

Delivering Solutions:

Advancing Dialogue To Improve

Maternal Health



Woodrow Wilson
International
Center
for Scholars

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www.wilsoncenter.org/globalhealth

www.newsecuritybeat.org/



Maternal Health Task Force

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Cover Photo: Two mothers and babies at a mobile clinic in Tanzania (Photo by David Scott, courtesy of Church Mission Society)

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Series Summary and Recommendations

We have to do the things we know how to do, and we know a great deal; the world already possesses the knowledge of what it takes to reduce maternal mortality. A number of specific recommendations emerged from the meetings organized as part of the *Advancing Dialogue on Maternal Health* series, and in the details come greater chances of carrying through on what needs to happen. The concrete actions these recommendations point to are often low-cost, use existing system elements or technologies, and build on our current knowledge base.

Presenters identified a number of concrete and pragmatic lessons and recommendations during the 2009–2011 series. These lessons and recommendations are summarized below, organized by whether they primarily reflect a focus on social, cultural and economic factors, health systems, or research priorities.

Bangladeshi mothers and children (Photo by Todd Post, courtesy of Bread for the World)

a. Social, economic, and cultural factors and gender inequity

Social and cultural factors dissuade women and girls from seeking out services for prenatal care, labor and delivery support, and contraception. Culturally sensitive education programs, including those that involve men, faith-based organizations and local leaders, can help overcome this reluctance to use services. Further, maternal health and gender inequality need to be addressed through a broad range of educational and development investments.

RESPONDING TO SOCIAL AND ECONOMIC INEQUALITIES REQUIRES A NUMBER OF SPECIFIC ACTIONS.

- » Make the case at the policy level that investing in women's health is good economics. The consequences of maternal death and illness ripple through families for years.
- » Invest in female empowerment and education, one of the simplest and most important ways to improve reproductive health, and a tactic that is relevant in development, conflict, and reconstruction settings alike.
- » Promote male involvement. "Male champions"—husbands, religious leaders, policymakers, and community leaders—are needed to support women's health and galvanize additional male support for maternal health.

INVESTING IN YOUNG WOMEN IS ESPECIALLY IMPORTANT AND CAN BE ACCOMPLISHED IN A VARIETY OF WAYS.

- » Highlight the importance of integrating adolescent services into the health system, including in fragile states.
- » Invest in interventions that target adolescent girls, such as conditional cash transfers (CCTs) that put money directly in their hands, increase school retention rates, and lower the risk of sexual activity, pregnancy, and HIV/AIDS.
- » Policymakers can decrease women's and girls' risk of maternal death by expanding entrepreneurial opportunities, micro-credit, vocational training, and land titling.

IMPROVING NUTRITION FOR INFANTS AND FOR PREGNANT AND LACTATING WOMEN IS KEY.

- » Improve nutrition throughout the life cycle, serving women as direct beneficiaries and not just as mothers.
- » Key nutrition interventions must occur in the window of opportunity—from pregnancy through the first 1,000 days of life. Interventions during this period are strategically important as they reduce the likelihood of irreversible brain damage and

stunting, which can have long-term consequences for lifetime learning and economic earning potential. Priority intervention components include medicines to combat malaria and worms; iron and folic acid tablets; and extra food during pregnancy.

- » Target misconceptions about vitamins with communications messages; alter diet or harmful dietary practices through behavior change; and increase production of high-value food sources can help improve nutrition and maternal health.
- » Include ministries of agriculture and food programs in policy discussions on improving maternal health and developing alternative strategies for micronutrient delivery.

ADDRESS SOCIAL AND CULTURAL NORMS, AND WORK WITH RELIGIOUS GROUPS TO REDUCE MATERNAL MORTALITY.

- » Educating men about danger signs and pregnancy complications increases the likelihood that future births will take place in healthcare facilities. Raise men's awareness of the benefits of family planning, and directly address worries and misinformation having to do with the potential side effects of family planning methods (particularly those side effects with any impact on sexuality).
- » Incorporate a thorough understanding of local culture and social norms, and work with religious groups to ensure successful program implementation. Most religious leaders are willing to discuss changes in behaviors and values that support health and respect for women.
- » Country-level mechanisms should be developed to coordinate the health work of faith-based organizations and other development agencies to avoid wasting resources.

b. Health systems factors

Ensuring the quality and efficiency of public sector health services improves health, and reduces costs for governments, individuals and even the poorest families. With much attention paid in recent years to strengthening health systems, recommendations in this area were very concrete.

MAKE MATERNAL AND NEWBORN HEALTH A PRIORITY FOR STRENGTHENING HEALTH SYSTEMS.

- » Reducing maternal mortality requires a strong health system that must be able to answer these key questions in the affirmative:
 1. Are there enough facilities providing emergency obstetric care (EmOC), and are they well distributed?
 2. Are women with obstetric complications using these facilities?

3. Is the quality of the EmOC services adequate?

- » Mobilize local and national authorities, including NGOs; they are integral to the rebuilding process and are best positioned to respond to emergencies.
- » Though reproductive health is often not prioritized in fragile states, family planning is a crucial area in which to invest in conflict-prone and post-conflict environments.

IMPROVE FINANCING AND ACCOUNTABILITY IN THE HEALTH SYSTEM.

- » A “diagonal” approach to strengthening health systems involves focusing on specific health priorities to drive a general improvement in the health system.
- » Health finance reforms are key to increasing accountability to the goals of the system and the needs of citizens.
 1. Decentralizing budget and financing processes increases community participation and monitoring by local government.
 2. Establishing a performance-based financing system allocates funds to health facilities based on their maternal health results.
 3. Implementing performance-based workplace practices in health facilities allows for more flexibility in hiring and firing clinicians.
 4. Expanding community health insurance increases access to services and reduces out-of-pocket expenditures.

IMPROVE TRANSPORTATION AND REFERRAL FOR MATERNAL HEALTH.

- » Investing in six specific areas is required to improve transportation and referral to maternal health services.
 1. Multi-sectoral collaboration
 2. Mobile phone technology
 3. Public-private partnerships
 4. Referral for newborns
 5. Indicators to measure and track referral
 6. Sharing evidence
- » These investments must be accompanied by efforts to address the huge costs of transporting a pregnant or laboring woman from home to health center or from health center to hospital.

EXTEND RESPONSIBILITY FOR MATERNAL HEALTH TO A BROADER CADRE OF WORKERS.

