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Reducing Maternal Mortality:

Actual and Potential Roles for Faith-Linked Institutions and Communities

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A collaboration with the World Faiths Development Dialogue supported by the Henry R. Luce Initiative on Religion and International Affairs

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The Berkley Center for Religion, Peace, and World Affairs at Georgetown University, created within the Office of the President in 2006, is dedicated to the interdisciplinary study of religion, ethics, and public life. Through research, teaching, and service, the Center explores global challenges of democracy and human rights; economic and social development; international diplomacy; and interreligious understanding. Two premises guide the Center's work: that a deep examination of faith and values is critical to address these challenges, and that the open engagement of religious and cultural traditions with one another can promote peace.

About the LUCE/SFS Program on Religion and International Affairs

Since 2006, the Berkley Center and the Edmund A. Walsh School of Foreign Service (SFS) have collaborated in the implementation of a generous grant from the Henry Luce Foundation's Initiative on Religion and International Affairs. The Luce/SFS Program on Religion and International Affairs supports research, teaching, and outreach in two program areas: Religion and U.S. Foreign Policy and Religion and Global Development. A major focus is engagement with public officials in the U.S. government and international organizations grappling with religion and world affairs. The Luce/SFS program was renewed in 2008 through the 2010–11 academic year.

About the Edmund A. Walsh School of Foreign Service

Founded in 1919 to educate students and prepare them for leadership roles in international affairs, the School of Foreign Service conducts an undergraduate program for over 1,300 students and graduate programs at the Master's level for more than 700 students. Under the leadership of Dean Carol J. Lancaster, the School houses more than a dozen regional and functional programs that offer courses, conduct research, host events, and contribute to the intellectual development of the field of international affairs. In 2007, a survey of faculty published in Foreign Policy ranked Georgetown University as #1 in Master's degree programs in international relations.

About the World Faiths Development Dialogue (WFDD)

The World Faiths Development Dialogue (WFDD) bridges between the worlds of faith and secular development. Established by James D. Wolfensohn, then President of the World Bank, and Lord Carey of Clifton, then Archbishop of Canterbury, WFDD responded to the opportunities and concerns of many faith leaders who saw untapped potential for partnerships. Based in Washington, D.C., WFDD supports dialogue, fosters communities of practice, and promotes understanding on religion and development, with formal relationships with the World Bank, Georgetown University, and many faith-inspired institutions.

About the Report

This report reviews the work of faith-inspired leaders, communities, and organizations in worldwide efforts to reduce maternal mortality. Maternal mortality rates represent one of the most extreme cases of inequality in public health worldwide, but decades of global action have failed to remedy the gap between wealthy and poorer countries when it comes to maternal health. However, recent evidence that global maternal mortality is decreasing significantly, if gradually, has helped strengthen momentum and refocus attention on the issue.

Written as a collaboration between the Berkley Center at Georgetown University and the World Faiths Development Dialogue, this report describes the critical roles that faith-inspired actors play in addressing maternal mortality worldwide. It highlights what makes faith-inspired organizations distinctive in their approach to maternal health, from the long histories and networks that many of these organizations have established where maternal mortality rates are the highest, to holistic approaches to care that can address the many facets that lead to maternal death. It also examines the challenges at the intersections of faith and maternal mortality, and suggests ways that faith-inspired work could be expanded and improved. Thus it aims to inform policymakers and practitioners about areas where action is both desirable and feasible. A further hope is that the analysis will spark collaboration in coordinating, replicating, and scaling up these efforts.

The report's principal author is Ann Gaul, with substantial contributions from Libby Bliss, Hahna Fridirici, and Claudia Zambra, and oversight from Katherine Marshall. A draft of the report was the basis of a consultation held at Georgetown in June 2011, and the authors gratefully acknowledge additional inputs from those who submitted comments on the draft report. It was prepared from January to October 2011 and is largely based on desk research and interviews with practitioners. This is one of a series of Berkley Center issue surveys made possible through the support of the Luce/SFS Program on Religion and International Affairs.

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Boxes:

Acronyms and abbreviations

ADRA:	Adventist Relief and Development Agency
AMTSL:	Active Management of the Third Stage of Labor
ANC:	Antenatal Care
CCIH:	Christian Connections for International Health
CDC:	Centers for Disease Control
CEDAW:	Convention in the Elimination of All Forms of Discrimination Against Women
CHAK:	Christian Health Association of Kenya
CHW:	Community Health Worker
CIFA:	Center for Interfaith Action on Global Poverty
EmOC:	Emergency Obstetric Care
FBO:	Faith-Based Organization
FIO:	Faith-Inspired Organization
FIGO:	International Federation of Gynecology and Obstetrics
HIV/AIDS:	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
HTSP:	Healthy Timing and Spacing of Pregnancy
ICCPR:	International Covenant on Civil and Political Rights
ICESCR:	International Covenant on Economic, Social and Cultural Rights
ICM:	International Confederation of Midwives
ICPD:	International Programme on Population and Development
IMPAC:	Integrated Management of Pregnancy and Childbirth
IPT:	Intermittent Preventative Treatment (of malaria)
IRH:	Institute for Reproductive Health
LAMB:	Lutheran Aid to Medicine in Bangladesh
MDG:	Millennium Development Goal(s)
MMR:	Maternal Mortality Ratio
MMRate:	Maternal Mortality Rate
PAC:	Post-abortion Care
PMDF:	Proportion Maternal among Deaths of Females of Reproductive Age
PMTCT:	Prevention of Mother to Child Transmission
PPH:	Post-partum Hemorrhage
SIM:	Serving in Mission
TB:	Tuberculosis
TBA:	Traditional Birth Attendant
TFR:	Total Fertility Rate
TTBA:	Trained Traditional Birth Attendant
UNAIDS:	United Nations Programme on HIV/AIDS
UNFPA:	United Nations Population Fund
UNICEF:	United Nations Children's Fund
USAID:	United States Agency for International Development
WHO:	World Health Organization
WFF:	World Fistula Fund
WFDD:	World Faiths Development Dialogue
WV:	World Vision

Executive Summary

A contemporary irony is an odd juxtaposition between rhetorical focus on families as society's foundation and huge disparities in mothers' real welfare across communities; given their shared concern for both, improving maternal health seems a logical cause for faith communities to engage. This report examines the nexus of faith and maternal health, looking specifically at the faith dimensions associated with global maternal mortality rates and the roles (current and potential) of religion and faith-inspired organizations in the effort to improve maternal health. Its purpose is to address the information gap when it comes to the work that faith-inspired organizations (FIOs) are doing on maternal health, which has not yet been widely documented or shared. Combining desk research with preliminary consultations and interviews with practitioners, the report highlights numerous examples of specific actions or interventions involving faith-inspired organizations – not in an attempt to catalog the full range of overlaps and tensions between faith and maternal mortality, but to offer a representative sample of ways in which the two relate, thus highlighting key trends, opportunities and challenges.

Millennium Development Goal Number 5 aims "to reduce maternal mortality by three quarters between 1990 and 2015," and "to achieve universal access to reproductive health by 2015." These ambitious goals hint at the issue's complexity: underlying the statistics indicating how many mothers die in childbirth is the full range of factors related to the even broader realm of reproductive health. Goal 5, currently the farthest from its targets, represents a particularly acute case of inequality: of the estimated 1000 women who die each day from pregnancy-related causes, 99 percent come from the world's poorest countries. There is hope, however: the World Health Organization (WHO) estimates that global maternal mortality dropped by one third between 1990 and 2008, and more and better research is being done to understand which interventions are the most effective and why.

This paper's focus on FIOs starts with examining some hypotheses that have not yet been fully explored or tested. For example, it seems that faith-inspired work on healthcare often takes a holistic, community-wide approach that can simultaneously address the wide spectrum of complications related to maternal mortality, from HIV/AIDS to nutrition to emergency obstetric care – in contrast to secular NGOs which may have more technical and thus siloed approaches, focusing on one specific intervention or disease. In addition, an established presence in many communities can position FIOs and faith communities to provide, enable, and facilitate access to quality obstetric care, which helps to avert the direct obstetric causes that account for some three-fifths of maternal deaths. FIOs are often already working at the forefront of efforts to combat HIV/AIDS, malaria, and other diseases that indirectly contribute to maternal mortality. Their close links to communities (and, in many cases, long histories within them) enable them to promote behavior change and the more complex, long-term solutions required to address other indirect factors such as early marriage, child spacing, and contraceptive use. Clearly the intersections between the campaign to end maternal mortality and faith-inspired actors are myriad; but more extensive mapping and research are required to illuminate how these overlaps play out and how they might be replicated and scaled.

Making Childbirth Safer: Quality Obstetric Care

Reducing maternal deaths is quite possible (witness sharp and rapid reductions in much of the world) but it is difficult because many different factors can lead to maternal death; there is no one, simple solution. Three out of five maternal deaths are attributable to direct factors during childbirth itself, like hemorrhage and eclampsia (increased blood pressure). Although these can be treated with established medical intervention, most obstetric emergency care relies upon trained attendants and some degree of technological intervention. But there is no way to predict fully which

mothers will develop the most common complications; even high-risk pregnancies can result in routine deliveries, and dangerous complications can occur often even in low-risk populations. Even where quality care is available, access is frequently limited by poor infrastructure. And cultural factors play large roles, especially a family's, community's, or society's attitudes towards women. As an example, younger girls are far more likely to die in childbirth so age of marriage is an important issue to address.

Obstructed labor, the third leading cause of maternal death, epitomizes the complexities of maternal mortality and its relationship to faith: each year, at least six times the number of women who die in childbirth experience obstructed labor but survive it to suffer from obstetric fistula, a debilitating and highly stigmatized condition. Hence, statistics indicating the number of maternal deaths are just the tip of the iceberg when it comes to safe pregnancy and delivery. Because adolescent women are at a far greater risk for obstructed labor, it is often the result of social-cultural norms and economic conditions that require or encourage adolescent girls to get married before their bodies are fully developed. While the direct causes of early marriage might be economic or social, faith communities play a powerful role in influencing what is acceptable. Because fistula is so stigmatized (and related to taboo topics such as bodily fluids and reproductive health), in some places it is faith-inspired healthcare providers who have initiated important steps towards addressing it through treatment centers and training programs, in part as a result of their values-driven approach to healthcare.

Indirect factors leading to maternal death: social magnifiers and medical complications

Two-fifths of maternal deaths result from indirect factors that can range from HIV/AIDS to tuberculosis to malaria to malnutrition. The related epidemics of HIV/AIDS and tuberculosis have become, in a short space of time, a leading cause of maternal mortality: in 2002, for example, nearly one in three pregnant women in Africa was HIV-positive.[1] [Two or more major factors often interact to cause maternal death, compounding the difficulties of both understanding the problem and evaluating the efficacy of efforts to address it. Successful interventions must combine technology, skilled assistance, local leadership, infrastructure, and awareness. They must be holistic and integrated and extend beyond the (nevertheless crucial) concept of safe delivery.

Maternal mortality is obviously directly about women, so beyond medical and logistical complexities, cultural attitudes towards women and childbirth – which are intricately linked to religious values, leaders, and institutions – are a crucial consideration of any strategy targeting maternal mortality. Factors that lead to maternal deaths vary by context, but what is consistent across contexts are the links to gender inequality that maternal mortality both exemplifies and exacerbates. USAID observes that "maternal conditions are the largest contributor to the global disease burden of women of reproductive age."[2] It is well understood that pregnancy and childbirth are the leading cause of death among adolescent girls in most poor countries. Spiritual beliefs about gender, fertility, and health are fundamental to whether a mother's family facilitates her access to care during childbirth, and to the nature of that care. Because of the cultural nuances surrounding childbirth, there is far more to preventing maternal deaths than the provision of emergency obstetric care. Faith actors, from local religious leaders to FIO healthcare providers, play crucial roles in this process.

Faith-inspired engagement with maternal mortality: opportunities and barriers

From start to finish, maternal mortality has numerous and varied connections to faith. While religion is not the only factor in decisions about if, where, and when to seek healthcare, it is a significant one. The goals of many faith-inspired organizations working in healthcare neither begin nor end with statistics. Their commitment is frequently to a community or place rather than a specific issue, meaning they can offer venues for engaging the sensitive issues connected to childbirth and reconciling local beliefs and values with medical interventions that may be perceived as foreign or Western. Many religions and faith-inspired healthcare organizations approach health holistically, working at the level of family rather than individual, which is a useful means to targeting barriers to safe pregnancy and childbirth. Faith-inspired approaches have great potential in the context of a problem that is rooted just as much in the state of the local roads as it is in local birthing traditions.

However, development and cultural change can lead to tensions as well. Just as faith can influence individuals and their families to adopt healthy behaviors and facilitate access to care, it can also be a source of attitudes and believes that are barriers to behavior change and healthcare. Religiously conditioned attitudes about sexuality and marriage influence maternal health in significant ways: the belief that premarital sex is wrong can lead to reluctance on behalf of women pregnant outside of wedlock to seek care, for example, and the association between bodily fluids with a state

Maternity ward at the historic Albert Schweitzer hospital in Lambaréné, Gabon

of impurity can limit a faith community's engagement with the issue at all, if only by custom or modesty. There is some evidence, however, of significant differences between FIOs' actual and perceived attitudes towards maternal and reproductive health. The controversial nature of abortion, for example, obscures the fact that most Christian healthcare organizations are not opposed to family planning as a whole. Sensitivity towards the terminology and approaches used to describe family planning approaches and a focus on healthy timing and spacing of pregnancies, rather than merely limiting the number of pregnancies, are key to establishing common ground between faith communities and the sensitive issues of women's health and building on that common ground is the central imperative to achieving results.

In practical terms, the connections described above interact in a number of ways. In many of the places where mothers are most at risk, FIO healthcare services are often the only option available, whether in the form of mission clinics or innovative community health worker programs, or networks that can move medicines, supplies, and people. They often build upon existing relationships, networks, and bases of trust, whether working through respected religious leaders or faith-based community groups. The approach and motivations of FIOs mean that the care they offer enables these organizations to be responsive to local cultural and religious norms. The "values-driven approach" to care that is the hallmark of many faith-linked healthcare organizations also extends to the advocacy priorities of broader faith-inspired networks, such as U.S.-based Christian groups. Recent efforts have worked to identify specific religious and/or scripturally-based values that relate directly to maternal health, and could be used to maximize the potential of these interfaces between faith and maternal health; as these approaches are increasingly implemented and evaluated, they will bring to light how maternal health strategies can be better understood – and improved – in the context of faith.

