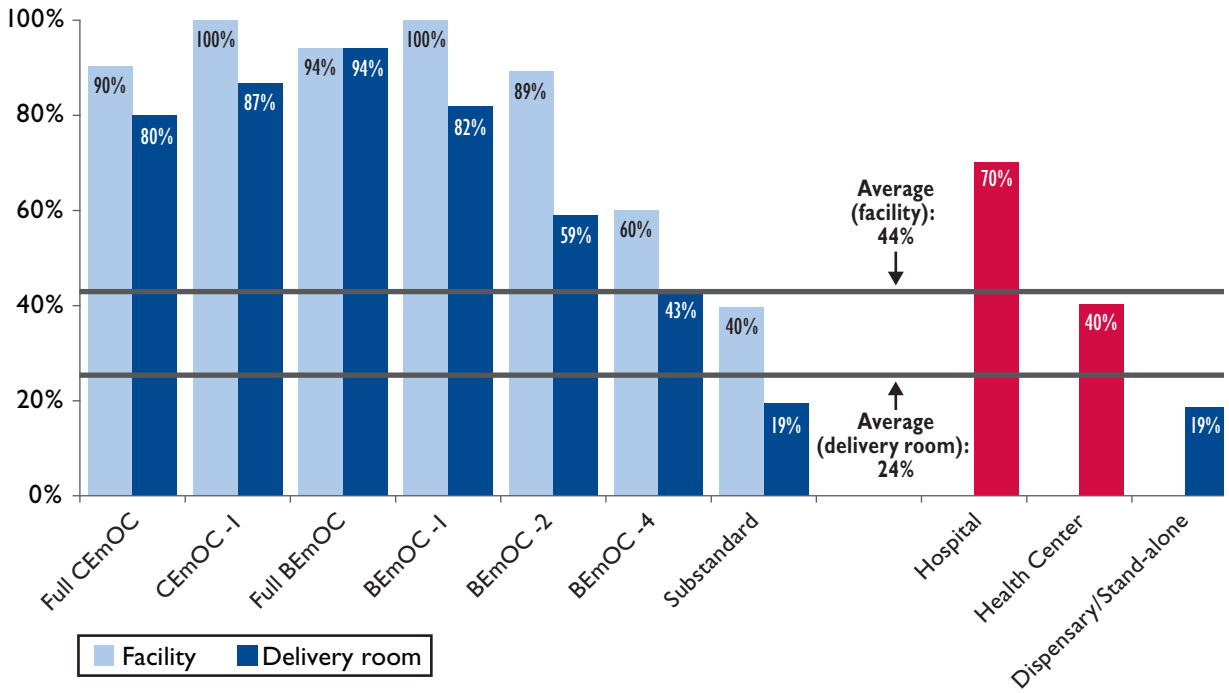
Recent attention to MCH commodities (including pharmaceuticals, equipment, and consumables) by the U.N. Commission on Life Saving Commodities for Women and Children aims to ensure that essential, quality MCH commodities reach the women, newborns, and children who need them. Yet, a study in Ghana found more than 90 percent of necessary oxytocin and ergometrine samples for the prevention of postpartum hemorrhage had insufficient amounts of the active ingredient or were not sterile. 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).

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 delays between recognition of the problem, decision-making and selection of the appropriate facility, and coordination to move women from home and between facilities. Once at the facility, it requires a timely and appropriate response, requiring readiness of the facility to respond with 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 available 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). However, coordination between families and facilities and between levels of providers or sectors is not typically well organized. Such coordination is even less well organized when the different levels of facilities report to different line ministries or different sectors. Once at a facility, barriers can hinder timely appropriate emergency care. The most commonly cited barrier was inadequate training/skills mix (86 percent). Other barriers were drug procurement/logistics problems (65 percent), staff shortages (60 percent), lack of equipment (51 percent), and low staff motivation (44 percent) (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.