- » Shift tasks to a broader range of people. For legitimacy, task-shifting requires legal support and endorsement from medical associations. Political buy-in and commitment from the health ministry, medical universities, and professional councils and associations are necessary for the long-term success of this strategy.
- » Scale up the training and availability of midwives—this is critical to improving maternal health globally.
- » Strong referral systems are needed to supplement the work of traditional birth attendants. District-level hospitals should be upgraded to handle emergency obstetric care.
- » Establish new performance outcomes and improve training; these are two key pillars of effective scale-up. To ensure that investment in training is sustainable, training programs must address job expectations, motivation, and organizational support.
- » Devolve human resources to rural areas, and recruit individuals from rural districts so they are inclined to return home to serve rural areas after training.

FIND NEW APPLICATIONS FOR EXISTING TECHNOLOGIES TO IMPROVE MATERNAL HEALTH.

- » Address equity and access to phones when evaluating the impact or success of mobile health (mHealth) interventions.
- » Public-private partnerships are important to the long-term sustainability of mHealth programs.
- » More research is needed to determine how mobile phones might strengthen and enhance health systems, and to ensure that evidence guides programming as the uses of the technology evolve.
- » Strengthen and coordinate existing e-health systems.

EXPAND DISTRIBUTION OF AND ACCESS TO ESSENTIAL MATERNAL HEALTH COMMODITIES.

- » It is necessary to scale up the distribution of four major commodities—oxytocin, misoprostol, magnesium sulfate, and manual vacuum aspirators—that address the three leading causes of maternal mortality.
- » To increase access in rural communities to misoprostol, for example, maternal health experts must work to engage communities, educate and mobilize women, train providers at all levels of the health care system, and provide support to distributors to jumpstart sales.
- » Safe birthing kits for home deliveries are a critical part of the continuum of care.

- » Evidence-based guidelines are needed to clarify confusion regarding the most essential of WHO's list of 350 maternal health medicines.

INTEGRATE HIV/AIDS AND MATERNAL HEALTH SERVICES.

- » Implement the UN/WHO Prevention of Mother to Child Transmission (PMTCT) Model Framework.
- » Integrate sensitization tools for service providers, increase linkages between HIV/AIDS centers and maternal health clinics, and help bridge pediatric and adult care for adolescents to prevent further transmission of HIV.
- » The evolving realities of the HIV epidemic require donors and policymakers to shift their response to new areas, including the unmet need for contraception and family planning.
- » Serve the needs of HIV-positive young people. Current policies and programs fail to include HIV-positive adolescents because of the stigma associated with the disease and the failure to acknowledge the right to intimacy for this cohort.

c. Research and data demands

Throughout the *Advancing Dialogue on Maternal Health* series, the need to collect relevant and reliable data on maternal health emerged as a consistent theme. The analyses emphasized the importance of good data for tracking performance and rewarding competence as a means of strengthening health systems.

IMPROVE MONITORING, TRANSPARENCY, AND ACCOUNTABILITY THROUGH DATA COLLECTION.

- » Benchmarks and indicators are too focused on contact with skilled birth attendants and not focused enough on the quality of care or event context.
- » A critical need exists for indicators of context, systems capacity, referral networks, and transportation.
- » A results-based approach needs to be integrated more systematically into the way health systems conduct their monitoring and evaluation.

ADDRESS THE SPECIFIC CHALLENGES OF MATERNAL HEALTH CARE SERVICES IN URBAN SLUMS.

- » There is no standard definition of slums, and researchers need to assess and differentiate health inequalities in urban and rural settings.

A special focus on postpartum hemorrhage.

- » Technology and innovations to prevent postpartum hemorrhage (PPH) exist, but additional community engagement and government support is required.
- » Active management of the third stage of labor is a high-impact intervention and includes three factors that, when used together, can avert postpartum hemorrhage:
 1. Administration of uterotonic drugs, including oxytocin and misoprostol
 2. Controlled cord traction
 3. Uterine massage after the delivery of the placenta

- » Evidence-based voucher schemes—in which women pay a small fee for vouchers that entitle them to free, high-quality antenatal care, delivery services, and family planning—have been successfully implemented in Kenyan slums to help poor urban women access otherwise expensive services.
- » Responding to unmet need for family planning in urban slums will help reduce maternal deaths.
- » Safety concerns must be addressed to get women to services. Mothers in urban settings do not want to visit health clinics at night in dangerous slum areas.

ADDRESS AND MEASURE THE SILENT SUFFERING OF THE MILLIONS OF WOMEN WHO EXPERIENCE MATERNAL MORBIDITIES IN DEVELOPING COUNTRIES.

- » Additional data are needed to measure the prevalence and effects of morbidities. Safe motherhood programs should expand their focus to address these life-altering conditions, which include anemia, fistula, infertility, uterine prolapse and maternal depression.
- » Indicators such as near-miss morbidity, rates of caesarean section, and contraceptive prevalence rates are most closely aligned with maternal mortality outcomes. We should be collecting data both on these indicators and the proportion of births handled by skilled birth attendants.

- » Fistula can be prevented through access to family planning, systematic use of a partograph (a tool used to identify complications) to identify prolonged/obstructed labor, catheterization of the mother immediately after prolonged or obstructed labor, and improved access to emergency obstetric care.

SEVERAL SPECIFIC AREAS CALL FOR ADDITIONAL RESEARCH AND DATA COLLECTION.

- » More research is needed to both determine how mobile phones might strengthen and enhance health systems, and to ensure that evidence guides programming as the uses of the technology evolve.
- » Any assessment of the impact or success of mHealth interventions must take into account equity and access to phones.
- » Research on how best to integrate maternal health more fully into the healthcare system is a priority.
- » Build the capacity of civil society and faith-based organizations, whose capacity to document and evaluate their work on health is currently weak in most countries.

Three Big Challenges for the Field

Six countries—Afghanistan, Democratic Republic of Congo, Ethiopia, India, Nigeria, and Pakistan—account for over half of all maternal deaths worldwide, and increased investment in these countries will improve maternal health measures. Yet for political, social and economic reasons, these settings present enormous challenges to maternal health.

“Integration” and “community-led” reforms can overburden weak health systems and infrastructure, and such reforms also rely too heavily on community health workers. A basic level of skill is needed to address the clinical causes of maternal death, and no matter how strong community referral networks are, services must exist for women to access in case of emergency.

As more women deliver in private sector facilities, a commitment to WHO guidelines for cesarean births should be followed to avoid both unnecessary risks to women and unnecessary costs to health systems. As facility birth rates have increased, so have cesarean births, which cost 2 to 18 times as much as vaginal births. WHO recommends country cesarean section rates be 5 to 10 percent of all deliveries.¹



Maternity ward in
Chad (Photo courtesy
of Mark Knobil)

“We know how to save women’s lives, we don’t need a cure...this is a political problem and political will is essential.”