Moving forward: Questions, issues, challenges, opportunities

For approaches to maternal health to be effective, they must be developed in the context of the issue's local faith dimensions and cultural values. FIOs and faith communities are well-positioned to take this approach, often in leading roles, and in many cases are already doing important work in the campaign to end maternal mortality. But it is also very clear that they could do far more.

Although FIO-provided healthcare can fill in the gaps in public healthcare systems, they are not a substitute for it, and public-private partnerships are essential to coordinate the multi-faceted efforts necessary to provide strong support for maternal health. In addition to better monitoring and evaluation mechanisms to measure the success of interventions, coordination among FIOs and between FIOs, secular NGOs, and governments is essential

Introduction and Overview

Maternal health is a complex challenge with cultural, medical, and logistical dimensions. USAID notes that "maternal conditions are the largest contributor to the global disease burden of women of reproductive age,"[3] and it is widely understood that factors connected pregnancy and childbirth are leading causes of death in adolescent girls in the poorer countries of the world. It is estimated that about 1,000 women die from pregnancy and childbirth-related conditions each day. These deaths arise from complications directly related to childbirth, as well as the impact of co-morbid conditions, such as HIV/AIDS, tuberculosis, and malaria, and indirect cultural, religious, or logistical factors that create barriers to care.

The fifth Millennium Development Goal (MDG) frames the international effort to bring about significant improvements in maternal health by the year 2015 with two main targets: to reduce the 1990 maternal mortality ratio (MMR) by three-quarters and to achieve universal access to reproductive health. These clear-cut targets are entangled in a multiplicity of complicated and interconnected challenges at the intersection of four other MDGs: gender equality, child health, universal education, and poverty and hunger. Disappointing progress on these related challenges intensifies inequality among indicators of international health, and maternal health is the MDG farthest from its targets. While studies and popular opinion attest to the limited success of the past twenty years of advocacy efforts in the world's poorest countries, this conclusion has recently been called into question. New findings show that while the lowest income countries are experiencing small declines in MMRs, increases are occurring in some richer countries that saw drastic cuts in deaths after industrialization. Solving the maternal mortality problem is more than a matter of funding and implementing straightforward medical interventions. It is embedded in social attitudes and national and institutional priorities.

The focus of this report is faith-inspired organizations (FIOs) that are integral to community, national, and international efforts to change the maternal mortality picture. Fios represent a wide range of actors – churches, mosques, leaders, institutions, and communities – that are motivated by faith, in varying degrees and ways, to serve others. The fio community is richly diverse in approaches, beliefs, and attitudes, making it difficult to couch their intentions or practices in generalized language. What can be said, however, is that their experiences are often insufficiently discussed and reflected upon in policy discussions at various levels, pointing to a need for further exploration of their efforts. The report focuses on sub-saharan africa given the vast array of direct and indirect challenges to maternal health in the region, and the relatively well-documented and significant presence of faith-inspired health actors there. Given their preeminence in sub-saharan africa and the information that is available, this report highlights the activities of christian and islamic fios; this is not to suggest that other faiths are not actively engaged on the issue, or that significant work is not being done on maternal mortality in other regions.

The synergies between faith-inspired efforts and maternal health represent enormous potential for those committed to reducing maternal mortality. But this potential is complicated by extensive gender- and culture-related sensitivities surrounding maternal health and childbirth. These range from the challenges of promoting family planning practices that encourage healthy timing and spacing of births to those associated with child marriage or gender-based violence. While the full range of cultural and gender dimensions of maternal mortality is beyond the scope of this report, it does aim to address the specific culture- and gender-linked issues that have a direct impact on a woman's access to proven life-saving measures.

Box Introduction: Millenium Development Goals (MDG)

In addition to MDG 5, MDG 3, which is focused on gender equality and women's empowerment, is tightly intertwined with maternal mortality, since social attitudes towards women play a major role in the priority that is accorded to the issue and the effectiveness of actions taken to address it. Women in societies with high gender inequality may have limited access to healthcare services and interventions that would help prevent HIV/AIDS, tuberculosis, malaria, among other co-morbid conditions, as well as limited access to family planning services and post-labor treatment. There may be little information on and/or provision of these services. In some nations, there may be no discussion at all. Therefore, healthcare interventions that emphasize female agency in fertility for the purposes of health and survival, for example, may not resonate with communities that value a woman's submission to her husband or her ability to bear many children. Gender is often an issue that is deeply rooted in social structures and cultural narratives, requiring interventions to be culturally sensitive and tailored, in order to be successful.

MDG 4, which aims to reduce child mortality, also intersects with maternal mortality and gender equality, since a mother's health and survival is a strong predictor for that of infants and children under five.[4] This link can be controversial, particularly if a woman's health is not treated as having value beyond her instrumentality for the child's health. In this way, the mutual improvement of MDGs 3, 4, and 5 is crucial for improvement in any one field.

Overview

Section 1 presents an overview of maternal mortality as an issue in international public health, including key definitions, concepts, and statistical measures used to discuss it. It includes background on the history of international efforts to curb maternal mortality as well as an overview of where the problem is most concentrated. It also lists major causes of maternal death and touches upon the challenges inherent in addressing them.

Section 2 reviews strategies for addressing direct causes of maternal mortality, describing in detail the most essential technical intervention strategies, and highlights a number of fios that are working to deliver these services in various contexts. It also discusses obstructed labor, which is not only a leading cause of maternal mortality but also leads to obstetric fistula, which subjects tens of thousands of women to disability and stigmatization each year.

Section 3 discusses the broader, indirect factors that cause two-fifths of maternal deaths worldwide (and a majority of maternal deaths in certain areas, such as those most affected by HIV/AIDS). In addition to co-morbid conditions such as HIV/AIDS, tuberculosis, and malaria, which can present severe complications during pregnancy, issues as varied as nutrition, family planning practices, attitudes towards medicine, socioeconomic class, and infrastructure can all constitute significant barriers to safe delivery. This section also outlines major human rights protections relevant to maternal mortality and discusses the role of social and economic factors in the decline of maternal mortality in industrialized countries.

Section 4 specifically addresses faith-inspired engagement with maternal mortality, describing the various ways in which faith-inspired actors and institutions are working on the issue and what distinguishes their approach from that of other healthcare providers. It also discusses barriers and challenges that faith may present to maternal health efforts, and highlights the importance of understanding faith as a complex and varied phenomenon rather than a monolithic actor. It contextualizes the challenges that faith-inspired approaches may meet in a polarizing international environment that has politicized religion in recent years.

Section 5 outlines major questions, issues, challenges, and opportunities for future work at the intersection of faith and maternal mortality. Given the distinctive perspectives and experiences of faith-inspired actors, it seeks to look forward to ways in which these perspectives and experiences might be brought to bear within broader maternal health efforts. Systems for data collection and tracking and coordination of efforts across the public, private and faith sectors are major needs. Public-private partnerships as well as well as increased evidence-based advocacy and programming are important

steps forward in the global fight to reduce maternal mortality. Maternal health is a complex challenge with cultural, medical, and logistical dimensions. USAID notes that "maternal conditions are the largest contributor to the global disease burden of women of reproductive age," and it is widely understood that factors connected pregnancy and childbirth are leading causes of death in adolescent girls in the poorer countries of the world. It is estimated that about 1,000 women die from pregnancy and childbirth-related conditions each day. These deaths arise from complications directly related to childbirth, as well as the impact of co-morbid conditions, such as HIV/AIDS, tuberculosis, and malaria, and indirect cultural, religious, or logistical factors that create barriers to care.

The fifth millennium development goal (MDG) frames the international effort to bring about significant improvements in maternal health by the year 2015 with two main targets: to reduce the 1990 by three-quarters and to achieve universal access to reproductive health. These clear-cut targets are entangled in a multiplicity of complicated and interconnected challenges at the intersection of four other mdgs: gender equality, child health, universal education, and poverty and hunger. Disappointing progress on these related challenges intensifies inequality among indicators of international health, and maternal health is the MDG farthest from its targets. While studies and popular opinion attest to the limited success of the past twenty years of advocacy efforts in the world's poorest countries, this conclusion has recently been called into question. New findings show that while the lowest income countries are experiencing small declines in mmrs, increases are occurring in some richer countries that saw drastic cuts in deaths after industrialization. Solving the maternal mortality problem is more than a matter of funding and implementing straightforward medical interventions. It is embedded in social attitudes and national and institutional priorities.

Section 1.
What is Maternal Mortality?

To the woman he said, "I will greatly increase your pains in childbearing; with pain you will give birth to children." (Genesis 3:16)

A woman giving birth to a child has pain because her time has come; but when her baby is born she forgets the anguish because of her joy that a child is born into the world. (John 16:21)

In their book, Half the Sky, Nicholas Kristof and Sheryl WuDunn identify maternal mortality as one of the leading obstacles to gender equality in the world today. They frame the issue through the story of a woman named Prudence Lemokouno, arguing that though a ruptured uterus was the direct medical cause of her death, four other major factors conspired to kill her: biology, lack of schooling, the inefficacy of rural health systems, and cultural factors that resulted in the low priority given to a mother's health. All of these factors beg for intervention, and each speaks to a different aspect of the situation at hand. The book's exploration of why so many women and girls die annually from pregnancy and childbirth brings to the surface some uncomfortable truths about the complexity of the issue of maternal mortality.

Long considered one of global development's most intractable problems, maternal mortality is the MDG farthest from being fulfilled. It is the most extreme case of inequality among measures of international health indicators; a woman in Sierra Leone and a woman in Afghanistan are 966 times more likely to die from pregnancy and childbirth than a woman in Sweden. These statistics are sobering because they have barely budged in many places, despite numerous large-scale initiatives and millions of aid dollars.

The fact that maternal mortality rates (MMRates) have dropped off so steeply in wealthier societies over the past century often gives rise to the impression that since medical solutions to many of the leading causes of maternal death exist, solving the problem is a straightforward task – a matter of simply funding and implementing those interventions at scale. However, these important steps are only a start. Maternal mortality is connected to a wide range of cultural, religious, and political issues, from health to transportation to food security to family planning controversies to the HIV/AIDS epidemic. Attitudes toward women and their standing in society play a crucial role in the norms surrounding birth practice and the receptivity to behavior change. As more detailed research on maternal health emerges, it is becoming clear that the factors leading to maternal deaths vary by context. A woman's survival while in labor quite literally depends on her surrounding environment while in such a vulnerable and dependent state; a woman in labor must depend on others to decide for her, to help her physically, and to apply necessary treatments to ensure her safety. Implementation and prioritization of life-saving measures, therefore, must be executed with particular attention to local realities and sensitivities.

Box 1: Maternal mortality, defined

There are several important definitions and concepts when it comes to gauging rates of maternal death and disability.

The WHO defines maternal death as "the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes."

This definition is designed to include both direct and indirect causes of death. Direct obstetric deaths result from specific complications of the pregnancy (whether during pregnancy, delivery, or postpartum), or from treatment or lack thereof. Indirect obstetric deaths result from previously existing, co-morbid diseases or conditions, or those that developed during the pregnancy. Starting in 2010, maternal deaths due to HIV are included in the totals of indirect maternal deaths.[5]

Another, related concept is that of "pregnancy-related death," which is any death that occurs during pregnancy, childbirth, or postpartum (usually 42 days after termination of the pregnancy). This measure reflects a broader definition, as it captures deaths not directly related to the pregnancy. It also tends to be easier to gauge; a commonly used measurement tool is the "sisterhood method," which involves asking relatives of deceased reproductive-age women whether a woman was pregnant at the time of her death.[6]

Box 2: Statistical measures used to represent rates of maternal death and recent global estimates

Statistical measures of maternal mortality include:

- Maternal mortality ratio (MMR): the number of maternal deaths per 100,000 live births during a given time period.
- Maternal mortality rate (MMRate): the number of maternal deaths per 100,000 women of reproductive age during a given time period; this reflects not only the risk of death per pregnancy, but also reflects fertility rates within the measured population.
- Adult lifetime risk of maternal death (PMDF, or proportion maternal among deaths of females of reproductive age): the probability of dying from a maternal cause during a woman's reproductive lifespan; this measure indicates a woman's chance of maternal death throughout the course of her reproductive years.
- In 2010, two major new studies[7,8] on maternal mortality worldwide were published, countering for the first time the perception that maternal mortality rates have been stagnant for decades. The once-common claim that a woman dies in childbirth every minute may finally no longer be true (now it is more common to read instead that a woman dies every ninety seconds in childbirth).]
- Adjusted methods now estimate between 342,900 and 358,000 maternal deaths occurred in 2008, a significant decrease from the "over 500,000 a year" statistic that had persisted for so long prior. However, the statistics belie the chief difficulty of the maternal mortality issue: measuring it in the first place. There are fierce debates about the viability of the statistics, and moreover, there is evidence that maternal deaths are chronically underreported (see Appendix A). Difficulties in measuring and tracking these numbers, compounded by the sheer lack of data in many places, make it equally difficult to gauge the progress and success of interventions.

Maternal mortality and international health

Since maternal mortality emerged as a major issue of concern in the international community three decades ago, attempts to combat it have been uneven, insufficient, and significantly hampered by the HIV/AIDS epidemic (among other complicating factors). Through MDG Target 5A, the international community committed itself to reducing maternal mortality by three-quarters between 1990 and 2015. Despite the gradual progress that is being made, those maternal mortality targets are not likely to be achieved. In a climate of competition for time and resources within the realm of global health, maternal health has not always emerged as a priority – and this also seems to be true within the FIO sector. While many NGOs and FIOs are engaged in work that is relevant to maternal mortality, few have programs that specifically target it. Maternal health is often integrated with child health or nutrition programs, without specific attention to which interventions amidst this work are the most effective at preventing maternal deaths.