Figure 19: Proportion of Delivery Rooms that Are WASH Safe, by Category and Type, Tanzania, 2006



Source: Benova et al., 2014

Improving Water, Sanitation and Hygiene

Lacking access to a safe water source and to sanitation facilities and poor hygiene behaviors can lead to severe risk of infection and death for both mothers and babies even in the presence of qualified medical care for maternal, fetal, and newborn health. 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 percent of the delivery rooms are water, sanitation and hygiene (WASH) safe (i.e., have improved facility water, running water in the delivery room, soap for handwashing, and a functioning latrine for clients) (Benova et al., 2014) (Figure 19). A package of adequate safe water, sanitation, and improved hygiene behaviors is considered an essential tool for ending preventable maternal deaths and improving maternal and fetal health.

Addressing specific maternal health issues (skilled providers, commodities, referral systems) requires health systems that support coordinated quality care more generally. This demands efforts to address effective leadership, management, and WASH, as well as ensuring that context specific issues (e.g., financing initiatives, decentralization and privitization) are considered in the design.

STRATEGIC DRIVER 9: Promote Data for Decision-Making and Accountability

To track progress toward global, national, and local goals and targets, there is a need to strengthen availability and quality of data on maternal and fetal mortality and health to inform decision-making and promote accountability. New technologies, including mobile and mapping applications, will assist in this effort. The Commission on Information and Accountability for Women's and Children's Health 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:

- Developing, testing, and refining metrics for maternal morbidity, disability, and mortality and fetal health (stillbirths and premature births) and care that assess norms and behaviors, service availability and use, equity, and quality of maternal and fetal care, and coverage of key interventions.

- Supporting multiple data collection efforts for systematic monitoring and evaluation of maternal and fetal health processes and outcomes, including household surveys, facility assessments, census, routine health information systems, civil and vital registration, and other efforts.

- Strengthening efforts to enumerate all maternal and fetal and neonatal deaths at community and facility levels, including cause of death, so that the magnitude and characteristics of mortality can be understood and addressed.

- Improving 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.

Supporting Evidence

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 they 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 uterotonics to prevent postpartum hemorrhage, treatment for pre-eclampsia/eclampsia, or referral to an emergency facility).

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 subnational 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 Commission on Information and Accountability recommendations and improve data and tracking of maternal mortality.

New technologies may help to improve both data collection and data use, especially for a relatively rare event such as maternal mortality. 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. There are ongoing efforts by global partners to improve geocoding of maternal and fetal health services, as well as deaths. Visual mapping may be a strong stimulus to identify and address sub-national inequities.

STRATEGIC DRIVER 10: Promote Innovation and Research for Policy and Programs

Enhanced research is essential to improve policies and their implementation and ultimately to scale up high impact maternal health interventions and programs. To address gaps in knowledge and improve systematic review of data for decision-making to improve policies and programs, USAID relies on identification and testing of new technologies and approaches and on implementation research, rigorous monitoring and evaluation, and secondary data analysis.

Among many innovation and research efforts, USAID chairs *Saving Lives at Birth: A Grand Challenge for Development*, a robust partnership with other international development partners to identify groundbreaking tools and approaches to protect the lives of mothers and newborns during the vulnerable hours of childbirth. Multiple electronic and mobile technologies, innovative service delivery approaches, and demand creation models are among the types of tools and approaches now in testing that the Grand Challenge has identified as promising.

USAID will focus on the research areas that follow, in collaboration with several partners – including the WHO, UNICEF, the United Nations Population Fund (UNFPA), the U.S. Centers for Disease Control and Prevention (CDC), the National Institutes of Health (NIH), national governments, other bilateral agencies and private donors – and with academia and nongovernmental and private sector organizations:

- Building knowledge for improved policies, program design, and implementation of, for example, programmatic and individual factors affecting maternal and fetal health status, outcomes, and consequences.

- Supporting demand for and utilization of quality services – especially by the most vulnerable – based on contextual needs and opportunities.

- Identifying, testing, and implementing 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.

- Facilitation of research utilization and uptake of high-impact interventions at scale, including antihypertensive medications and aspirin for hypertensive disorders of pregnancy, antibiotic therapy for puerperal sepsis, and of the documentation of their use through health management systems and other records.

Supporting Evidence

Measuring Progress

USAID builds on our 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* 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 developing 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 order to ensure progress toward the 2030 MMR target and the ultimate 2035 goal of convergence with the 2010 upper limit MMR of OECD countries, USAID will strive to contribute to nine national-level targets by 2020 (see Table 1). These basic core indicators are currently tracked by the DHS.