Theresa Shaver, president & executive director, White Ribbon Alliance, WWICS, December 2008



Mother and son in Bangladesh (Photo courtesy of Anduze traveller)

INTRODUCTION:

Advancing Dialogue on Maternal Health series

The 2009–2010 *Advancing Dialogue on Maternal Health* series worked to address many critical and neglected maternal health topics. During this period, the Woodrow Wilson International Center for Scholars' Global Health Initiative (GHI) co-convened 10 public meetings and 2 private workshops with the Maternal Health Task Force (MHTF) and United Nations Population Fund (UNFPA) to identify challenges and discuss strategies for advancing the maternal health agenda.

By convening experts from the maternal health, health systems, donor, and policy-making communities, the 2009–2010 series helped reinvigorate the focus on maternal health in Washington, DC. In collaboration with the MHTF and UNFPA, GHI drew upon its maternal and reproductive health networks to identify neglected maternal health issues, and convened meetings to expand dialogue on specific topics. Over the 2010 series, international experts from South America, sub-Saharan Africa, Asia, and the United Kingdom joined 900+ U.S. researchers, policymakers, donors, and program managers to share knowledge, showcase new research, and discuss strategies for increased coordination in the field.

To expand input from the field, these partners collaborated in 2011 with the African Population and Health Research Center (APHRC) in Kenya to co-host a two-part dialogue series with local, regional, and national decision-makers on effective maternal health policies and programs. These in-country dialogue meetings created a platform for field workers, policymakers, program managers, media, and donors to share research, disseminate lessons learned, and address concerns related to policy, institutional, and organizational capacity building.

This brief captures, analyzes, and synthesizes the strategies and recommendations emerging from the dialogue series that took place with the global maternal health community in Washington, DC, USA, and also with the in-country partner APHRC headquartered in Nairobi, Kenya. The findings and recommendations are organized around three major themes for improving maternal health:

- » Social, cultural, and economic factors and gender inequity
- » Health systems factors
- » Research and data demands

The conclusion ties the many threads of the discussion together, and points toward next steps.



Key Domains for Improving Maternal Health

The world knows what steps are needed to reduce maternal mortality, which include overcoming social obstacles to accessing services; ensuring the supply and delivery of inexpensive, life-saving commodities; expanding the corps of adequately trained health workers; facilitating communications, referral and transport with existing technologies; and improving the quality of services.

A number of more specific recommendations emerged from the meetings organized as part of the *Advancing Dialogue on Maternal Health* series. The concrete actions those recommendations point to are often low-cost, use existing system elements or technologies, and build on what we know.

Lessons learned and recommendations identified during the 2009–2011 series are described below and summarized in the conclusions.

A. SOCIAL, ECONOMIC AND CULTURAL FACTORS AND GENDER INEQUITY

Health experts agree that it is fundamentally important to address the cultural, social, gender and economic conditions that shape and often undermine maternal health. Pregnancy, labor and delivery are not simply clinical conditions to be addressed with purely medical solutions. Indeed, a maternal health program will not be successful if it does not attempt to address some of these challenges at the community, family and individual levels.

Gender inequality

Ample evidence exists in the health and development arenas that women's agency has a powerful effect on improving all aspects of women's lives, including their health. Yet many experts in the maternal health dialogue series opened their talks with descriptions of the ways in which women in so many poor countries are systematically deprived of access to the resources that might help them.

Improving educational opportunities for girls in poor countries is perhaps the most common recommendation for virtually any challenge. At the highest levels, maternal health programs need to stimulate (and coordinate with) efforts to reduce gender inequality by educating women, giving them greater decision-making power, increasing their access to capital assets and employment, and expanding their access to health services. Empowering girls and women through education leads them to take greater

**Children in Bihar,
India (Photo courtesy
of Gates Foundation)**

control over their own sexual health, making it easier for them to start their families later. Education is also associated with reductions in their desired number of children.²

Reaching out to young women especially

Adolescent girls are largely ignored by the public health sector, and youth-oriented programs often fail to address the specific needs of girls. What happens to a girl's health at this time determines her future, as well as the future of her family, community and nation. Yet deep-rooted subordination makes it very difficult for young women to realize their sexual and reproductive health and rights.³

Given the high levels of early pregnancy in many countries, it is important to stage programming interventions in adolescence, in order to delay marriage and sexual activity, and ensure that early pregnancies are as safe as they can be. Research indicates that girls who give birth between ages 15 and 18 are five times more likely to die during childbirth than women in their early 20s.⁴

When we speak about adolescent reproductive health, we typically think of pregnancy prevention. Young girls' access to family planning must be dramatically increased.⁵ We must also, however, think about providing access to safe abortions and supporting young women who want to be mothers.⁶ Information and services are important, but we also need to teach girls about their right to make decisions regarding sex and reproductive health, and improve their critical-thinking skills, self-esteem, and body image.⁷ Interventions must collaborate with communities and improve young people's leadership skills and knowledge of sexual and reproductive health and rights.⁸

The *Start with a Girl* report offers up a set of recommendations that touch on the social and institutional contexts of girls' lives.⁹ The authors recommend placing adolescent girls at the *center* of international and national action and investment on maternal health. Eliminating marriage for girls younger than 18 and ensuring secondary school completion are essential and can be brought about in part by promoting birth registration.¹⁰ HIV prevention efforts should also focus on adolescent girls, who contract the virus at much higher rates than their male peers. Health systems strengthening and monitoring should also explicitly take girls into account; if systems are reaching young girls who are most at risk, they are more likely to reach adult women as well.

All of this work must be situated within a broader context that supports girls' social, educational and economic development. Targeted strategies make a difference. For instance, programs for young women—such as conditional cash transfers (CCTs) that give money directly to adolescent girls—increase school retention rates and lower the risk of sexual activity, pregnancy, and HIV/AIDS. Meanwhile, vocational training for women, investment in family planning, and public-private initiatives that promote education and accessible maternal care can help make progress toward similar goals.¹¹

Making the connections for policymakers between women's health and economic growth

Protecting women's rights and promoting equity in education and health is associated with higher measures of prosperity.¹² Indeed, research shows that morbidity is associated with a loss of economic resources at the household level.¹³ In Bangladesh, for example, poor households with maternal health complications spend 30 to 40 percent of their savings to cover expenses (compared to only eight percent for the richest quintile). Studies in many low-income countries have found that poor families who incur maternal health-related expenses they cannot afford may use savings or incur debt to make payments; payments that reduce their ability to purchase food or invest in education.