To decrease MMRates, they must be considered in the context not only of local cultural and socioeconomic realities, but in terms of other health and development measures as well, including HIV/AIDS, malaria, and infant mortality. Many experts have pointed out that unlike an infectious disease, maternal mortality is not something that can be prevented with a vaccine or a straightforward, uniform intervention. Although the same obstetric complications occur everywhere, and can be solved through known interventions, the realities of providing access to those interventions are far more complicated. The complexity requires far more than the importation of a particular clinical procedure or drug; successful interventions rely on a combination of technology, trained local leadership and expertise, infrastructure, and awareness.[9] Amidst this complexity, one clear potential

Box 3: Maternal Mortality and the MDGs

Following the Millennium Summit in September 2000, 189 UN member nations adopted eight Millennium Development Goals (MDGs), which focus on eliminating poverty by addressing education, gender equality, health, and environmental sustainability. Specific, country-based targets are set for each goal.

Goal 5 is to improve maternal health with two targets:

Target 5.A:
Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio
5.1 Maternal mortality ratio
5.2 Proportion of births attended by skilled health personnel

Target 5.B:
Achieve, by 2015, universal access to reproductive health
5.3 Contraceptive prevalence rate
5.4 Adolescent birth rate
5.5 Antenatal care coverage (at least one visit and at least four visits)
5.6 Unmet need for family planning[10]

Currently, progress towards Goal 5 targets is the furthest behind of all MDGs; overall, worldwide decline must occur at a rate of 5.5 percent per year to meet the target. In September 2008, world leaders gathered to discuss progress on all goals, and representatives from the WHO, UNFPA, UNICEF and the World Bank pledged to intensify efforts to support countries working to reduce maternal mortality. In 2010, new data indicated that while MMRates were decreasing worldwide, the rate of decline was much slower than the projected MDG target. Although some countries have cut their MMRates by as much as half (as of 2008), some have actually seen increases.[11]

Box 4: International efforts on maternal mortality to date: why has progress been so limited?

It is troubling that intensive advocacy and development efforts have had such limited effects on the maternal mortality problem. One suggested reason is that there is no UN agency that "owns" the issue (as is the case with children or HIV/AIDS); others claim there is less scientific literature published on maternal health than on other public health problems. Some have argued that often the "maternal" element of "maternal and child health programs" is often neglected or underrepresented.[12] Nicholas Kristof points out that preventing maternal deaths is not particularly "cost-effective" when viewed in terms of what concrete, measurable results each dollar invested in the issue may yield.[13]

This is an especially difficult hurdle to advocacy efforts when it comes to maternal mortality, because the development world (particularly donor agencies) has been shifting towards a results-oriented approach that prioritizes programs that can promise the most concrete, quantitative results. Often this means sacrificing quality programming for the sake of numbers or the interventions that look the best on paper.[14] Andrew Natsios, former head of USAID, recently wrote, "Development programs that are more precisely and easily measured are the least transformational, and those programs that are most transformational are the least measurable."[15] Maternal mortality is a prime example of this phenomenon. Not only are rates difficult to measure in both developed and undeveloped countries, advocacy and programming efforts around the issue have been criticized for a lack of effective follow-up, monitoring, and evaluation, which become increasingly difficult in underdeveloped areas.[16] All these factors constitute considerable barriers to effective funding and advocacy.

Despite these hurdles, recent years have seen encouraging evidence of improved interventions and increased collaboration. New initiatives include measures to streamline maternal health programs, share knowledge and best practices more effectively, and refocus the issue as a human rights matter (see Box 11). For an overview of major actors and initiatives on maternal mortality, see Appendix B.

role for FIOs to play is in advocacy for efforts to fight maternal mortality. Faith-inspired advocacy networks, such as Christian groups in the U.S., have proven to be vocal and effective forces for mobilizing large numbers of people and encouraging action. They could have a significant role in propelling maternal health to the forefront of more global health work.

Maternal mortality around the world

Several factors make maternal mortality an atypical health issue. Most significantly, it represents the most acute case of inequity in public health. A woman has a 1 in 48,000 lifetime chance of dying in childbirth in Ireland, and a 1 in 7 lifetime chance of dying in childbirth in Niger. (Notably, the difference in total fertility rates (TFR) has a large impact on this maternal mortality comparison; Ireland's TFR of 2.1 pales in comparison to Niger's 7.0.) An Afghan woman is 600 times more likely than an American woman to die in childbirth.[17] Overall, 99 percent of maternal deaths are in developing countries, 85 percent of which are in sub-Saharan Africa and South Asia. With the exception of Afghanistan, which has made notable efforts to address maternal mortality recently, the 14 countries with the highest rates of maternal mortality in the world (above 1000 per 100,000 live births) are all in sub-Saharan Africa.

Much of the tragedy is that the vast majority of these deaths are preventable, medically speaking: nearly all complications that arise during pregnancy and childbirth are treatable.[18] And as an indicator, maternal death itself is only the "tip of the iceberg" of a broader set of challenges that includes child survival and non-fatal (but still debilitating) maternal health problems associated with pregnancy and childbirth; according to USAID, "maternal conditions are the largest contributor to the global disease burden of women of reproductive age...conditions such as anemia,

Box 5: Maternal mortality on the rise in the U.S.

The U.S. ranks 40th in the 181 countries examined in the major 2010 study published in the Lancet, which found improvements in maternal health over the past three decades in many developing countries. According to the study, maternal mortality has persistently and significantly increased in the U.S. since 1980: worsening from 12 deaths per 100,000 live births in 1990 to 17 deaths in 2008. This increase disproportionately affects black women in the U.S.; they are four times more likely to die from pregnancy- and childbirth-related causes than white women.[20] These findings indicate not only the shared burden of maternal mortality across developed and developing nations, but also the crux of the challenge to improve maternal health: that it requires a much more comprehensive strategy than only funding and providing health services. With economic inequality and obesity, for example, on the rise, improving maternal health in the U.S. requires more careful analysis of direct and indirect causes of maternal mortality, as well as innovative solutions to address them.

fistula, nerve damage, and infertility disable an estimated 15 million a year."[19] Faith communities and leaders around the world have long been outspoken in the face of injustices like these, and, in the case of maternal mortality, the egregiousness of the inequality is clear.

Leading medical causes of maternal death

According to the latest statistics, about 3 out of 5 maternal deaths are from causes directly related to pregnancy. The remainder is classified as indirect maternal deaths, which are typically due to complications arising from malaria, tuberculosis, HIV/AIDS, accidents, and other co-morbid conditions.

The leading direct causes of maternal deaths are hemorrhage, eclampsia and other hypertensive conditions, sepsis or infection, obstructed labor, and unsafe abortions. While the exact proportions of these causes vary, they consistently represent the life-threatening complications that mothers are most likely to face.[21] The top three causes of maternal deaths around the globe – hemorrhage, hypertension, and infection – are still the top three causes of maternal death in the United States.

The availability of more detailed data demonstrates crucial disparities in the causes of maternal deaths across regions. As countries develop more sophisticated obstetric care systems, for example, more deliveries are done by caesarean section and complications from anesthesia become a more prominent cause of maternal death; whereas in sub-Saharan Africa, HIV/AIDS has become an increasingly significant factor to maternal death rates in recent years.[22] And often, two or more major factors interact to cause maternal death, adding to the difficulties of tracking both MMRates and the success of the interventions that target them.[23] The following sections contain specific examples of the roles (current and potential) of faith and FIOs in each of the different leading causes of maternal death.

Motivation and controversy

The notion that no woman should die giving birth is an idea that resonates across faiths and cultures. But despite widespread general support, maternal mortality is not without its controversies: it is inextricable from subjects that are often sensitive, such as gender, sexuality, family planning, and abortion. Reducing maternal mortality requires striking a difficult balance between implementing the technical obstetric interventions that can save lives and targeting the broader, indirect contributors to maternal death and disability. While the field needs stronger monitoring and evaluation mechanisms to better gauge which interventions are most successful in preventing maternal deaths, it is also important not to allow the difficulties of measuring this indicator obscure the very real and human tragedy that mothers are dying every single day, all over the world.

One distinctive feature of many FIOs and faith communities is a sense of motivation that neither begins nor ends with the statistics. Given the difficulties of measuring and tracking maternal mortality, a faith-inspired approach has much to offer. Already FIOs are doing a great deal of work on maternal health, but their efforts are not widely documented or shared. This report aims to fill the gap by providing information on the work that FIOs are doing to address maternal mortality, as well as the key trends,

Section 2.
Making childbirth safer: quality obstetric care

"There is no shelter like the mother. There is no refuge like the mother. There is no defense like the mother. There is no one so dear as the mother." (The Mahabharata, Book 12, Section CCLXVI)

In recent decades, enormous strides have been made in the development and testing of interventions to meet the acute, life-threatening problems that women may face during childbirth – regardless of whether or not they have received prenatal care. Such interventions have led to dramatic decreases in MMRates in wealthier countries, which today stand between one-fortieth and one-fiftieth of what they were just 60 years ago.[24] A major focus of the effort to produce similar reductions in MMRates in developing countries is the implementation of these interventions throughout regional and local health systems worldwide.[25] While the means and contexts of medical care vary widely across cultures, countries, and regions, there are specific elements of obstetric care that can save women's lives during delivery anywhere. These interventions can help counter the factors that constitute three-fifths of maternal deaths.

Three elements of quality obstetric care

There is a general consensus that the three essential elements of high-quality delivery care are a skilled attendant at delivery, access to emergency obstetric care (EmOC), and a functional referral system.[26]

A skilled attendant can be a midwife, doctor or nurse. The emphasis is on competency in managing normal, uncomplicated pregnancies through to the immediate postpartum period, as well as the ability to identify and refer complications as needed. In the event of complications, access to EmOC is especially critical. According to the UNFPA:

> "Even under the very best of circumstances, with adequate nutrition, high socioeconomic status, and good healthcare, a substantial proportion of pregnant women – more than 15 percent – will experience potentially fatal complications. But virtually all obstetric complications can be successfully treated. When the emergency obstetric care necessary to treat complications is universally accessible and appropriately utilized, maternal mortality ratios are extremely low and maternal mortality ceases to be a major public health problem."[27]

For every 500,000 people, the UN recommends four basic emergency obstetric facilities and one comprehensive facility. The latter performs caesarian sections and blood transfusions, and has the ability to provide anesthesia. EmOC depends upon strong links to community services and an efficient referral system.[28]

As for the third piece of high quality care, referral systems, the 'three delays model' is often cited. To save a woman's life from the point of complications that arise from pregnancy, the three deadly delays are: delay in deciding to seek care, delay in reaching care, and delay in getting treatment at the facility. A strong referral system has been shown to be central to reduce these delays. In the case of Yunnan, China, an excel-

Box 6: World Relief's Care Group Model facilitates access to obstetric care

World Relief, an FIO partnering with local church communities worldwide, has developed a Care Group Model (created by Dr. Pieter Ernst) that has since been touted as a revolutionary step in community health. In the model, 10 to 15 trained community health volunteers are sent out to educate their own neighbors, triggering a multiplier effect to reach the entire community. This approach often incorporates a "constellation" of interventions into its message, without singling out a single disease or health issue.

Currently, World Relief runs maternal and child health programs in nine different countries. In Rwanda, World Relief activated its network of volunteers to accompany pregnant women to health facilities for their deliveries. The volunteers were given a dollar for each pregnant woman they accompanied, incorporating an incentive-based element that is becoming more common in development interventions.[30]

Box 7: FIO-run hospitals offer exemplary obstetric care in Uganda and Tanzania

The Kibuli Hospital in Kampala, Uganda, operated by the Uganda Muslim Medical Bureau, and the Shree Hindu Mandal Hospital in Dar es Salaam, Tanzania, a part of the Hindu Mandal network, are examples of healthcare facilities with faith connections that offer some of the best obstetric care and treatment in their respective countries. The Kibuli Hospital has lower MMRates than those at public health facilities, incorporating outreach and community-oriented services with a general commitment to cleanliness. The Shree Hindu Mandal Hospital has a reputation for specialty care, especially with complicated deliveries, and integrates HIV testing and services with its care, enabling it to reach a population of women that might otherwise not be included in HIV programming.[31]

lent referral system that leaned heavily on semiskilled village doctors was able to reduce the MMR from 149 to 101 in the 1990s.[29]

Technical intervention strategies for the top causes of maternal deaths

Post-partum hemorrhage and hypertension

The two leading causes of maternal death include post-partum hemorrhage (PPH), which accounts for nearly one in three direct maternal deaths, and hypertension (pre-eclampsia and eclampsia). There are interventions for both of these that can be performed in any setting, including home births, but they require both a trained, skilled attendant who can provide appropriate treatment as well as specific drugs (oxytocin or misoprostol for PPH, and magnesium sulfate for hypertension), administered at the correct time. Active Management of the Third Stage of Labor (AMTSL), a series of actions performed by a TBA, is particularly effective in preventing PPH, and is recommended "for every woman, at every birth, by every provider" due to the unpredictability of labor complications and the threat posed to women by anemia combined with even minor loss of blood (for more technical details on the interventions for these complications, see Appendix C).[32]

Because FIOs are major contributors to health care systems worldwide, particularly where public healthcare facilities are inadequate or nonexistent, their facilities and programs are often the only providers or potential providers of these elements of obstetric care, whether through community- or facility-based programs. Moreover, FIOs tend to engage entire families and communities, which makes them well positioned to strengthen referral systems by connecting women with ob-

Box 8: The John Dau Foundation provides link to emergency care for mothers

Started in 2001 by one of the "Lost Boys" of Sudan to bring healthcare to an area in South Sudan with few healthcare providers or services, the John Dau Foundation now supports and runs a mission clinic in Duk County, South Sudan, that sees over 75 patients a day, including an increasing number of expectant mothers. It acts as a referral center for high-risk cases while maintaining an active community outreach program to train TBAs and encourage them to accompany mothers to the clinic for delivery. The clinic is an example of a project started by a church community in the United States that has developed into an organization that secures its own grants and employs primarily local Sudanese staff. Sustainability remains one of the clinic's key goals, according to Executive Director Tom Dannan.[33] The clinic's work is supported and subsidized through other faith-linked networks, including the Mission for Essential Drugs and Supplies, run by the Christian Health Association of Kenya, and the Kenya Episcopal Conference, and African Inland Mission, an FIO that provides air transport of people and medical supplies to places like Duk, where seasonal rains make roads impassable for much of the year.[34]

stetric care. Finally, faith-inspired networks and organizations can play an instrumental role in supplying local providers with necessary drugs and medical supplies.