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 latter indicators will include (1) the availability of comprehensive and emergency obstetric and neonatal care (CEmONC); and (2) facility readiness to provide quality care such as having adequate staffing, 24/7 services, availability of essential medicines, coverage of uterotonics during the third stage of labor, use of the partograph for all births, and appropriate management of complications. Moreover, we will support special studies in USAID-supported programs to measure unmet need,[4] near miss, and the impact of behavior change interventions to increase demand for and use of life-saving

4. "Unmet need" assesses the proportion of expected births with absolute maternal indications or life-threatening complications (1-2 percent) that did not receive the major obstetric interventions needed to save the woman's life.

Table 1: Measuring Progress in the 24 USAID MCH Priority Countries: Coverage Indicators and Targets

Antenatal care, at least four visits (ANC x 4)	44.0%	65%
Facility delivery	34.0%	60%
Facility delivery in bottom two wealth quintiles	7.0%	20%
C-section women in bottom two wealth quintiles	0.9%	3.5%

* Data source: Demographic and Health Surveys

services. Additional key indicators from family planning, infectious diseases, nutrition, and WASH will be assessed along with the core maternal health indicators (Table 1) in order to determine progress.

These indicators align with a Framework for Change (Figure 20) that presents the interrelated issues and factors that combine to influence maternal and fetal health and survival based on the underlying evidence. Figure 20 provides a graphic means from which to conceptualize, implement, and monitor programming for maternal and fetal health. It is intended to be used by USAID missions and by countries receiving USAID support to design or sharpen maternal health and related frameworks, strategies, and plans based upon a given country's epidemiology, geography, and cultures; the state of its health system; available resources in the public and private sectors; and other factors.

REACHING VULNERABLE WOMEN AND ENSURING LIFE-SAVING CARE FOR ALL

By focusing on the relevant drivers that reduce maternal mortality, USAID intends to contribute to accelerating progress toward ending preventable maternal mortality and reducing maternal morbidities and disabilities and improving fetal health. But, we will not succeed unless we commit to reaching the most vulnerable. Inequity in access to health information, referral systems, and care often underlies poor maternal and fetal outcomes. USAID commits to ensuring that every woman's life is valued and respected no matter who she is, where she lives, or what her situation is. This can be achieved through (1) community mobilization and social and behavior change interventions for women and their communities; (2) outreach in communities and health facilities to promote improvements in both the quality and accessibility of services; and (3) the strengthening of health systems and other means of tackling barriers to the use and provision of life-saving services.