When public sector services and their quality are not adequate, the private sector can play an increasing role in providing maternal health services. But private sector services have consequences for care, cost, and funding. For example, they are associated with a rising number of cesarean births, which are more expensive than vaginal births. They are also more costly to individual families, and are often not as efficient as public sector services for reasons of scale.

In parts of Africa, negative social norms prevent women from accessing labor markets, confining women to unpaid household activities that constitute one-third of the world's GDP.¹⁴

Given women's key role in Africa's labor force and in the production of the continent's food, maternal deaths and disabilities impose heavy costs on households and on the economy.¹⁵ Female entrepreneurship, both formal and informal, should be harnessed.

The same gender inequalities that contribute to maternal mortality and morbidity impede economic growth. As a result, efforts to promote economic development must address underlying inequalities in education and health to meet their goals. Better-educated women experience better sexual and reproductive health outcomes, including better maternal health, and have higher rates of formal labor force participation.

When women have access to education and healthcare, mothers also have greater household decision-making power and prioritize the well-being of their children.¹⁶ Further, there is a generational multiplier effect; these women's children have better

“Women make up 70 percent of Africa's labor force and produce 80 percent of food; therefore, maternal deaths and disabilities are a direct cost to the economy.”

Nomonde Xundu, health attaché, Embassy of South Africa, WWICS, July 2010

educational attainment and are more productive adults, contributing to long-term economic growth.¹⁷ These women's children are consequently more likely to be educated and enjoy productive lives. A broad approach is therefore needed from government, one that not only invests directly in maternal health services, but also addresses gender inequalities through a variety of targeted strategies such as CCT programs, voucher schemes, and public-private initiatives.

Nutrition, poverty and maternal health

Nutrition has been overlooked as a strategy for improving maternal health, specifically for meeting MDG 5 (reducing maternal deaths by 75 percent by 2015) and for reducing maternal morbidity.¹⁸ Key nutritional interventions such as micronutrient supplementation, fortification, and behavior-change communication can help to improve fetal-, infant-, and child health, and can also reduce maternal morbidity and mortality.¹⁹ Anemia has especially negative effects on hemorrhage and sepsis. The following strategies were offered for achieving greater impact:²⁰

- » Improve nutrition throughout the life cycle, not just during pregnancy
- » Look for alternate strategies for micronutrient delivery
- » Collect indicators specific to women's health impacts
- » Recognize and address gender bias

Addressing maternal undernutrition is key to reducing poverty as well. A number of recommendations emerged to help the development community achieve greater impact in improving maternal health through nutrition. First, the connections between malnutrition and poverty were established. General malnutrition is usually associated with iron-deficiency anemia, which leads to poor cognitive function and educational achievement, poor health, and fatigue, which in turn lead to low worker productivity and income poverty.²¹

“Maternal undernutrition:
Our global disgrace.”

Amy Webb Girard, assistant professor, Emory University School of Public Health, WWICS, December 2010

Young woman carrying
water in Zambia
(Photo by Jeff Walker,
courtesy of CIFOR)



A comprehensive approach to maternal undernutrition and malnutrition must address social, health, and economic barriers that contribute to cycles of malnutrition, poverty, and poor health. The focus of maternal nutrition programs and research has been centered on child health/survival, and the prevention of maternal mortality. These programs will be more sustainable if they align their objectives and activities with the aim of serving women as direct beneficiaries across the lifecycle.

A multipronged approach is therefore required, one that addresses the social, health, and economic causes of poor nutrition. We can make a lifetime of difference by addressing poor nutrition during pregnancy and during the first two years of life.²² Indeed, countries like Mexico and Malawi have dramatically improved health with multisectoral programs that target poverty reduction, while significantly reducing hunger and improving nutrition. Lessons learned from these settings include:

- » Pregnancy and the first two years of life is the window of opportunity to break cycles of undernutrition and malnutrition.
- » Priority components include medicines to combat malaria and worms; iron and folic acid tablets; and extra food during pregnancy.
- » Address gender inequalities in education and promote sexual and reproductive health.

At the institutional level, experts consistently called for integrating maternal health and nutrition communities and services, as well as integrating maternal nutrition into food security and agriculture strategies.²³ Health and nutrition must be viewed as part of the same effort, complementing each other.²⁴

Engaging men

It is necessary for male partners and other male family members to have more supportive involvement in the lives of women. Whether they support family planning, receive vasectomies, help pregnant women with domestic tasks, promote gender equality, or support women in seeking and obtaining medical care during pregnancy, labor and delivery, there is much they can do. The consultations pointed to a number of especially important recommendations regarding men's roles:

- » Targeted interventions that educate men about danger signs and pregnancy complications correlate with behavior change and increased facility births.
- » Address the pressures that many young married men feel to prove their fertility.
- » Inform men about sexual rights and how they relate to the health and wellbeing of their partners.
- » Raise awareness of the benefits of family planning and address worries and misinformation having to do with side effects.



Child receives polio vaccine in Nigeria (Photo courtesy of Gates Foundation)

“Faith-inspired organizations have many different opportunities. The point that is often reiterated is that religions are sustainable. They will be there before the NGOs get there and will be there long after.”

Katherine Marshall, executive director, World Faiths Development Dialogue, WWICS, November, 2011

Social and cultural factors dissuade women and girls from seeking out services, from contraception and prenatal care to labor and delivery support. Culturally sensitive education programs, including those that involve men, faith-based organizations and local leaders, can help overcome this reluctance to use services. At the community level, social and cultural norms must be taken into consideration when implementing maternal and child health (MNCH) programs.

Empowering faith-based organizations and religious leaders

Faith-based organizations (FBOs) are often at the frontline of healthcare in developing countries and have networks in the most remote regions. Their close links to communities provide them with an opportunity to promote behavior change and address other cultural factors contributing to maternal mortality rates, such as early marriage and family planning. Working in collaboration with FBOs and other stakeholders is critical to promoting demand for maternal and reproductive health services. However, limited knowledge about faith-based maternal healthcare exists, and FBOs are often left off the global agenda.

The Wilson Center hosted 30 maternal health and religious experts from four developing countries to discuss efforts to improve maternal health. Case studies on faith-based work in Bangladesh, Nigeria, Pakistan and Yemen served as a springboard for group discussion and offered a number of recommendations for increasing the capacity of FBOs to improve maternal health. Recognizing the importance of local cultural and social norms to successful program implementation, donors and policymakers should shift from small, short-term, project-oriented activities to local, regional- and national-level advocacy programs that build sustainable change. To realize the promise that civil society organizations, including FBOs, hold for addressing maternal health issues, country-level mechanisms should be developed to coordinate efforts between government agencies, FBOs and other NGOs, and across faiths. These organizations' capacity to document and assess what they do also needs strengthening.