Obstructed labor

An estimated six million women each year suffer from obstructed labor. It is the third leading cause of maternal death, and in untreated cases, may lead to the discomfort and stigmatization from obstetric fistulas among those who survive it (see below). The partograph is considered the most effective tool to enable TBAs to know when to intervene in potential cases of obstructed labor. If TBAs lack the knowledge and training on how to actually use the partograph, however, its presence is moot. The partograph illustrates a theme common to all the interventions associated with obstetric care: the need to reconcile technical medical procedures with local realities. Because FIOs often have long histories in the places they are working, they can draw on their experiences to determine the best way to introduce appropriate technologies. Moreover, obstructed labor in particular is linked with pregnancies that occur in women younger than 18 years of age. Child marriage and adolescent sexuality, issues that directly relate to these types of pregnancies, are two areas with obvious faith links. Religious leaders can be influential in delaying marriage and childbirth, and increasingly, FIOs are engaging youth in creative ways, such as social youth networks, to take a more proactive stance regarding adolescent sexuality.

Maternal morbidity

It is estimated that for every woman who dies giving birth, as many as twenty more are injured or disabled. Obstructed labor is a major cause of maternal morbidity, or injury in childbirth. Each year three million women suffer from obstetric fistula, one of the most severe childbirth-related injuries, at least six times the number of women who die in childbirth. A fistula forms when the fetus is unable to pass through the mother's birth canal, applying significant pressure to her vagina, bladder, and rectum for a prolonged period of a few days to a week.[35] The fetus rarely survives such stress, and the mother is left incontinent, suffering from severe physical discomfort and emanating unpleasant odors. These women often are socially stigmatized to the point of being kicked out of their homes and left to die of infection.

A significant contributor to cases of obstructed labor worldwide is the set of socio-cultural and economic norms in many places that cause adolescent girls to become pregnant before their bodies are fully developed. Girls are sometimes married off in part because their dowries are important sources of income for families experiencing economic stress; often even young brides are expected to prove their fertility by getting pregnant quickly. It is these young, first-time mothers who may not recognize a complication or emergency during labor, and thus do not seek help. As a result, pregnancy and childbirth-related deaths are the number one cause of death for 15-19 year old girls in the world.[36] In the industrialized world, fistulas were eradicated half a century

Box 9: Push for Legislation on Fistula in U.S. Congress

On International Women's Day, March 8, 2011, U.S. Democratic representative Carolyn Maloney (NY), introduced a bill that would enable the President to assist in the global prevention and treatment of women suffering from obstetric fistula.[39] In an effort to declare the U.S.' commitment to maternal and child health in all countries, "The Fistula Prevention, Treatment, Hope and Dignity Restoration Act" would direct assistance to increase access to prenatal care, emergency obstetric care, postnatal care, and voluntary family planning. Included in the bill are additional measures to build local capacity and improve existing national health systems; support reintegration programs for treated women; and coordinate donors, institutions, NGOs, and the private sector. The bill, which was co-sponsored by nine other House representatives, was referred to the House subcommittee on Africa, Global Health, and Human Rights.

Box 10: SIM builds on history of treating leprosy in Danja, Niger

FIOs often have many years of experience to build upon in the communities where they work. In Danja, Niger, Serving in Mission (SIM) (see also: Box 12) has run a Center for Health and Leprosy since 1956. Building upon this infrastructure, as well as established relationships and familiarity with local culture, SIM has established a Fistula Surgery and Training Center, in collaboration with Dr. Lewis Wall and the Worldwide Fistula Fund (WFF). The center is modeled on the Addis Ababa Fistula Hospital in Ethiopia, a facility at the forefront of treating fistula in Africa, and the WFF plans to replicate the center elsewhere in regions where fistula is a common problem. The center will offer surgeries as well as training programs for African doctors and community-based programs targeting the causes of fistula, reflecting the comprehensive approach characteristic of FIO-provided healthcare. In an interview, Ray Caggiano, Special Projects Manager at SIM's US headquarters, explained, "We have a desire and a drive to deal with what's going on in an entire community – not just in terms of medical work. In terms of maternal health, for example, our people speak to the lives and the marriages and the interpersonal relationships of the people they are serving – to every aspect of their life. The approach tends to draw the men in as well as the women, because that's an important part of the situation." Messages encouraging delayed pregnancy are just one example of how FIO health work often extends beyond the clinic into the community to work on important preventative measures.

ago.[37] It costs US$300 to repair a fistula using low-tech surgery under spinal anesthesia and 90 percent of them can be repaired. But in reality, most afflicted women are poor and never receive the opportunity for this basic care.[38]

"Poverty is the breeding-ground where obstetric fistulas thrive," says Dr. Lewis Wall, the world's foremost advocate of helping women with fistulas.[40] The constant leaking of urine and feces associated with a fistula create a social stigma that can cause divorce, abandonment, and severe depression. This 'blaming the victim' norm leads Wall to state that "for many women the consequences of surviving this ordeal [obstructed labor] may be worse than death itself," adding that women with fistulas are the walking half-dead of the maternal mortality issue, likening them to modern-day lepers.[41] Faith communities and organizations have strong records handling issues associated with stigma, from leprosy to HIV/AIDS, making them powerful agents of change not only in taking initiative to treat and care for fistula patients, but also to work within communities to address the conditions that lead to obstructed labor and fistula in the first place.

Section 3.
Indirect factors leading to maternal death:
social magnifiers and medical complications

"We have enjoined man to show kindness to his parents. With much pain his mother bears him, and with much pain she brings him into the world." (Quran 46:15)

Because of the cultural complexity and medical risks of childbirth, there is far more to preventing maternal deaths than the crucial obstetric measures outlined above. Just as obstetric care is one strand of the broader fabric of a public health system, pregnant women are embedded in specific societal and cultural structures. Numerous health-related complications, like HIV/AIDS and malaria, compound the risks of pregnancy. In addition, there are many cultural and socioeconomic barriers that interfere with access to quality health care for women in the first place, leading many to call increasingly for maternal mortality to be framed not just in terms of medicine or public health, but human rights. Consequently, strategies to reduce maternal mortality must be holistic and integrated, extending beyond safe delivery. Even if the best possible obstetric care is available in a given place, it cannot do anything for a woman who cannot take advantage of it due to economic or cultural constraints. Faith communities and organizations can offer underappreciated venues for engaging the sensitive, private, and intimate concerns of childbirth and the attitudes that relate to them. For example, faith can play an integral role in shaping or changing the attitudes that affect health behaviors. The following section illustrates a number of ways in which FIOs engage in the fight against maternal mortality by addressing some of its indirect causes. These initiatives represent a powerful means to accelerate change.

The significance of these dimensions is underscored by the growing body of evidence identifying which factors are ultimately responsible for significant decreases in maternal mortality. In Bangladesh, for example, a recent 40 percent decrease in maternal mortality has prompted several theories on possible causes and explanations. Some attribute this drop in MMRate to a significant drop in TFR in Bangladesh from 6.0 to 2.4 in 2010. The 2010 USAID report that published these new findings attributed it to drops in direct obstetric deaths,[42] which were due to much higher numbers of births assisted by a skilled attendant (in this case, this occurred as more women delivered their babies in healthcare facilities) and stronger referral systems and options for EmOC. This report also highlights increased awareness of and access to these services, attributable to increased levels of women's education, strong cellular communication networks (which helps connect women and their families to healthcare providers via cell phones), and better economic conditions, which grant the poor increased access to healthcare services in general. Without these important (and non-obstetric) factors, the presence of life-saving drugs, emergency facilities and trained birth attendants would have had a negligible impact. As the study points out, "health behaviors are not simply determined by availability of facilities and services, but are also influenced by socio-economic factors."[43]

Box 11: Major human rights protections relevant to maternal mortality

- International Covenant on Civil and Political Rights (ICCPR), Article 6.1: Every human being has the inherent right to life.[44]
- International Covenant on Economic, Social, and Cultural Rights (ICESCR),
  - Article 10.2: Special protection should be accorded to mothers during a reasonable period before and after childbirth.
  - Article 12.1: recognizes "the right of everyone to the enjoyment of the highest attainable standard of physical and mental health."
  - Article 12.2(a): calls for "the provision for the reduction of the stillbirth-rate and of infant mortality and for the healthy development of the child."[45]

The convention itself only mentions reducing the stillbirth rate and infant mortality; it is a general comment from the committee that says this must be understood as relating to child and maternal health, including access to family planning and EmOC.[46]

- Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW),
  - Article 12.1: States Parties shall take all appropriate measures to eliminate discrimination against women in the field of health care in order to ensure, on a basis of equality of men and women, access to health care services, including those related to family planning;
  - Article 12.2: Notwithstanding the provisions of paragraph I of this article, States Parties shall ensure to women appropriate services in connection with pregnancy, confinement and the post-natal period, granting free services where necessary, as well as adequate nutrition during pregnancy and lactation.[47]

At the same time, improvement in women's socioeconomic status alone, without the existence of measures to address obstetric emergencies, is not sufficient to combat maternal mortality. There is no way to predict fully which expectant mothers will develop complications; often, even high-risk pregnancies result in uncomplicated deliveries, and the most dangerous complications often occur in low-risk populations.[48] Because a mother's safety during delivery hinges more upon her ability to access skilled help and emergency care than any other factor, the socioeconomic factors that are specifically relevant to facilitating or blocking access to these forms of care play a crucial role in any understanding of why maternal deaths occur – as well as any strategy to prevent them.

Infectious diseases and other health factors

HIV/AIDS

The relationship between HIV and maternal health was highlighted in a 2001 UN General Assembly Special Session, which called for a 50 percent reduction in mother-to-child transmission of HIV by 2010.[49] These rates have fallen by more than 25 percent, according to UNAIDS, which is considerable progress, but the challenges HIV presents expectant mothers remains a serious issue.[50] Christopher J. L. Murray, director of the Institute for Health Metrics and Evaluation at the University of Washington, which helped produce the comprehensive maternal mortality study published in The Lancet in 2010, has noted the importance of focusing on HIV/AIDS as a leading factor in maternal deaths in places where the epidemic is at its worst. In eastern and southern Africa, he points out, the HIV/AIDS epidemic is a major contributor to the increase in maternal mortality in recent years: "If you want to tackle maternal mortality in those regions," he stated, "you need to pay attention to the management of HIV in pregnant women. It's not about emergency obstetrical care, but about access to antiretrovirals."[51]

The statistics are sobering: despite biomedical advances which nearly guarantee the prevention of mother-to-child transmission of HIV (PMTCT), implementation of these measures – particularly in Africa – is far from universal. HIV/AIDS is the leading cause of death among women of reproductive age worldwide,

Box 12: Maternal mortality in industrialized countries: factors leading to decline

Irvine Loudon has demonstrated the reasons behind maternal mortality's steep decline in Western industrialized nations; between the 1920s and the 1960s, MMRates dropped dramatically, to the point that maternal death is now a rare occurrence. As Loudon argues, "maternal mortality, unlike infant mortality, was remarkably insensitive to social and economic factors per se but remarkably sensitive to standards of obstetric care." It is important to place the notion of "obstetric care" in historical context, however: contrary to what one might assume, this did not necessarily mean the hospitalization of births. In fact, at one point, hospital births were actually statistically more dangerous than home births in the U.S. In the early twentieth century, when American obstetricians were overtly hostile towards midwives, Europe, which had a "long standing tradition of well-trained midwives," had much lower mortality rates than the U.S. The key element was not the location of the birth per se, but developments such as the emergence of obstetrics as a specialty, which gave rise to increased education and training on obstetric care and more skilled birth attendants, and technologies such as blood transfusions and antibiotics.

The move towards hospital or facility delivery was just one way of implementing advances in obstetric care. Loudon's research demonstrates that while social and economic factors, such as class and nutrition, are certainly relevant to maternal mortality, they have minor import in the absence of quality obstetric care. The challenge remains to integrate the delivery and implementation of obstetric care within existing socio-economic contexts.[52] The history of obstetrics in North America and Europe are a powerful reminder that maternal mortality is constantly subject to change everywhere – including in the industrialized nations. In the U.S., there is evidence that MMRates are actually slowly rising again, driving home the point that even the overwhelming success of modern obstetric procedures and technology are neither perfect nor universally accessible, even in the wealthiest countries.

and as recently as 2002, nearly one in three pregnant women in Africa was HIV-positive.[53] According to the UNFPA, HIV/AIDS prevention efforts reach only 8 percent of pregnant women worldwide.[54] And according to a five-year study of a large public hospital in Johannesburg, South Africa, HIV was the main cause of maternal mortality.[55]

The interconnectedness of maternal death and HIV/AIDS points to a critical issue in public health: the importance of building capacity throughout healthcare delivery systems rather than "stovepiping" aid dollars or programming efforts towards one disease (or away from a controversial area such as family planning).[56] Successful maternal mortality interventions must build upon existing systems – in part because maternal health is intertwined so thoroughly with HIV/AIDS and other diseases – and maternal health issues should be mainstreamed into ongoing efforts to combat major infectious diseases. Faith communities throughout the world have been actively engaged in work around these diseases, particularly HIV/AIDS, at the levels of both global advocacy and innovative, quality local programming (see Box 13). This history underscores the potential of FIOs to offer unique and meaningful approaches to maternal mortality, and to incorporate awareness of maternal health into health programs that are already in place.

Tuberculosis

Tuberculosis (TB) kills an estimated 1.7 million people annually. The WHO estimates that one-third of the world's population is infected with TB, which often remains dormant in healthy individuals.[57] The disease has garnered increased international attention in recent decades largely due to the lethal co-infection of HIV and TB and the rapid evolution of drug-resistant strains. TB is both the top risk factor for HIV and the leading cause of death among persons with HIV/AIDS.