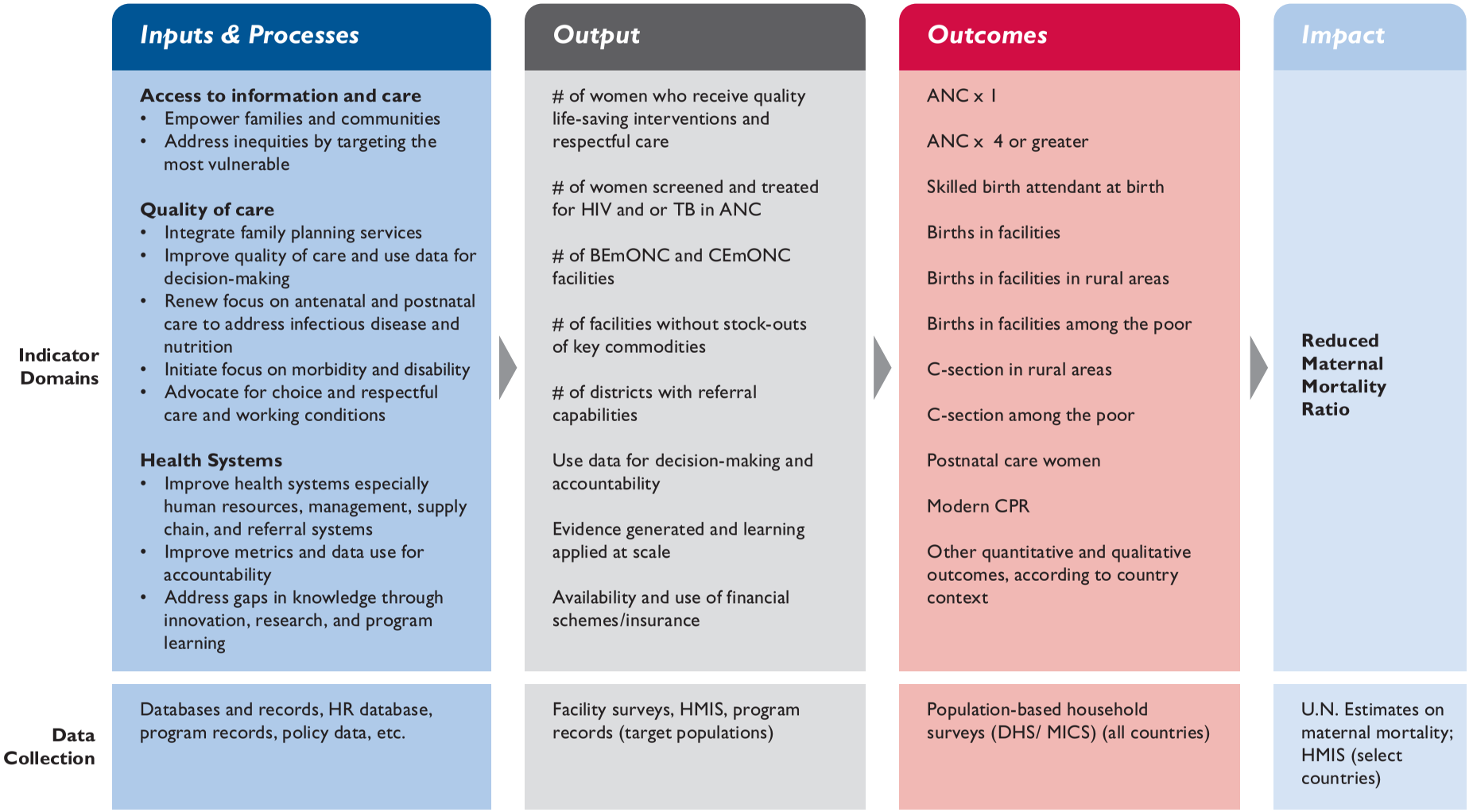
USAID will support women and their families to give voice to their preferences and choices. We will support policy-makers, managers, and health care providers to offer affordable, effective, life-saving decisions. Moreover, we will provide results from research that have critical information to shape programs designed to reach vulnerable women and ensure improved maternal care.

In order to support progress in our 24 MCH priority countries, USAID will place special emphasis on key principles for action to reach all women, as shown in Box 3.

Box 3: Implementation Principles

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, maternity care, and other health services.
3. Strengthen the continuum of care from household to hospital to improve pregnancy outcomes.
4. 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.
5. Build capacity for quality of care, scale, and sustainability.

Figure 20: The Framework for Change



Partnerships: USAID will work with governments, development partners, and civil society to coordinate and leverage resources and programs depending on the local context and environment, building on existing reproductive health and MCH strategies, frameworks, action plans, and Country Development Cooperation Strategy.

USAID will support government counterparts to set a country-specific agenda tailored to address the challenge of ending preventable maternal mortality. 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.

USAID will also support partnerships with local, national, regional, and global nongovernmental organizations; academia; professional associations; and others who contribute to ending preventable maternal mortality. This may include working with organizations for advocacy for resources for maternal and newborn survival. Moreover, as a development agency, we will collaborate more efficiently with other units of the U.S. Government and find new private partners to assist countries to ramp up health services for women. Partnerships with U.N. agencies and associated global movements will allow for increased opportunities to accelerate progress. Through partnerships and by building on USAID's existing development capacity, resources can be channeled most effectively.

In addition, USAID will support innovation and research in order to improve approaches that work in local contexts, develop new technologies or their applications to improve effectiveness and efficiencies, and improve understanding of the changing nature of the immediate, underlying, and basic determinants of healthy pregnancy outcomes. It will do this through its programs in individual countries and also through Agency-wide efforts.

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. Women and the families will be supported to give voice to their preferences and choices – a foundation for democracy. Policy-makers, managers and health care providers will be supported and appreciated for affordable, effective, life-saving decisions. In coordination and integration with health and related sectoral programs, USAID will use *Ending Prventable Maternal Mortality: USAID Maternal Health Vision for Action, Evidence for Strategic Approaches* to guide its maternal health programs.