The maternal health community needs to show greater will in engaging the faith-inspired community. Working with FBOs requires special attention to building relationships. Most religious leaders are willing to engage and promote behaviors and values that support health and respect for women, and they can appreciate aspects of a human rights approach to maternal health. But gaining their trust may require special sensitivity and acknowledgement of their stature in the community, and a nuanced understanding of how they frame early marriage, family planning, and other maternal health-related topics.

Case study: Bangladesh

“As a faith-based organization, we believe it is a God-given right to safe health care and delivery, so we mobilize communities to support pregnant women to address their needs, [and] educate families about referrals and existing services in the community,” said Elidon Bardhi.²⁵ Through women-run community organizations, Adventist Development Relief Agency (ADRA) educates men and women about the danger signs of labor and when to seek care. For example, many men in Bangladesh believe that women should eat less during pregnancy to ensure a smaller baby and easier delivery. ADRA addresses such harmful views through a human-rights-based approach and emphasizes male participation in health services as a key strategy by ensuring there are seven male clients for every female.

Case study: Nigeria

The Nigerian Urban Reproductive Health Initiative (NURHI) is a public-private partnership that creates interventions for integrating family planning with maternal health. The term “family planning” is not as acceptable as “safe birth spacing,” so the project drew on research to demonstrate how family planning can help space births and save lives. Religion and culture play an important role in the behavior of any community. The introduction of a controversial health intervention (such as family planning) in a religiously conservative community requires careful assessment of the environment and careful planning for its introduction.²⁶ Baseline surveys, formative research and net-mapping helped NURHI understand the social context and refine intervention components.²⁷

Case study: Pakistan

“When working with religious leaders to improve maternal health, there are some do’s and don’ts,” said Nabeela Ali, chief of party with the Pakistan Initiative for Mothers and Newborns (PAIMAN).²⁸ The PAIMAN project worked with 800 religious leaders (*ulamas*) to increase awareness about pregnancy and promote positive behavior change among men. To ensure their impact, the project leaders selected influential *ulamas* with large congregations. The *ulamas* who participated in the PAIMAN project did not like the word “training,” so instead PAIMAN labeled their educational outreach “consultative meetings.” In the presence of senior religious scholars, who also attended the consultations, the *ulamas* learned about maternal health interventions and developed key messages to share during their sermons. More than 200,000 men and women were reached during the sermons, and the strategy has been adopted by the government of Pakistan as a best practice, and written into in the Karachi Declaration signed by the Secretaries of Health and Population.

Case study: Yemen

“Religion is a main factor in decisions Yemeni people make about most issues in their lives, and religious leaders can play a major role in behavior change,” said Jamila AlSharie, a community mobilizer with Pathfinder International.²⁹ Eighty-two percent of women say the husband decides if they should receive family planning, while 22 percent of women say they do not use contraception because they believe it is against their religion—they instead tend to view their fertility as the will of God.³⁰ The adoption of behavior change for health therefore required the involvement of key opinion leaders and the alignment of messages based in religious values. Trainings with religious leaders covered family planning from an Islamic perspective, risks associated with early pregnancy, nutrition and education, and healthcare as a human right.

B. Health Systems Strengthening To Improve Maternal Health

Preventing maternal deaths is “low-hanging fruit,” in the sense that we largely know what needs to be done. So what is health system strengthening in the context of maternal health? Fewer than four years remain until the 2015 deadline to make good on the commitments governments made in the Millennium Development Goals. Access to health services is reduced by health system inefficiencies and deficiencies, including ill-equipped facilities, drug shortages, too few staff, and gaps in their skills. Poor people are affected most, and are least able to afford treatment. Illnesses often drive families deeper into poverty while complex health systems require high levels of human capital and financing, a clear vision, and strong leadership. Countries must plan and allocate their limited resources efficiently to meet these many pressing needs.

Efforts to strengthen health systems tend to focus on several key areas, with a special focus on how these areas limit access for the poor: 1) extending financial risk protection (insurance) when people fall ill so that they are able to access the care they need *and* not subsequently become burdened with debt as they pay for that care; 2) enhancing the quality of care that health providers offer to patients; and 3) improving health system performance overall.

Given the costs involved in running complex health systems, countries must prioritize where to focus strengthening efforts. Some have argued that maternal health should be used as the measure and motivation for strengthening a health system. Resource constraints have led governments to look for ways to draw on communities, civil society, the public sector and the private sector to improve health care.³¹ The myriad challenges to health systems include service delivery, health workforce, information, commodities, financing, leadership, and governance.

Meanwhile, persistently high maternal mortality ratios beg the question: How has this global effort to strengthen health systems worked for mothers? Improvements in quality and coverage of health services generally have been associated with reductions in maternal mortality in some countries, so maternal mortality has been proposed for use as an indicator of accessible and functional health services.³² A challenge to tracking progress is that maternal mortality is so difficult and costly to measure from the service perspective. Many of the changes related to maternal health must be measured through process indicators, like deliveries conducted by a skilled attendant or the use of obstetric care services.

Strengthening health systems to address postpartum hemorrhage: The leading cause of maternal death

Heavy bleeding after childbirth, also known as postpartum hemorrhage (PPH), is one of the leading causes of maternal deaths worldwide, accounting for approximately 25 percent of all maternal deaths worldwide. Many mothers bleed to death due to delays in seeking health care services and inadequate equipment or supplies.³³ Yet morbidity and mortality caused by PPH are largely preventable through skilled care and innovative interventions, such as appropriate use of misoprostol and training of providers through clinical drills. Provision of safe birthing kits and use of Non-Pneumatic Anti-Shock Garments (NASGs) are additional potential strategies.

The dialogue series held two all-day meetings on the prevention of PPH. Active management of the third stage of labor (AMTSL) was identified as a key means of saving women's lives. AMTSL includes three factors that, when used together, can avert PPH:

1. Administration of uterotonic drugs (including oxytocin and misoprostol)
2. Controlled cord traction
3. Uterine massage after delivery of the placenta

To make this safe, cost-effective, and sustainable intervention a reality, however, the maternal health community needs to develop creative and alternative ways to improve advocacy, training, and service delivery.³⁴

The use of “safe birthing kits” (a small kit which includes a clean razor blade, cord ties, soap, a plastic delivery sheet, and pictorial instructions) and misoprostol for home deliveries is a critical part of the continuum of care for prevention and management of PPH. This is especially the case in places like Bangladesh, where 82 percent of deliveries occur in the home with unskilled birth attendants.³⁵

Technological innovations such as NASGs can help treat shock, as well as resuscitate, stabilize, and prevent further bleeding in women with any form of obstetric hemorrhage. Such innovations may also help clinicians to stabilize patients in shock before getting definitive treatment or getting transferred to a health facility.³⁶ Although the high cost of the anti-shock garments, logistical inefficiencies, and quality issues have been challenges in the past, there has been progress toward producing an affordable, high-quality NASG.³⁷

Government support and community engagement are required to overcome barriers to implementing these interventions. Working with household decision-makers and disseminating key health messages via the active involvement of frontline health care workers can mobilize communities to use health services at childbirth and to seek care when emergencies arise.³⁸ To expand effective programs and ensure that effective interventions reach pregnant women, it is critical the maternal health community advocates for policy changes that encourage national expansion, standardize provider training, engage community and family decision-makers, improve transportation and referral, increase availability of commodities, and lead to an effective monitoring and evaluation system.