Because of high levels of HIV-TB co-infection, women's particular vulnerability to both diseases, and the emerging importance

Box 13: SIM develops creative approaches to HIV and malaria education

Serving in Mission (SIM), an international, interdenominational Christian missionary organization, has been sending missionaries abroad since 1893. It currently supports over 1,600 missionaries in more than 50 countries, many of them medical professionals. SIM missionaries work in many areas where literacy rates are low. Worldwide, women and girls are far less likely to achieve literacy than men, and even where younger generations might be literate, older generations (and consequently many community leaders) frequently are not, making oral communication essential. Consequently, in partnership with e3 Resources, a company that pioneered a commonly used cube device for teaching about Christianity, SIM has worked to develop oral and visual tools to teach about HIV/AIDS and malaria. Their HIV/AIDS and malaria cubes are language-neutral, inexpensive, developed in close consultation with the CDC, and refined through testing in the field.

of HIV to MMRates, particularly in Africa, TB is also emerging as a key factor leading to maternal deaths. One study in Durban, South Africa found that over half of maternal deaths caused by TB were attributable to HIV infection, concluding that TB was a significant contributor to maternal mortality along with HIV.[58] A retrospective study of maternal deaths at a hospital in Zambia indicated that despite an increase in obstetric services, MMRs had increased significantly due to malaria, TB, HIV, and other respiratory illnesses, which together accounted for 58 percent of maternal deaths.[59] This reflects a growing recognition that diagnosis, treatment, and prevention of these infectious diseases are an essential component of reducing maternal mortality – despite the fact that these have not traditionally been viewed as being directly related to maternal health. Research on the intersections between faith and TB has emerged only recently (see the "Faith and Tuberculosis" report in this Luce/SFS, Berkley Center and WFDD series), but it appears that FIO activity on TB is another potential avenue for extending the reach of maternal health measures using existing networks and programs.

Malaria

Malaria infects an estimated 247 million people worldwide, of whom 1 million die each year.[60] Over 85 percent of malaria deaths occur in Africa, and young children and pregnant women are at especially high risk.[61] Not only are pregnant women more susceptible to malaria, the disease is likely to threaten the life of the mother, but also increase her risk of anemia, cause spontaneous abortion, and adversely affect the health and weight of her child.[62] Further complicating the issue are factors such as HIV, which increases a woman's vulnerability to malaria and presents complications in treatment options because of drug interactions, and the fact that sometimes the symptoms of malaria itself are misdiagnosed as symptoms related to pregnancy.[63]

Because the disease burden of malaria among pregnant women is so clear, malaria does represent an area in which there are explicit programmatic overlaps with maternal health. Many initiatives designed to combat malaria integrate or target the screening and treatment of expectant mothers. For example, USAID Senegal, along with IntraHealth and the Senegalese Ministry of Health, launched a program integrating malaria, maternal and child mortality and morbidity, and family planning. In addition, the Malaria in Pregnancy Consortium, a collaboration among 47 research institutions around the world, is dedicated to conducting and sharing research on burden assessment, prevention, treatment, and how to scale known interventions addressing malaria among pregnant women. Although malaria continues to threaten maternal health, the integrated care and research models developed to specifically address malaria and maternal mortality may offer useful examples for addressing other non-obstetric contributors to maternal death. Because it is widely known that pregnant women are more susceptible to malaria, maternal health is often well-integrated into malaria programming, including programs and services offered by FIOs. One faith-related example is the Malaria Sermon Guides developed by IMA World Health and the Center for Interfaith Action on Global Poverty (CIFA), which are designed to equip Christian and Muslim religious leaders with both faith principles and key health messages to help prevent malaria among their congregants.

Box 14: USAID's ACCESS program integrates antenatal care and malaria prevention programs in Uganda in partnership with three FIOs

Working in the Kasese District with the Uganda Protestant, Muslim, and Catholic Medical Bureaus, ACCESS piloted a program to integrate antenatal care strategies with measures to prevent malaria in pregnancy through promoting use of intermittent preventative treatment (IPT) and insecticide-treated bed nets during pregnancy using the platform of antenatal care (ANC). According to a resulting study, mothers were more likely to access IPT in FIO facilities, even over a short time. The project focused on building upon existing structures and healthcare systems, focusing on training clinic staff. Another key element of the pilot project was a successful partnership with local representatives from the national Ministry of Health, who helped with replication and scaling of the project throughout the district.[64]

Box 15: Adventist Development Relief Agency (ADRA) frames health and nutrition conversations around cultural beliefs and attitudes

Using a wide-ranging, holistic approach that includes nutritional education, the Adventist Development Relief Agency's (ADRA) programs address health disparities at the community and facility level. Sonya Funna, Senior Technical Advisor for Health, explains that in one southern African nation they worked in, ADRA discovered people were not eating orange fruits and vegetables, for fear it would make them sick, and were not eating spinach, on the basis that its prominent growth signified it was inedible.[65] As a result, food was plentiful in the community, but malnutrition was endemic. To ease the dissonance between local beliefs and practical health priorities, ADRA identified local attitudes regarding health and medicine, and shaped an education and action program to address those views effectively. In this particular community, ADRA compiled recipes and held cooking demonstrations, giving the community practical and culturally relevant ways to improve nutrition.

Anemia and nutrition

Anemia, or a deficit of healthy red blood cells, is another leading non-obstetric cause of maternal mortality. Anemia is often the result of malnutrition, which afflicts many of the populations where MMRates are highest, but anemia can also be the result of malaria, short inter-pregnancy intervals, and other causes and conditions. It is often difficult to ascertain its exact origins in a given patient. Studies suggest that while there are strong causal links between severe anemia and maternal mortality, these conclusions should not be extrapolated to include mild or moderate anemia.[66] There is a need for more research establishing the relationship between various nutritional interventions, such as iron and Vitamin A supplements, severe anemia, and maternal health.[67]

Overall, the scientific literature on maternal mortality emphasizes the importance of skilled care at birth and during the postpartum period because of the unpredictability of obstetric complications, pointing out that ANC does not necessarily affect or predict whether a woman will suffer from hemorrhage, eclampsia, or sepsis.[68] However, ANC can include key preventative measures for minimizing the risk of the indirect threats outlined above and be a key component of saving women's lives, particularly where HIV/AIDS, malaria, TB, and malnutrition are common. ANC programs are often prominent components of infant and child survival efforts and are therefore central to integrated maternal and child health work.

Social, cultural, and economic barriers to care

In addition to health complications, a broad set of social, cultural, and economic issues can deeply affect maternal health. Attitudes towards clinical or biomedical forms of healthcare, as well as the sheer cost and inconvenience of maternal care in many

Box 16: Pastoral da Criança integrates healthcare services with education programs to provide integrated care for

Pastoral da Criança, a ministry of the National Conference of Brazilian Bishops, provides integrated child development and family support services to infants and children up to six years of age. Prioritizing community involvement and grassroots networking, Pastoral da Criança empowers trained volunteers to act as community leaders, offering targeted health information and community-based services to reduce infant mortality and improve child health, as well as to improve maternal literacy and reduce domestic violence.[69] A central part of this is an education program to improve the nutrition of pregnant women, create understanding about child development, and improve nutritional surveillance of underprivileged children. Breastfeeding is emphasized to reduce infant mortality and malnourishment rates. Oral rehydration therapy, to reduce mortality caused by diarrhea, is also highlighted, along with access points for drinking water. And to explain why these practices matter, bible verses and faith-based references underlie each program.

Box 17: World Vision works with local ministry of health in Uttar Pradesh, India to improve maternal nutrition

From 2003-07, World Vision collaborated with the Indian Ministry of Health and other NGOs to provide pregnant women with specifically timed health messages about maternal and child health. The program focused on home-based education, dispatching community health workers to identify and visit pregnant women in their communities. Each woman was visited 7 times total: 3 during pregnancy, 1 immediately postpartum, and 3 during the child's infancy. Elements of the program directly relevant to maternal mortality included messages about ANC, maternal nutrition, and family planning; these were integrated with messages about infant nutrition and care. The program was particularly successful in terms of increased knowledge about family planning and worked to supplement existing public health services. After the initial project, the program approach was replicated and disseminated throughout the region through connections with the local Ministry of Health.[70]

places, are enough to prevent women from receiving the care they need during childbirth. An unmet need for family planning options exposes a woman to a greater lifetime risk of maternal mortality, in part because it increases the likelihood of complications from unsafe abortions (which is still one of the five leading causes of maternal death worldwide). Religions and their associated values are intrinsically connected to these broader issues in varying ways. Faith can motivate and influence individuals and families to be more proactive in terms of their health and help facilitate access to health care, but it can also contribute to attitudes or beliefs that constitute barriers to care.

Cultural attitudes: medicine, maternity, and sex

Janice Boddy, a historian and anthropologist documenting the history of British midwives in colonial Sudan, describes the often-conflicting goals of the British colonial government's female health care workers and the local Sudanese midwives they were supposed to be training. "It goes without saying," she writes, "that both [Mabel] Wolff [leader of the British training program] and the Sudanese women with whom she worked desired successful pregnancy outcomes. However, their views of what counted as success – for Wolffe, statistics showing an increase of healthy offspring and mothers; for Sudanese, the production of virtuous women and morally entangled kin – did not altogether converge."[71]

This historical anecdote resonates today. Because the life-saving measures of skilled, quality obstetric care are so specific, the attitudes of mothers and their families towards medicine, particu-

larly when it comes to women's health and sexuality, as well as the location and providers of local medical care, are essential to determining whether or not women receive the care they need to survive life-threatening complications in childbirth. Perceptions about the acceptability (or not) of facility-based care, the gender dynamics within households, where in-laws might exert their wishes over that of a mother in labor, and even notions of public and private spaces, all affect a mother's access to skilled care at birth, and all of these elements can be conditioned or shaped by religion.

One article cites the example of a religious community in the United States whose members are educated, healthy, and generally prosperous, but who never use modern medical care. The MMR within this community was found to be 100 times the U.S. average.[72] Regardless of other social and economic factors, a family's decisions about how and when to access medical care has a crucial impact on maternal health. In some cultures, seeking medical attention is regarded as a weakness, or social taboos surrounding body fluids, sexuality, and other aspects of maternity and childbirth may prevent women from speaking up or requesting assistance. Conversely, one anthropologist studying healing practices in rural Turkey points out that even within one community, some mothers might prefer hospital births because they focus attention on the mother, rather than the mother-in-law (who assumes the primary role in home births), while others prefer to give birth at home due to negative experiences that they or acquaintances have had at state-funded clinics.[73] In some communities in Sudan and Ethiopia, difficult births actually signify the presence of virtue; a birth that requires too little effort may be viewed as indicative of a lack of the social control and struggle required to produce "moral offspring."[74] Religion is by no means the only factor in decisions of where, when, and if healthcare is sought, but it is a significant and influential one.

Just as the roles and identities of women vary from culture to culture, so do concepts like "motherhood" and "healthcare." Healthcare often manifests itself in hybrid forms – a mixture of clinical and local practices, rather than a straightforward importing of modern biomedical techniques. Effective interventions build upon both existing healthcare infrastructure and integrate local forms of healing and care, where appropriate, for a mix of options. The fact that the majority of births taking place at home do occur without complication, and that there are many cases in which even the most sophisticated biomedical interventions can-

Maternity ward in El Carmen de Chacuri, Colombia

not save a mother's life, mean that a sense of unwavering trust in clinical medicine is difficult to foster in many places.

One innovative program in Ecuador, the Jambi Huasi clinic, combines modern-style and traditional healing approaches. One doctor points out that modern medical interventions, such as oral rehydration salts, "are much more easily accepted if they are connected with traditional medicine practice."[75] Other creative approaches include a successful home-based care model for persons living with HIV/AIDS in Addis Ababa, Ethiopia, run by SIM, whose focus lies with an entire family rather than on one particular patient.[76] Another creative approach to bridging the gap between people and health care is ADRA's use of "waiting huts," facilities near health care facilities where late-term pregnant women can wait comfortably before they give birth – instead of waiting to secure transportation to facilities until after their labor begins.

Because trust and traditions play a role in the pursuit of medical care, FIOs and communities can be key bridges between the life-saving emergency interventions of biomedicine and the social underpinnings of local birth cultures and traditions. In many societies, particularly in post-colonial countries, public health clinics may be seen as representative of a state that may have a shorter or less positive history than a faith-based group that may have been there for over a century or a local religious leader who is more in touch with the local population's needs and concerns. FIOs with a long-standing history in these types of communities may have the unique ability to navigate the biomedical/traditional divide.

Box 18: Cosmologies and childbirth: how local beliefs shape birth practices

Because local cosmologies represent the intersection between cultural, religious, or spiritual beliefs and the actual practices of a community that are based upon those beliefs, an understanding of local cosmologies is essential to the success of any effort to address a subject as sensitive as childbirth. For example, a 2010 study in South Africa concluded that traditional spiritual beliefs establish taboos that can help to ensure healthy inter-pregnancy intervals without biomedical interventions. Many South African communities discourage sexual activity when breastfeeding, on the basis that it pollutes the mother's blood and breast milk, and threatens the health of mother and child.[77] Such belief-inspired practices may provide a useful framing for community-based organizations, including FIOs, as they work to communicate the importance of healthy spacing of pregnancies, without seeming to link it to sensitive prior expectations like obligatory limits to family size that are seen as threatening local social structures.

Insights into how local spiritual beliefs envisage health and fertility can enhance understanding about why in some cases, dangerous local practices persist despite available biomedical interventions. For example, a case study with Shona women in central Mozambique found that beliefs about the causes of various pregnancy-related illnesses affected the kinds of treatment women would seek.[78] Illnesses considered unrelated or coincidental to pregnancy, such as malaria or colds, and illnesses symptomatic of pregnancy, such as back pain or varicose veins, are often attributed to natural causes, for which women are likely to seek treatment in a medical facility. On the other hand, difficulty conceiving, loss of a child, labor complications, and birth defects are often attributed to spiritual harm intentionally inflicted by a jealous neighbor or an evil spirit, for which women are likely to seek traditional healing practitioners because they consider these conditions untreatable by biomedicine. Recognition of these attitudes, provided by long-term presence in the community, is beneficial in the design of appropriate and culturally relevant healthcare infrastructure around such practices. For example, several FIOs in Ghana and elsewhere have taken into account the cosmologically- and culturally-grounded preference for home deliveries by creating medical training programs for traditional birth attendants (TBAs).[79]

In the Yoruba dialect of southwestern Nigeria, there is no equivalent for the word "fertility." Instead they use a range of words that signify the fruitfulness of a woman, land, or animal (oleso, oloora, elede), or the act of giving birth (iseabiamo). With the exception of the latter, to some degree, these fertility-related terms do not suggest a woman's agency or degree of flexibility in her fertility, and instead convey fixed qualities, controlled or predetermined by divine or outside sources. Research illustrates that these linguistic nuances have an effect on local cosmology and practice, since many Yoruba women state that if they do not conceive and give birth to all the children that God has given them, then they will be cursed with diseases.[80] These beliefs present challenges for FIOs that seek to engage women in thinking about childbirth in a way that optimizes the health of the mother and child, and not strictly the number of children. This approach is at odds with other social practices, like those in Benin, where producing many children is often the only way for a woman to gain respect and a sense of social mobility in her community.[81] Or in Tamil Nadu, India, where a woman's power, or sakti, is said to lie in her ability to endure the painful process of childbirth. There, a growing reliance on medical technologies to induce labor, hasten contractions, or numb the pain is perceived as actively weakening sakti or as evidence that sakti has been substantially weakened already.[82] Wary of employing health practices that would diminish female social standing further, FIOs, as well as other healthcare providers, have been challenged by the local cosmologies around which they work.