Before us, we have an unprecedented opportunity to improve maternal and fetal health. Capitalizing on the known effective technical approaches and interventions and advances in countries, USAID will work in communities, support health services, strengthen health systems, improve measurement, and support innovation and research to end preventable maternal deaths by 2035.

"Women are not dying of diseases 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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    a. Number of antenatal care visits and timing of first visit: Antenatal visits for pregnancy: 1, select countries
    b. Number of antenatal care visits and timing of first visit: Antenatal visits for pregnancy: 4+, select countries
    c. Characteristics of delivery: Delivery by caesarian section, select countries
    d. Place of delivery: Health facility, select countries
    e. Assistance during delivery: Skilled birth attendance, select countries
    f. Post Natal Care within 2 days, most recent surveys, select countries
    g. Prevalence of anemia in women: Any anemia, select countries
    h. Contraceptive use among married women, all methods, select countries
    i. Micronutrient intake among mothers: Number of days iron tablets/syrup taken during pregnancy: 90+

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GLOSSARY

A Promise Renewed: 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. (http://www.unicef.org/publications/files/APR_Progress_Report_2013_9_Sept_2013.pdf)

Active Management of the Third Stage of Labor (AMTSL): 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 small size or low 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: Care during pregnancy and 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, and first-line management and referral if necessary. (WHO Health Statistics and Health Information Systems)

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

BEmONC: Basic Emergency Obstetric and Newborn Care includes only the first seven of the essential functions listed for CEmONC: (1) administer parenteral antibiotics; (2) administer uterotonic drugs (i.e., parenteral oxytocin); (3) administer parenteral anticonvulsants for pre-eclampsia and eclampsia (i.e., magnesium sulfate); (4) manually remove the placenta; (5) remove retained products (e.g., manual vacuum extraction, dilation and curettage); (6) perform assisted vaginal delivery (e.g., vacuum extraction, forceps delivery); and (7) perform basic neonatal resuscitation (e.g., with bag and mask).

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 that may be needed in the case of an emergency. (http://www.jhpiego.org/files/BPCRtoolkit.pdf)

CEmONC: Comprehensive emergency obstetric and newborn care includes nine essential functions: (1) administer parenteral antibiotics; (2) administer uterotonic drugs (i.e., parenteral oxytocin); (3) administer parenteral anticonvulsants for pre-eclampsia and eclampsia (i.e., magnesium sulfate); (4) manually remove the placenta; (5) remove retained products (e.g., manual vacuum extraction, dilation and curettage); (6) perform assisted vaginal delivery (e.g., vacuum extraction, forceps delivery); and (7) perform basic neonatal resuscitation (e.g., with bag and mask); *perform signal functions 1–7, plus*: (8) perform surgery (e.g., caesarean section); and (9) perform blood transfusion.

Healthy Timing and Spacing of Pregnancies (HTSP): 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)

Home-based Life-saving Skills: A family-focused, community-based program that aims to increases access to basic life-saving care within the home and community, identify problems that need referral, and decrease delays in reaching referral facilities, where life-threatening problems can be managed. This is done through supporting birth preparedness and encouraging the involvement of decision-makers in making timely decisions.

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): 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. (http://www.who.int/malaria/areas/preventive_therapies/pregnancy/en/index.html)

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

Overweight: Body Mass Index > =25kg/m 2.

Obesity: Body Mass Index >=30 kg/m 2.

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 and 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.

Perinatal: The perinatal period begins at 22 completed weeks (154 days) of gestation and ends 7 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/)

Prevention of Mother-to-Child Transmission of HIV (PMTCT): 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 percent. (http://www.who.int/hiv/topics/mtct/en/; http://www.who.int/hiv/pub/mtct/strategic_vision.pdf)

Post-Abortion Care (PAC): 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 6 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 most common 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): 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: Quality care to the woman during pregnancy, childbirth, and the postpartum period and to her infant provided by 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): 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)

Under Nutrition: Body mass index 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/)

Uterine Balloon Tamponade (UBT): 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)

Uterotonics: (also known as "oxytocics") are medications given either 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)

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