Mother and newborn at
Maternal & Child Health
Training Institute in
Bangladesh (Photo courtesy
of United Nations Photo)



Reforming health financing

Rwanda's Ministry of Health used MDG 5 to structure improvement in health service delivery and implement quality assurance/accountability mechanisms.³⁹ The country's reforms occurred in five key areas, all of which were designed to increase accountability to both the systems' stated goals and to the citizens it serves:

1. Decentralizing budget and financing processes, thereby increasing community participation and appropriating funds to district governments;
2. Developing 'performance-based plans' with district mayors to prioritize health systems strengthening;
3. Establishing a performance-based financing system, with funds allocated to health facilities based on their maternal health results;
4. Expanding community health insurance to increase access and reduce out-of-pocket expenditures; and
5. Implementing performance-based workplace practices in health facilities, allowing for more flexibility in hiring and firing clinicians.

In Rwanda, these reforms increased assisted deliveries over three years by 13 percent. This model could be replicated in other settings, but only after conducting country-specific research on how best to implement these reforms and others like them.

A 'diagonal' approach to health systems

Many initiatives are working to strengthen health systems in the developing world, yet there is little consensus on execution. Traditional strategies for improving the health system, such as the vertical approach, which prioritizes communicable diseases, or the horizontal approach, which prioritizes levels of service delivery, are limited in scope and fail to address the barriers to health that women face at various levels.⁴⁰

Drawing from his experience as Minister of Health in Mexico, Julio Frenk championed a "diagonal" approach to health systems strengthening in the area of women's health.⁴¹ The diagonal strategy utilizes specific health priorities to drive general improvements of the health system. In Mexico, the diagonal approach was used to improve maternal health outcomes. Establishing a specific priority intervention, such as access to EmOC, can guide financial and managerial resources to improve the overall health system. This approach aligns the prevention of maternal deaths with quality assurance indicators, with maternal deaths triggering 'audits' to identify service-delivery gaps and opportunities for change.

Establishing maternal health indicators to improve the health system

Increasing the proportion of women who deliver children with a skilled birth attendant present has become the strategy for reducing maternal mortality, but this measure says

nothing about what the attendants actually did, the quality of the service provided, or the context in which it was provided.⁴² Other indicators such as near-miss morbidity, rates of cesarean section, and contraceptive prevalence rates are better aligned with maternal mortality outcomes.⁴³ We should be collecting data on these indicators as well as on the proportion of births with skilled birth attendants. Contraceptive prevalence deserves special attention because the prevention of unwanted pregnancies and unsafe abortions is so cost-effective.⁴⁴

Three questions should guide health systems' efforts to reduce maternal mortality, including their response to emergency obstetric care (EmOC):⁴⁵

1. Are there enough facilities providing EmOC, and are they well distributed?
2. Are women with obstetric complications using these facilities?
3. Is the quality of the EmOC services adequate?

The percentage of women who give birth with a skilled birth attendant is a limited measure of the adequacy of health services.⁴⁶ Maternal mortality outcomes are more closely correlated with indicators of near-miss morbidity, rates of cesarean section, and contraceptive prevalence rates, and these indicators should be added to the roster of measures on which programs routinely collect data.

The quality of data varies widely and depends on the skills of those who collect, aggregate and analyze the information.⁴⁷ We should be building up the capacity of local organizations and facilities to collect data, and those data should include more qualitative information. Engagement with local institutions also provides an opportunity for feedback.

Integration of maternal health with HIV/AIDS services

To widen the platform of comprehensive services for women and their families, efforts to link public health services and offer more services at one location should be expanded. Since many women express a need for contraception and family planning, offering these services on-site with HIV prevention and treatment leads to a huge uptake in family planning use.⁴⁸ Greater funding for family planning and access to emergency obstetric care and HIV/AIDS services should all be included in scaling up resources for improved maternal health programs. In 2008, annual maternal deaths would have numbered roughly 281,000 without HIV. "Without HIV, annual maternal deaths would have been 281,500 in 2008."⁴⁹

Quantitative and qualitative evidence supports claims that integration with HIV services improves maternal health outcomes and increases program efficiency, while also strengthening health systems with a cost-effective strategy. Services must be adapted to meet the needs of HIV+ women, including adolescents, through strategies that mitigate stigma, integrate a gender perspective, and train providers to be sensitive and non-discriminatory as they screen for patients' reproductive and maternal health needs.⁵⁰ At the policy level, we must align funding streams and establish appropriate indicators.

KENYA CASE STUDY:

Improving Health Systems Through A Maternal Health Framework

To promote voices from the field, the 2011 dialogue series partnered with the African Population and Health Research Center in Kenya to co-host a two-part dialogue series with local, regional, and national decision-makers on effective maternal health policies and programs. These in-country dialogues created a platform for field workers, policymakers, program managers, media, and donors to share research, disseminate lessons learned, and address concerns related to policy, and institutional- and organizational capacity building.

The second in-country meeting focused on improving the health system through a maternal health framework, and utilized the diagonal approach to define health system priorities and general system improvements. It was recommended that the following issues be prioritized to improve the maternal health system:

- » **Devolve human resources to rural areas.** It is difficult to keep health care workers in remote, ‘hardship’ areas, which create a concentration of workers in urban centers. Recruit individuals from rural districts so they are inclined to return home after training.
- » **Shift tasks to a broader range of people.** It was recommended that retired nurses be recruited as community midwives. Community health care workers should be trained to distribute and collect information from patients, and integrate these data into the health system.
- » **Establish incentives and results-based financing for health workers.** Such an approach could increase institutional delivery, reduce bureaucracy, and decrease abuse by health workers. Resource allocation should be linked to quality output.
- » **Strengthen commodities and supply chain management.** Addressing the major gap in supply chain management skills by increasing both accountability and the effective use of technology could enhance infrastructure.
- » **Improve civil registration.** It is key to capture information on all births and maternal and infant deaths.
- » **Strengthen and coordinate use of technology.** Existing e-health systems must be synchronized and coordinated.
- » **Prioritize antenatal care visits.** Such visits serve as an entry point to other health services, such as HIV/AIDS treatment.
- » **Conduct additional research.** A sharper research focus on implementation and current data should be better contextualized so that policy and programs can implement action points.