This long history may offer experience and strategies for addressing maternal mortality within the context of specific local cosmologies (defined as local beliefs and practice, often distinct from official religious doctrine or institutions, that are defined largely by the community and locality in which they occur). Maternal mortality is sufficiently complex such that no one solution will address the problem, and the most successful interventions are those that are designed and implemented with consideration for local cosmologies and norms. Because of FIOs' presence at the grassroots levels where these cosmologies factor prominently, and because their impact has been understudied in the broader context of international public health and development, they represent a rich potential source of effective strategies for maternal health intervention and collaboration.

Family planning

Many advocates rank family planning along with emergency obstetric care (EmOC) and skilled care at birth as among the most important components of a strategy to reduce maternal mortality. The issue often becomes sidetracked over conflicts about limiting family size or about the legalization of abortion. In many situations, especially in poor communities, women have few options to control the timing and spacing of their pregnancies. Women who are displaced, poor, or living in areas of violent conflict are particularly underserved: according to the Women's Refugee Commission, "more than 120 million women say they want to wait longer between their pregnancies or limit their families, but currently do not have accessible, affordable or appropriate means to do so."[83] Family planning is a key element of preventing maternal deaths: evidence shows that women who delay pregnancy until the age of 18 and have children spaced at least two years apart have fewer life-threatening complications.[84] Family planning is also a key element of preventing child deaths, since timing and spacing practices often prevent the circumstances in which a child's health might be in the greatest danger, as well as those in which women might turn to an abortion or are unable to care for a child.

Unsafe abortions, defined as abortions performed by people without skills or in environments without medical standards, are a reality for those in poverty especially, and are one of the top five direct causes of maternal deaths worldwide, killing 70,000 women annually. Annual abortion-related fatalities decreased significantly in Bangladesh after 1990, as a result of improvements in the safety of abortion services,[85] contributing to a dramatic fall in the national MMR recently. Abortion, of course, remains a hot-button issue, and often emerges as a major barrier to faith-inspired involvement with existing maternal and reproductive health efforts. While it might be most familiar as an issue among Christian or Muslim communities, other faith traditions take a stance against the acceptability of abortion as well. Thailand's Buddhist tradition, for example, forbids abortion, and national laws reflect these principles, outlawing the procedure entirely. But an estimated 300,000 illegal abortions occur annually in Thailand, with the procedure commonly available in underground clinics. Many Thais attribute these numbers to inadequate options and education when it comes to family planning and sex education.[86]

Despite the clear implications family planning has for reducing maternal mortality, the provision of family planning options to women and their families faces many obstacles. One of the barriers to accessible family planning is that it is often too narrowly defined. Definitions often use language that suggests family planning approaches aim to limit family size – an intention that runs counter to the natural mindset of many poor families who may associate larger family size with greater economic security. It is important that the framing of family planning casts timing and spacing practices as means to ensuring healthy children, and not necessarily fewer. Recent research, however, has pointed out that there is common ground in family planning approaches that do not necessarily rely upon contraception or elective abortion, which remain anathema to many religious communities. The Institute for Reproductive Health (IRH) at Georgetown University has conducted research on the effectiveness of natural fertility awareness and birth control methods that do not require medical contraception. These methods are based on knowledge about the signs, symptoms, and patterns of fertility during a woman's menstrual cycle and throughout her reproductive life, the male reproductive potential, and male and female fertility together.[87] USAID and the WHO now recommend an emphasis in Healthy Timing and Spacing of Pregnancy, or HTSP, as a way of timing pregnancies in a manner that is healthiest for both mother and child.[88] Bangladesh's recent, dramatic drop in MMR affirms this push: the decreased MMR was linked to an increase in women timing pregnancies within their healthiest years, ages 18 to 35. And a comprehensive survey of Christian health organizations, conducted by Christian Connections for International Health (CCIH), found that none of its member

organizations were actually opposed to family planning. Challenges sometimes stemmed from a lack of supplies more than attitudes, or from additional issues of framing and language – in some cases, for example, "fertility awareness" is far more acceptable than "birth control." Tellingly, some organizations indicated that there were more conservative attitudes towards family planning among their U.S.-based staff and donors than their international partners and networks. A combination of comprehensive, natural and medical family planning approaches, including HTSP, as well as post-abortion care (PAC) can be instrumental in targeting the leading causes of maternal death.

Access: socioeconomic class, geography, and infrastructure

Even where full reproductive and obstetric care options are available, they are rarely equally accessible to all women and families. A study from the Nepal Safer Motherhood Project showed that

higher caste women were far more likely to access EmOC than lower caste women.[89] Another study interviewed women in three African countries about the costs associated with their childbirth experiences. It found that facility based deliveries nearly always required the families to pay something out of pocket, and there was no significant difference in what poorer women and richer women had to pay. In Burkina Faso and Kenya, complications arising during delivery resulted in increased costs, and on average, the cost of a delivery was a significant proportion of a family's monthly income (as high as 35 percent in Kenya). A 2004 Kenyan national policy eliminating user fees at mid- and lower-level government health facilities was shown to have an impact on reducing the financial burden of giving birth.[90] Since then, several countries have pledged to eliminate delivery costs if mothers use government facilities, or even provide cash transfers to mothers and providers who do so. In Sri Lanka, which has halved its MMR "at least every 12 years since 1935," not only have midwives been professionalized to such an extent that 97 percent of births are accompanied by a skilled attendant, but delivery services are free to the entire population and available in rural areas, meaning that nearly all mothers can access them.[91]

Finally, infrastructure, such as transportation systems and electricity, can pose significant challenges to providing the medical supplies necessary for emergency obstetric measures (such as antibiotics, which played a key role in maternal mortality declines in Europe and the U.S.; magnesium sulfate, which can be administered to combat eclampsia; and anesthesia for emergency caesarean sections) and prevent the women themselves from being able to access care. This is a particularly challenging barrier in countries like Afghanistan, which has one of the highest MMRates in the world, and has little in the way of infrastructure or health systems to build upon. One promising approach to overcoming the gaps in access to healthcare is the increasing use of cell phones, both to connect mothers with resources about maternal health and to connect birth attendants with emergency care facilities. These technologies cannot provide a silver bullet, by any means, but they can play a role in overcoming significant geographic and logistical obstacles to connect mothers more quickly with resources that can save their lives.

The factors that impede access to obstetric care are as numerous and complex as the various medical factors that can cause maternal deaths. The deadly combination of direct and indirect contributors to maternal mortality means that the problem must be tackled from a number of angles. FIOs frequently offer integrated and comprehensive health programming, and their presence is less likely to be motivated by the emergence of a single factor or disease than many international programs organized around a particular issue. The perception that FIOs work where nobody else will go, "reaching the unreached," if true, makes them well-suited to facilitate communication, awareness, and access to the many non-obstetric factors that impact maternal mortality. Faith-inspired approaches can bring the experience and outlook necessary to untangle the complexities of maternal mortality. The next section charts the range of ways that FIOs and faith communities engage with maternal health, pointing to opportunities for future expansion of these efforts.

Section 4.
Faith-inspired engagement with maternal mortality:
opportunities and barriers

"Why does USAID work with faith-based organizations?[…]They're usually the people on the front lines of need and human assistance. They go there motivated purely out of love for their human brothers and sisters. And when a disaster strikes or if somebody is in need, they're already on the ground. Churches, parishes[… are] usually located in the most remote villages… The faith-based mechanism is a lot of times the easiest mechanism for the government to use to reach those people who are not usually reached, and, therefore, more in need."

– Linda Shovlain, Deputy Director of the Center for Faith-Based and Community Initiatives of USAID, in a 2004 Woodstock Forum on international faith-based initiatives at Georgetown University[92]

Faith and maternal mortality: opportunities

Previous examples have demonstrated the different ways that FIOs are addressing maternal health issues. This section synthesizes the numerous overlaps and synergies between faith and maternal mortality, identifying patterns and trends to suggest the best potential means for faith-related actors, groups, and communities to address maternal health moving forward. These examples point both to best practices that could be shared more widely with other stakeholders in the maternal health sector as well as to opportunities for expansion and scaling of successful programs.

Faith-inspired organizations and healthcare: working where mothers are at risk

In recent years, the significant and ongoing contributions of FIOs to health care (particularly in less industrialized countries, which have less state infrastructure and funding for public health services) have been increasingly highlighted and acknowledged. Faith-linked programs and institutions provide a significant proportion of available healthcare in many countries, will often work in remote regions where other institutions will not, and tend to be underrepresented in official statistical analyses of health services, including those related to maternal mortality figures.

Care providers affiliated with faith communities or organizations argue that they tend to take a more holistic and culturally relevant care approach, aimed at treating the whole person, not just their symptoms or disease. FIOs are noted especially for offering care that "touches the hearts" of those living with HIV/AIDS. In Zambia, for example, religious organizations have been providing HIV care since the mid-1990s and are known for home-based care models and care that is organized around religious communities, such as churches and mosques. They are valued for their strong leadership and commitment to the poorest members of the community, or those dealing with stigmas.[93] (For more examples, see Boxes 6, 8, and 10.)

FIOs run many services and facilities, but they cannot operate

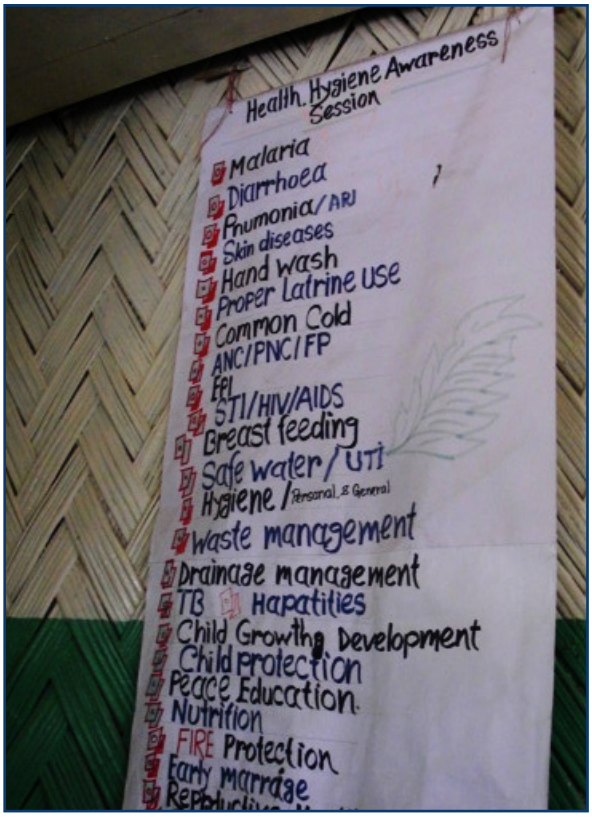
in isolation. While there is no comprehensive data available, it is important to emphasize that even where FIOs are contributing significantly through drug supplies, care facilities or other services, their contributions are "a necessary complement to public systems," not a replacement for them. This points to the need for FIOs to work in partnerships with each other and the public sector to achieve an integrated continuum of care.

One researcher compared the role of FIOs in the healthcare field to the role of housework in the economy: both are elements that are often not factored into the official statistical measures, but current economic and healthcare systems, as they actually exist, could not function without them.[94] Following this analogy, FIOs' extensive, community-level involvement with underserved populations makes them well-positioned to address maternal mortality – which, like housework, carries a burden most heavily felt by women. And it deserves more careful analysis, so that it is not simply taken for granted.

What makes faith-inspired healthcare different: a values-driven approach towards caring for mothers

In addition to the presence of FIOs among many key populations that experience high levels of maternal mortality, faith values can provide meaningful inspiration for groups and communities to tackle a complicated issue that has proven difficult for traditional advocacy efforts. Religion can serve as a powerful means to creating solidarity across national or cultural borders. US-based Christian advocacy groups, for instance, can potentially rally thousands of followers around a cause. Rick Warren, founder of the Saddleback Church, is one example of an American evangelical leader who has been an advocate for maternal and child health, citing biblical inspiration for his call to religious communities to support efforts to reduce maternal mortality – both through donations from churches in the US to home-based healthcare programs organized through local religious communities abroad.[95]

Countless FIOs conduct medical work within a community-wide, family-based approach, so that maternal health becomes not only about the mother, but about families and a continuum of care. FIOs tend to have a long-term presence in a community, building up the trust that is essential to overcoming the barriers and delays in seeking care that are essential in preventing maternal deaths. Agencies like ADRA point out that they run field offices, not project offices: many FIOs are often distinguished by a commitment to a place and a community rather than to a particular issue.



Muslim Aid clinic in Rohingya displaced persons camp, Teknaf, Bangladesh

Faith and advocacy coalitions and partnerships

FIOs and communities also play roles as partners in advocacy and funding. An October 2008 summit in Istanbul resulted in the creation of the Global Interfaith Network for Population and Development, a forum for collaboration among FIOs and multilateral agencies around objectives that include family planning, HIV/AIDS, maternal health, and women's empowerment. Along with a series of guidelines for strengthening partnerships with FIOs, one of the central outcomes of the conference was the recognition of synergies in both language and outlook among both the UNFPA and the faith-affiliated representatives, all of whom highlighted the "right to human dignity" as a central theme of their work. Thoraya Ahmed Obaid, former head of the UNFPA, highlighted this

Box 19: Faith-Inspired Organizations and the UNFPA

The Istanbul Consensus: Principles of a Global Interfaith Network for Population and Development [October 2008]

The gathered representatives of UNFPA and FBOs from around the world commit to:

- The principle that faiths share the same aims to safeguard the dignity and human rights of all people, women and men, young and old;
- Work together to advance human well-being and realize the rights of all individuals with attention to women and young people;
- Identify regional and national UNFPA-FBO focal points;
- Exchange experiences and learn from each other through the Interfaith Network;
- Ensure that FBO partners own the principles of the Network and maintain linkages with each other, with the support of the UNFPA;
- Continue to maintain strong regional and national networks supported by UNFPA Country Offices, feeding into a Global Network facilitated by Headquarters, as a working modality to realize the ICPD mandate.

Note: The UNFPA's working definition of FBOs is: "Faith-Based Organizations (FBOs) are religious, faith-based, and/or faith-inspired groups, which operate as registered or unregistered non-profit institutions. UNFPA partners with human rights-oriented FBOs which are service deliverers in areas described by the ICPD Programme of Action."[97]

sense of mutual understanding and agreement as central to partnership and collaboration moving forward.[96]

One example of collaboration between the UNFPA and local FIOs is in Guatemala, where the UNFPA works with an alliance of evangelical Christian churches. UNFPA identified Evangelical leaders with high levels of influence among their congregations, and worked with them to engage church leaders, women, and youth leaders of evangelical churches to spread messages about reproductive health and train church leaders in prenatal care, clean and safe delivery, enabling access to EmOC, pregnancy planning and spacing, responsible parenting, and interpersonal communication. The program has also expanded to use youth leaders and local radio messages to promote reproductive health services among populations that had never been previously engaged on the subject, including youth, rural, and indigenous communities.[98] A different example of collaboration between FIOs and multilateral agencies is the example of the US-based Women's Missionary Society of the African Methodist Episcopal Church, which has supported the Campaign to End Fistula (a program administered by the UNFPA) along with government and private foundation donors.[99]

International FIO programming on the ground (and at sea)

Another example of faith-inspired engagement with maternal health is programming on the ground in many of the countries with the highest MMRates. This includes training programs, such as those that aim to equip TBAs with obstetric skills and strengthen referral systems, as well as the operation of actual healthcare facilities, such as mission hospitals, which have a long legacy of providing healthcare where state systems may be inadequate or nonexistent.

Dr. Lewis Wall, a leading advocate in the campaign to end fistula, has noted that mission hospitals are often prime locations for creating "centers of excellence" for successful training programs. In many cases, even where government hospitals exist, FIO-run facilities have better reputations for transparency, commitment, and accountability, and locals will "often go to extraordinary efforts" to receive their care at a mission hospital.[100] Exemplary mission hospitals abound (see Boxes 7, 10): a 2008 study suggested that because mission hospitals enjoy more resources, often

NAME OF MONTH'S	MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBE	
NAME OF TESTS	TEST	POSITIVE	TEST	POSITIVE	TEST	POSITIVE	TEST	POSITIVE	TEST	POSITIVE	TEST	PO
MALARIA SMEAR	1157	150	1393	271	417	39	714	130	1022	122	699	
MALARIA PARACHECK	13	00	24	00	29	01	28	05	20	01	13	
URINE R/E	188		195		76		221		229		275	
STOOL R/E	197		176		16		50		50		32	
SPUTUM FOR AFB			08	01	06	00	10	00	04	00		
BLOOD GLUCOSE	73		79		63		99		84		49	
PREGNANCY TEST	111	99	86	77	48	41	110	94	82	63	119	
SYPHILIS TEST	107	04	109	10	59	05	183	10	154	07	176	
HBsAg TEST	06	00	10	01	04	01	17	01	14	01	20	
RAPID TUBERCULOSIS	18	00	08	00	06	01	03	00	06	01	05	
WIDAL TEST	77		52		01		03				05	
BLOOD GROUP	05		08		04		09		01		164	
HB% (HAEMOGLOBIN)												

Muslim Aid clinic in Rohingya displaced persons camp, Teknaf, Bangladesh

from foreign sources, access to training from expatriate staff, and greater flexibility in hiring, management, and procurement than state-run facilities, they represent enormous potential for accelerating progress towards the achievement of MDG 5.[101] The authors point to examples such as a hospital in Bangladesh run by Lutheran Aid to Medicine in Bangladesh (LAMB), which developed a training program for birth attendants as well as community-based maternal care, and has become a national training site for health workers.[102] Additionally, Mercy Ships, another FIO at the forefront of fistula repair, docks at various ports along the West African cost and offers free, on-board surgical procedures for women and training for local surgeons.[103]

World Vision, an international Christian humanitarian organization, has operated projects that focus on community- and home-based approaches to maternal health. In addition to their home-based system of health messaging for pregnant women in Uttar Pradesh (see Box 17), World Vision has also supported the training of TBAs in Ethiopia, in an area where barriers to facility-based births are significant. While the program has seen little increase in facility-based deliveries, the number of births attended by trained traditional birth attendants (TTBAs) increased from 0.3 percent to 30 percent in just two years.[104] This approach demonstrates a sensitivity to local cultural realities that is not exclusive to FIOs, but is often a distinguishing feature of them. This locally focused approach can play an important role in gaining a community's trust in the realm of maternal health, which is often one of the most sensitive topics in healthcare. In many cases, family-based approaches that focus on a healthcare continuum and not just "women's health" issues, can allay mistrust about interference with local gender norms while successfully engaging maternal mortality as the complex problem that it is.

Local faith communities and grassroots groups

At the grassroots level, faith communities can be sites of movements mobilizing for maternal health. A USAID-funded program brought together faith and NGO partners to develop guidelines for both Christian and Muslim leaders to engage their congregations around various maternal health issues. The guidelines, published in 2009, draw on both religious and scientific authority to create meaningful messages to save lives. The guide for Islamic leaders, for example, emphasizes the responsibilities of the father as well as the mother in preparing for childbirth; the Christian guide cites biblical scripture emphasizing the importance of physicians and other medical professionals.[105] Interventions at the level of local religious congregations or communities can be integrated into premarital counseling or arbitration and reconciliation within marriages, which provide useful fora for sharing information through established interpersonal relationships without preaching. In some communities, the program has found that religious congregations like to have access to both Islamic and Christian teachings on the subject, while in others, separate guides have been developed. By working through local religious channels, the program has been able to chart a course that is tailored specifically for local attitudes and sensibilities.[106] (See also: Box 13, 14)

Box 20: Maternal mortality rates among Christian and Muslim Hausa in northern Nigeria

An analysis of maternal deaths in a hospital in Nigeria, which has some of the highest rates of maternal mortality and obstetric fistula in the world, offers some striking observations: maternal death was most strongly correlated with women under the age of 16, higher numbers of pregnancies ("gravidity"), absence of antenatal care, low levels of education (not one of the women who died in childbirth had received any formal schooling), and belonging to the Hausa-Fulani ethnic group. Even more sobering is the fact that the MMR for Hausa-Fulani Muslims was greater than that of Hausa-Fulani Christians and over three times that of Nigerian Christians of other ethnic groups. As if to underline these trends, none of the Christian Hausa women in the study who had received antenatal care died.

Within the Hausa social system, women are strictly secluded and the greatest source of their prestige is through bearing children. Notably, many Hausa women are married early, a key risk factor for obstructed labor. According to Hausa cultural norms, crying out during childbirth is considered a source of weakness, and the ability to give birth alone is a source of pride. Due to the Hausa's strict seclusion of women, Hausa midwives tend not to have any formal education or training.

The Hausa example is an extreme one, but demonstrates the way that a set of religious and cultural beliefs – in this case, a particularly conservative and strict interpretation of certain Islamic principles – can lead to social practices that predispose women to complications in pregnancy and create barriers to care. Faith is not the only factor in this (or any) case, but the Hausa situation illustrates how a set of cultural, social, and economic conditions can work to undergird a particular interpretation of religious principles.[114]

Public-private partnerships

FIOs also form key public-private partnerships in countries where state-run healthcare systems do not reach significant portions of the population. In Kenya, for example, state facilities reach only half of Kenyans, with the private sector – including FIOs – providing the rest. The Christian Health Association of Kenya (CHAK), an umbrella organization including Protestant churches and faith-based facilities and programs, is a significant player in the provision of healthcare throughout Kenya. CHAK's 2011 annual conference and meeting focused on the church healthcare system's role in scaling up services for mother and child health. CHAK members have played many roles in the provision of maternal health services, including a focus on malaria prevention, the prevention of mother-to-child transmission of HIV, and the facilitation of the distribution of essential drugs.[107] As many FIOs provide services like these, organizations like CHAK are essential for scaling local successes into national efforts that can be implemented in coordination with state systems – while integrating maternal health interventions into the broader public health picture.

The Aga Khan Foundation is another organization with a strong record of public-private partnerships. One example is its program in the rural and mountainous Chitral district of Pakistan, which targets maternal and child health with a focus on home-based care. In collaboration with the government of Pakistan, the Chitral Child Survival Program established a Midwifery School, as 82 percent of deliveries in the region take place at home. The program is also designed as a source of income generation, on the part of the newly trained midwives, and includes a component establishing community-based savings and loans groups to help community members pay for their healthcare.[108] FIOs around the world are engineering creative, locally-tailored solutions like these to address maternal mortality. With the right partnerships, these interventions can be (and have been) taken to scale for an even more powerful impact. (See also: Box 17)

Faith and maternal mortality: barriers and challenges

The religious and faith links to maternal health can also impede efforts to address maternal mortality. Religious attitudes towards sexuality and marriage can pose difficulties where cultural norms are changing quickly, and have major influence when it comes to maternal health (see Box 19). For example, the belief that premarital sex is wrong can lead women who are pregnant outside of wedlock to be hesitant to seek care.[109] State systems that passively assume that family planning is only relevant to married women might be reinforced by local religious beliefs. And the association of bodily fluids and women's bodies and reproductive systems with a state of impurity, which is present in many faith communities, may lead to avoidance of the issue at all.

The hierarchies that organize many religious communities also can introduce gender-related challenges. For example, Roman Catholic bishops and nuns in the U.S. took opposing views on a 2010 healthcare law that included the provision of federal funding for abortions; the male hierarchy urged voters to petition against the bill while a group of nuns endorsed it.[110] Despite the nuns' unique insights into the needs of those marginalized by the current U.S. healthcare system, gained from their commitment to service in hospitals, nursing homes, and on the streets, their opinions were cast aside by the outnumbered, male hierarchy. When religious leadership is predominantly hierarchical and male (as it is in many places), maternal mortality, as well as other gender and health-related initiatives, may remain unaddressed. Many anthropologists studying women's health issues – from childbirth to female circumcision – have noted that frequently in conservative, developing nations men have little knowledge of female health or even anatomy, and as a consequence are more likely to leave issues like childbirth to the female midwives who traditionally take care of such events. Women, of course, play significant roles in religious communities the world over, but for maternal mortality to emerge as prominently as HIV/AIDS has recently among religious leadership, increased engagement with influential women in religious communities is necessary.

Religion may pose additional challenges when FIOs are not as well-funded and efficient as other healthcare providers. Although FIOs are often hailed for their transparency and low overhead, in some places costs and logistical barriers present challenges to providing care. For example, a study on the costs of delivery services in Africa found that although mission hospital care was often preferred, it was often more expensive than the care provided by state-run facilities.[111] Some studies have shown that many FIOs providing health services lack official business plans. While a more informal management style enables greater flexibility in service provision, it can also lead to inefficiencies that impede a facility's ability to run consistent operations.[112]

More broadly, in recent years religion has become increasingly divisive in international politics, impacting efforts to improve maternal health. Nicholas Kristof has written about "the God Gulf," a growing sense in contemporary politics and society that fundamental and irreconcilable differences divide religious communities and organizations from those with more secular orientations. Despite some synergies between secular and religious groups, such as those Thoraya Obaid pointed out,[113] the perception remains that religious differences will constitute a major impediment to achieving any goal related to reproductive health or gender equality – even if that is not necessarily the case. Family planning in particular has become a flashpoint for debate; often oversimplified to mean only a group or individual's stance on abortion, controversies have given rise to the so-called "global gag rule," which has halted all American funding to reproductive services overseas that include abortion among their options – depending on the political climate. This experience may make women's issues more difficult to engage, or lead potential actors to prioritize other, more manageable causes. Much of this challenge has to do with perceptions and language: Christian organizations may be uncomfortable with terms like "birth control" but more supportive of "fertility awareness" programs. And in the face of anti-American political sentiments in various places around the globe, terms perceived as American or Western in connotation may have to be translated into more local or faith-appropriate concepts or terms.

Each of these challenges presents opportunities: if FIO-based clinics were coordinated and brought into partnership with one another and local governments, they could provide a more coherent system of service delivery for underserved mothers and disseminate findings about what interventions work best. A faith leader championing maternal mortality as an issue could be a powerful force for the growing movement. Still, perceptions and stereotypes that religious and secular causes have no common ground remain a serious hurdle.

Section 5. Moving forward: Questions, issues, challenges, opportunities

This report identifies numerous examples of distinctive, sometimes unique experiences and perspectives that faith-inspired organizations offer to global and national alliances to reduce maternal mortality sharply. It also highlights barriers that faith might present to strengthening maternal health. This generates new questions and issues but also points to opportunities moving forward.

FIOs' holistic approach to maternal health and survival is an example of the comprehensive strategies required to reduce overall maternal mortality rates. The widely acknowledged "whole person" attitude espoused by FIOs that provide healthcare has particular resonance with this issue. This approach takes into consideration the private and sensitive nature of childbearing and motherhood, and its clear links to other social development challenges and cultural attitudes.

FIOs can be particularly effective when they design culturally specific approaches, informed by faith dimensions and local knowledge. The historical legacies that many FIOs draw upon reflect programming tailored to specific local contexts. This cultural tailoring is especially important when dealing with sensitive, private, and controversial topics such as antenatal care, family planning, HIV/AIDS, female genital cutting, and abortion. When communities perceive that an organization (such as an FIO) understands their worldview, they are more likely to exhibit a positive response to messages about maternal health (and other health challenges). **Future research should focus on the intersection of maternal mortality issues and specific cultural and cosmological beliefs to inform future, local efforts.**

Given the cross-cutting nature of maternal health challenges, donors, governments and FIOs cannot afford siloed interventions or low priority to the issue. With 2015 (the MDG deadline) fast approaching, efforts to achieve targets for MDG 5 need to focus in practical, purposeful ways on enhancing partnerships involving a) faith and non-faith inspired organizations, b) NGOs (including FIOs) and governments, and c) line ministries. Improvements in areas such as education, transportation and infrastructure, in partnership with Ministries of Health and FIOs, have impacts on maternal health outcomes, as well as progress on MDGs 3 and 4.