“The government must honor the health of women, and the best way to fix maternal health systems is through the government.”

Honorable Linah Chebil Kilimo, member of Parliament, Wilson Center Stakeholder Dialogue Kenya, October 2011

- » **Connect maternal death and economic loss.** Research institutions should work with the Ministry of Finance to help drive home the point that maternal mortality is linked to economic loss; the treasury understands and responds to these connections.
- » **Increase accountability.** Address the gap between what policymakers say and do to improve maternal health systems.
- » **Develop advocacy packages.** Keep health systems on the radar of policymakers.
- » **Promote male involvement.** “Male champions”—husbands, religious leaders, policymakers, and community leaders—are needed to support advocacy messages and galvanize additional male support for maternal health.
- » **Establish dialogue forums.** It is important for the ministries of health and finance to jointly identify priority areas and ensure that 15 percent of the budget is allocated to health activities. Policy briefs and planning systems should be shared between the two ministries.

Following the technical meeting, a public dialogue event was held in Nairobi to share the recommendations and knowledge gaps identified with Kenya’s Parliament. Speakers included the **Honorable Benjamin Langat**, **Honorable Linah Chebil Kilimo**, **Honorable Jackson Kiptanui** and **Honorable Charles Keter**. They joined 50 maternal health experts, program managers, members of the media, and donors to identify action points for ending maternal mortality in Kenya.

“I find this workshop very important,” remarked **Hon. Benjamin Langat**. Participants in Nairobi agreed that the dialogue significantly added to the maternal health agenda by identifying concrete strategies for implementation. “It is amazing how a small group like this one has generated practical issues which we intend to utilize at the decision-making level. I trust that the decisions made here today will be long-lasting and foster the change we want,” said **Lucia Buyanza**, project coordinator for the Reproductive Health and Rights Alliance Kenya.



Pregnant woman at UNICEF-supported health center in Central African Republic (Photo by Pierre Holtz, courtesy of UNICEF)

The UN/WHO Prevention of Mother to Child Transmission (PMTCT) Model Framework emphasizes four program components:⁵¹

1. Preventing HIV infection among individuals planning to have children;
2. Preventing unintended pregnancies among HIV-infected women;
3. Providing HIV counseling and testing to expectant mothers and providing anti-retroviral drugs like nevirapine to HIV-infected mothers and their newborns; and
4. Supporting HIV-infected mothers and their families, in part by recognizing their continuing needs following HIV diagnosis and childbirth.

Integrating vertical service delivery systems where possible is important for this effort, as is integrating funding streams.

Special challenges for maternal health systems in fragile states

Countries threatened by conflict rank lowest on maternal and newborn health indicators, and have fewer resources for reproductive health services such as family planning and emergency obstetric care. Health system reconstruction is essential to stabilization efforts in post-conflict settings. In these environments, there exists an urgent need for both integration between emergency response and long-term development programs, and increased funding for community-driven initiatives that leverage partnerships for sustainability.

Conflict in fragile states places constraints on already weakened systems. In this context, the provision of reproductive health supplies and services, including maternal and child health, does not meet demand. A study conducted in 2009 by the RAISE initiative at Columbia University found that only 15 percent of UN-, government-, or private donor policies included specific reference to reproductive health in emergency settings.⁵² Case studies from Nigeria, Pakistan, Sudan, and Chad emphasized the need for increased government and donor support for reproductive health in conflict-prone environments.⁵³

The experts were united in emphasizing how prevailing social norms constrain women's and adolescents' ability to negotiate their sexual and reproductive health in a conflict setting. In Nigeria, an emergency fund helps a clinic secure difficult-to-obtain supplies and maintain communities' trust in the health system. In conflict-affected areas such as Pakistan, adolescent and youth-friendly services, male engagement, and women's empowerment are also priorities for improved reproductive health.⁵⁴

In Chad, pressures to have numerous children are great; however, contraception is socially acceptable for birth spacing, and services must reflect this orientation.⁵⁵ Chad is hosting 280,000 refugees from Darfur and thousands of internationally displaced persons who strain a fragile, underfunded reproductive health service system with few skilled birth attendants and a great need for family planning.⁵⁶ A human rights based approach to reproductive health in conflict-affected and fragile states empowers women and can leverage political attention for reproductive health, in Chad and elsewhere throughout the developing world.

Maternal Health Challenges in Kenya: What New Research Evidence Shows

The 2011 dialogue series partnered with the African Population and Health Research Center in Kenya to co-host a two-part discussion with local, regional, and national decision-makers on effective maternal health policies and programs. The first session took place in Nairobi in July 2011. The webcast linked local research scholars and U.S. based collaborators in an effort to identify the knowledge gaps and outline key recommendations for policy and programming priorities moving forward.

Integration was highlighted as one of the main action points, and it was recommended that research on the best ways to achieve integration be a top priority. However, integration and “community-led” reforms can overburden weak health systems and infrastructure, and rely too heavily on community health workers. How can the burden be alleviated?

- » **Expand human resources for health.** Participants observed that of the 251 obstetricians in Kenya, 160 practice in Nairobi. The same pattern applies to pediatricians and most health workers. The dialogue identified addressing this capacity gap as a key step to take across the Republic through the equitable hiring and deployment of workers.
- » **Address the urban transport challenge.** Women often face danger in going to a facility when they go into labor. Ensuring the safe transport of women seeking services in urban areas is a key challenge.
- » **Scale up family planning interventions.** Family planning needs to be scaled up with an emphasis on education, modern long-term methods (including IUDs, pills, and sterilization, for example), and an efficient supply system.
- » **Conduct advocacy for finance.** It was recommended that advocacy be scaled up to ensure the government implements the Abuja Declaration and allocates 15 percent of the national budget to health.
- » **Expand health research.** More research is urgently needed, not only on maternal health and interventions related to health, but also across the entire health system.
- » **Extend sexual and reproductive health education.** Improving sexual and reproductive health education for young people can help prevent unwanted pregnancies and improve maternal outcomes through healthy choices by mothers.
- » **Upgrade facilities.** It was recommended that Level 2 and 3 facilities be upgraded to handle emergency obstetric care and offer caesarean sections.
- » **Develop and implement legislation.** A maternal health bill must be prepared, and within it must be embedded the creation of a National Council on Women’s and Children’s health.