When it comes to an issue as diffuse as maternal health, the issue- and sector-specific approaches typical of traditional development institutions, with their focus on technical expertise, can be of limited effectiveness. The provision of even the best emergency obstetric care is only effective in the context of awareness and access. **FIO commitments based upon place and community, rather than specific issues, offer a promising model or partnership potential for an issue like maternal mortality, which is tied to many of the various sectors that tend to organize the work of traditional NGOs.** The cost is too high for governments not to integrate the work of FIOs into broader national initiatives.

Moreover, giving low priority to the issue of maternal mortality or responding noncommittally incurs major costs on governments; the income and productivity lost for mother, child, and family is devastating.[115] **Research focused on the practical, financial benefits of addressing maternal mortality may effectively sway governments to move towards more active responses.**

In order to develop appropriate roadmaps for action to reduce maternal mortality, governments and donors need better maps of existing health assets in-country that show more clearly the work and roles of all actors, including FIOs. This can help to identify service gaps and set the foundation for a coordinated response. It is in practice difficult enough to identify and situate the organizations and programs at work, but mapping efforts for maternal health programs are complicated by the diverse range of interventions. As described above, FIOs' work often covers many different services; FIOs active in maternal health may not self-identify their programs as targeting MDG 5. Effective mapping includes cataloguing relevant actors and institutions, their histories, and what services they can effectively provide, but also GIS mapping that indicates where services exist and how accessible they are. This combination is essential for clarifying gaps and challenges not only in terms of human capital and resources, but logistical, geographical, and physical barriers as well.

All stakeholders would benefit from improved data methods, collection and dissemination systems (see Appendix A). Identifying direct and indirect causes of deaths, as well as limited death registration systems, are two current challenges. Improved data collection relating to inputs, outputs and outcomes could yield an evidence base to determine best practices and a set of shared standards. This information could underpin capacity building and training, project design and resource distribution. It could also open channels for increased communication and collaboration between FIOs and governments.

A major obstacle is perception: taken as a set of statistics, maternal mortality is devastating on a global level, but it is still a relatively rare event at the community level – particularly compared to the number of deliveries that occur without complications, even in communities with relatively high maternal mortality rates. Systems and networks that work across communities, including FIOs, can play a **crucial role in putting a human face to the issue** and bringing attention to its scope. **Evidence-based research presented to policymakers helps drive home the point that no woman should die giving birth.**

Lastly, this paper focuses on maternal mortality reduction efforts and research in sub Saharan Africa due to the severity of conditions there, but evidently maternal mortality is not just an African problem. Nor is it exclusively a problem in poorer countries, as evidenced by recent increases in maternal mortality ratios in the United States. **Broadening and intensifying research in other regions, and ideally on a country-by country-basis, would ground conversations and future strategies in local realities.**

Appendix A: Challenges and debates around statistical measures of maternal mortality

Of the landmark 2010 studies published on worldwide MMRates, one estimates the number of maternal deaths in 2008 at 342,900,[116] and another at 358,000;[117] previously the figure of over 500,000 annual maternal deaths had been generally accepted for decades (a major study as late as 2005 estimated the number of annual maternal deaths at 536,000[118]). While statistical methods are constantly improving, and it does seem that maternal deaths are slowly declining, the numbers generate serious questions. Development economist (and critic) Bill Easterly points out a number of reasons why the newest numbers are problematic: they are reported as absolutes, rather than rates (which would take into account population change), and it is difficult to compare statistical changes over time because drastically different methodologies have been used in different years.[119]

These questions highlight the various challenges to attaining robust data about how often mothers die in childbirth and why. Accurate measurements of the levels of maternal mortality are impossible in many environments where death records are not integrated into civil registration systems. Unsurprisingly, many of the places where the data collection process is most limited are the countries with higher MMRates. WHO experts clearly indicate that estimates for 1990, 1995, 2000 and 2005 MMRates, even in the same country, are not comparable because of unreliable data and ever-changing methods. Even the more sophisticated statistical models used in more recent studies, which draw on vastly more data, can be problematic, not least because it is difficult to compare their findings with previous studies that relied upon less data and different methods.

Moreover, measures of maternal mortality differ widely by location. Even the most straightforward methods of identifying and tracking occurrences and causes of maternal death requires that pregnancy status is identified and recorded at some point, a significant challenge in many settings due to home deliveries and/or the lack of local civil registration systems. Although the WHO recommends that death certificates include a check box indicating a woman's pregnancy status at the time of death to help address this gap, it is generally accepted that maternal deaths are underreported in nearly all contexts. In the United Kingdom, a system of "Confidential Enquiry into Maternal Deaths" reported 90 percent more maternal deaths than the civil registration system captured. Underreporting is likely to be even higher elsewhere.[120] While this system is considered exemplary for assessing levels of underreporting, it has not been widely implemented outside the UK.

The difficulties in measuring maternal deaths are myriad – whether it is due to fear of legal action following a botched abortion, ignorance in the case of early or undisclosed pregnancies, or faulty civil registration systems – but there is no doubt that the difficulties in simply counting maternal deaths are the first of many challenges towards eliminating them.

Appendix B: Major actors and initiatives working on maternal mortality issues

The big picture: major initiatives and coalitions:
Safe Motherhood Initiative:

- Started by the WHO in 1987 at an international conference in Nairobi, Kenya; first global-scale effort targeting the problem.

- Set up meetings at national and regional levels to raise awareness among policymakers; at the time, often "maternal and child health" initiatives focused more on newborn and child health than women's health issues.

- After 20 years, it seemed to have minimal impact on global maternal morality figures. One analysis[121] points out that its terms are too broad: whereas the Child Survival Initiative spelled out four specific interventions (growth monitoring, oral rehydration, breastfeeding, immunization) that could be represented with an acronym (GOBI), the Safe Motherhood Initiative spans family planning, antenatal care, delivery, primary care, women's equity. This allows some policy makers and program managers to operate maternal health programs that do not necessarily involve EmOC, without which maternal deaths cannot be prevented, and is simply too overwhelming to others. In more recent years, the focus has changed to EmOC.

Maternal Health Thematic Fund:[122]

- Created by UNFPA in 2008 to support efforts in a number of priority countries (to expand soon).

- Primarily focused on assessing and addressing barriers to progress towards maternal health in national systems in countries with high maternal mortality and high fertility rates: first "wave" of assessments conducted in Benin, Burkina Faso, Burundi, Cambodia, Djibouti, Ethiopia, Guyana, Haiti, Madagascar, Malawi, and Sudan; plans eventually to expand to more priority countries.

- Targeted areas include family planning, EmOC services and "mid-level providers" such as midwives as well as a component of monitoring and evaluation (which had long been neglected in many maternal health measures).

Maternal Health Task Force:

- Created in 2009, housed at EngenderHealth and supported by the Bill & Melinda Gates Foundation and the John D. and Catherine T. MacArthur Foundation.

- Meant to act as a catalyst, "convening stakeholders" already at work on maternal health issues while connecting them to partners in related fields such as reproductive health, human rights, and HIV/AIDS. Overall the aim was to address the lack of leadership in the world of maternal health (see above).

- Partners closely with the Partnership for Newborn, Maternal, and Child Health.

- Mandate is to "coordinate, collaborate, catalyze, and communicate evidence, policy, and programs" - for example, looking into links between family planning and maternal mortality, or nutrition and maternal health.

- Also working on maternal health commodities systems through the Reproductive Health Supplies Coalition.

- Other initiatives include a group of Young Champions for maternal health and both technical meetings and broader international conferences.

WHO Making Pregnancy Safer

- Department of WHO, created in 2005 to ensure skilled care before, during, and after pregnancy, including provision of EmOC.

- Founded on IMPAC, or Integrated Management of Pregnancy and Childbirth, a policy, technical, and managerial approach towards maternal and newborn health; sets out clinical guidelines for health services to pregnant women and newborns.

- Focuses on 75 priority countries.

- Developed a Human Resource Projection tool for maternal and newborn health to gauge presence of and need for skilled birth attendants.

- Provides guidance to countries through regional and country offices of the WHO.

UN Joint Action Plan on Maternal and Child Health

- Launched with an announcement by UN Secretary-General Ban Ki-Moon in 2010.

- Calls for collaboration and approaches from developed and developing countries, civil society, private business, philanthropy, and multilateral agencies to address maternal mortality.

- Began by convening 40 leaders to define a strategy and drafting an action plan focused on political commitment and accountability, integrated delivery of services, and financing.

- Includes joint accountability framework for coordination of work among UN agencies.

Countdown to 2015

- Joint initiative of the Aga Khan Foundation and the Bill and Melinda Gates Foundation focused on identifying most effective strategies for achieving MDG targets.

Major NGO and regional players

In addition to broad, international coalitions, major players in-

clude international NGOs and regional groups working on the issues: Campaign on Accelerated Reduction of Maternal Mortality in Africa (CARMMA)

• Begun in May 2009 by African Union Ministers of Health, in collaboration with UNFPA and other multilateral agencies, bilateral aid organizations and NGOs.

• Described as more of a "home-grown" initiative with its origins within the African community, leading to a regional sense of ownership.

• Focuses on saving women's lives as the "entry point" for addressing economic development, HIV/AIDS, and public health more broadly.

• Sierra Leone's initiatives under the campaign include making all maternal and child health care free and increasing the salaries of health care workers.

Save the Children

• A leading NGO when it comes to children, also does a lot of work around maternal health, including an annual report on "State of the World's Mothers, " ranking best and worst places to be a mother based on health, education, and economic factors.

• Works in 120 countries, including throughout the US.

• Examples: clinics in South Sudan to provide trained assistance at birth and prenatal care; midwife training program in Afghanistan, ranked as the worst place to be a mother.

• "See Where the Good Goes" campaign for maternal and newborn health, focuses on capacity building/training of local health workers.

International Initiative on Maternal Mortality and Human Rights

• Partnership of civil society organizations focused on action around maternal mortality based on human rights approaches.

• Conducts field projects in India, Kenya, and Peru.

• Focused on publicizing the human rights imperative of maternal health, particularly on access to care: family planning, skilled attendance, EmOC.

Averting Maternal Death and Disability

• Housed at Columbia's Mailman School of Public Health in New York City.

• Framing maternal health as a basic human right, focuses on integrating EmOC into national health systems.

• Analysis, technical expertise and advocacy; working with partners in 50+ countries in Africa, Asia, and Latin America.

Women Deliver

• Advocacy organization begun in 2007; aimed at action against maternal death but places it in the context of gender equality, focuses on girls' education and other broader factors.

• Situates maternal health as both a human right and essential to sustainable development.

• Focuses on bringing together and disseminating tools, studies, best practices, etc.

White Ribbon Alliance for Safe Motherhood

• International coalition for maternal health.

• Emphasizes stories of midwives, mothers lost, and mothers saved, focus on putting a human face on the issue, reflected by the fact that white represents both mourning and hope/life, depending on culture.

• Launched in 1999.

• Active in 152 countries.

• Has 15 "national alliances" for collaboration and prevention of duplication of programs and materials, brings together players focusing on maternal health.

For more programs and details, see the Berkley Center's Knowledge Resources on Maternal Mortality and Faith.

Appendix C: Technical Details of Obsteric Intervention Strategies

Post-partum hemorrhage (PPH)

A statement issued jointly by the International Confederation of Midwives (ICM) and the International Federation of Gynecology and Obstetrics (FIGO), puts the prevention and treatment of post-partum hemorrhage (PPH) in the developing world as a priority in efforts to reach the target of MDG 5.[123] Nearly one in three direct maternal deaths are caused by hemorrhage.

AMTSL, or Active Management of the Third Stage of Labor, is widely considered to be the most effective treatment for the prevention of PPH. This involves the use of oxytocin or another uterotonic drug within one minute after birth; controlled cord traction; and uterine massage after delivery of the placenta. Oxytocin remains the preferred uterotonic treatment, since active bleeding during labor and after treatment was slightly higher for misoprostol. Patients treated with misoprostol[124] were also more likely to experience shivering or develop a fever, but these side effects did not produce long-term repercussions. Given oxytocin's specific requirements for temperature and light storage conditions, as well as its difficult intramuscular application,[125] in conditions that are ill-equipped to prepare oxytocin, misoprostol is considered to be a reliable, evidence-based alternative. The latter is highly stable at high temperatures, relatively low cost, and is easily administered by way of mouth, vagina, or rectum, compelling the ICM and FIGO to demand much broader approval of its use.[126] The performance of either drug and any of the AMTSL practices to prevent or reduce postpartum blood loss can be lifesaving for mothers, especially those already suffering from anemia during pregnancy.

Pre-eclampsia and eclampsia

Pre-eclampsia, the rapid elevation of blood pressure during pregnancy, leads directly to 63,000 maternal deaths per year.[127] In Mexico, it is the number one cause of maternal death.[128] Magnesium sulfate is now recommended as the most effective treatment of these preventable deaths. The MMRate was reduced by 55 percent in a 33-country study of the use of magnesium sulfate.[129] A lack of national priority, inadequate guidelines, limited education and training, and a supply shortage all serve as obstacles to the widespread use of magnesium sulfate to treat eclampsia. Experts from around the world came together in June 2007 to issue a call to action to make magnesium sulfate more available and affordable. In light of its inaccessibility to so many women in developing countries, experts remark that "although research findings are essential to improve clinical practices, they are not sufficient to change health policies and routine clinical care."[130] While there may in fact be consensus about its efficacy to treat eclampsia, a global response is still needed if this new discovery is to translate into the massively life-saving drug that it ought to be.

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Berkley Center for Religion, Peace & World Affairs
3307 M Street NW, Suite 200
Washington, DC 20007
202.687.5119
http://berkleycenter.georgetown.edu

Edmund A. Walsh School of Foreign Service
301 Bunn InterCultural Center 37th & O Streets NW
Washington, DC 20057
202.687.5696

World Faiths Development Dialogue
3307 M Street NW, Suite 200
Washington, DC 20007
202.687.5119
http://berkleycenter.georgetown.edu/wfdd

The Luce/SFS Program on Religion and International Affairs
http://berkleycenter.georgetown.edu/luce-sfs