HIV testing in Zimbabwe (Photo courtesy of UK Department for International Development)

- » **Establish strong referral mechanisms.** These are needed to supplement the work of Traditional Birth Attendants and to link TBAs more closely to health facilities.
- » **Promote antenatal care and post-natal care.** This connection with health services should become the norm among women in Kenya.
- » **Use a human rights framework.** Grounding the prevention of maternal death and increased access to contraception in a human rights context will help bolster legitimacy.

Following the last recommendation above, participants emphasized the importance of relying on a human rights perspective to facilitate change. The moderator of the stakeholder dialogue underscored how this perspective requires donors, advocates, and practitioners to take into account the cultural, social, economic and gender-related factors that affect maternal health in Kenya.

Following the technical meeting and videoconference, a public event was held in Nairobi to share the knowledge gaps and recommendations participants had identified with Kenya's Parliament, including **Honorable Sofia Abdi** with parliamentary health committee, **Honorable Ekwee Ethuro**, chair of the parliamentary network for population and development, and **Honorable Jackson Kiptanui**.

Commodities, logistics and supplies

Supply chains matter. Limited supplies erode communities' trust in the local healthcare system, particularly for those who travel great distances to reach a clinic. The need for greater integration of RH and MH supply chains is a key reform that can reduce costs and save lives. One key strategy for strengthening supply systems is to integrate maternal health supplies into existing health supply chains for other siloed areas.⁵⁷ "Many of the commodities that we talk about in terms of reproductive and maternal health cost tiny amounts to deliver, but actually save lives and are some of the most cost-effective interventions we have, both in public health and in broader development," said Julia Bunting.⁵⁸ Efforts to improve supply chain management and logistics must be complemented with community-based initiatives that promote family planning, address social norms, and increase demand for an array of commodities.

There is a general consensus that even where resources are limited, the following four maternal health commodities must be available on shelves in urban and rural clinics:

1. Oxytocin (to prevent/treat hemorrhage)
2. Misoprostol (to prevent/treat hemorrhage)
3. Magnesium sulfate (to treat pre-eclampsia)
4. Manual vacuum aspirators (to treat incomplete abortion)

These commodities, coupled with reliable access to contraceptive methods, are key to achieving maternal health goals.

Advocacy efforts to strengthen health systems should address, among other things, the empty shelves and broken supply chains that plague many developing countries.⁵⁹ In order to strengthen delivery of key commodities, we need to invest more in forecasting and preparing for growing demand, advocating for government and donor support, encouraging scaling-up of community-based approaches, promoting family planning, and focusing on human resource training.

“This is not just about getting quantities of drugs out; this is about saving women’s lives with really simple products that work.”

Julia Bunting, chair, Reproductive Health Supplies Coalition, team leader, DFID, WWICS, November 2010

Nigeria, for instance, has one of the highest maternal mortality rates in the world. In the country's northwest, the maternal mortality rate is three times higher than in the rest of the country.⁶⁰ One key barrier has been the Ministry of Health's inability to secure and deliver enough sexual and reproductive health commodities to meet demand. The solution was to create an emergency fund that enabled the direct purchase of the supplies for immediate obstetric care when the Ministry of Health cannot meet demand.⁶¹

Community mobilization is imperative to overcoming major challenges for large-scale implementation of maternal health supply chains, as it creates demand and drives accountability. Misoprostol, for example, is a low-cost commodity that is easy to use for pregnancy termination or for treatment of incomplete abortions. However, its availability to end-users at an affordable cost varies according to institutional support for its use, supply chain infrastructure, and level of community-based demand. To increase access in rural areas, maternal health experts must work to engage, educate and mobilize communities, train providers at all levels of the health care system, and support distributors to get sales going.⁶² What is needed is more maternal health education to inform communities about Misoprostol, more donor support for supply chain management and logistics research, and a more supportive policy environment for comprehensive sexual and reproductive health supplies and services.

Task-shifting and human resources

Skilled birth attendants can decrease both maternal and child mortality. Increasing women's access to quality health services during pregnancy, and ensuring they are attended to by skilled providers during childbirth (preferably in an institutional setting) can help to reduce preventable causes of death, particularly hemorrhage, pre-eclampsia, and obstructed labor, which together account for 80 percent of maternal deaths. Yet health systems in many places are not up to the challenge of offering these services to those who need them.

Since health worker shortages are associated with high maternal mortality, the need to expand the number of people providing services is important. A fully integrated health system response that shifts tasks related to maternal health, specifically obstetric care, can reduce maternal deaths. Task-shifting is not aimed to compromise the provision of quality care. Rather, it focuses on redistributing tasks to persons with a baseline set of skills.⁶³ At the community level, non-physicians do possess skills and social standing to assume responsibilities in pregnancy-related care. These are most often midwives, such as those in Afghanistan who have become an integral part of local reproductive health services, and they are widely viewed as critical to preventing pregnancy-related deaths in developing countries. Other common examples of task-shifting include doctors to non-physician health clinicians; health clinicians to registered nurses and midwives; nurses/midwives to community-based lay health care workers; and community health care workers to expert patients.

A 2005 WHO report estimated that to achieve the MDG 5 Goal of reducing maternal deaths by 75 percent would require 53 physicians per 10,000 persons.⁶⁴ Efforts to scale up task-shifting initiatives should consider three key strategies once the ministries of health and other key stakeholders have agreed to the idea of lay health advisors:

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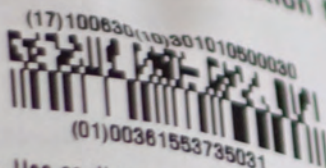
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“Pregnancy is not a disease, a woman should not die of pregnancy...it doesn’t need a new drug...it doesn’t need research—we just need skilled workforce at different levels.”

Seble Freyhwoot, assistant research professor, George Washington University, WWICS, January 2010

1. Using new technologies such as mobile devices and other devices with telecom and/or web services and eLearning materials;
2. Engaging clinical or medical associations to gain their support of task shifting; and
3. Integrating midwives as a long-term solution and not as a stopgap measure. Maternal health experts view favorably the Health Center Intrapartum Care Strategy, as outlined in a 2006 Lancet article.⁶⁵

Other considerations for scale-up of task-shifting include improvements in donor coordination to ensure financial support for a newly expanded workforce; care to not overburden the limited supply of trained midwives prior to and during scale-up initiatives; and identifying indicators and agreed-upon impact outcomes to demonstrate value-added and monitor investment.⁶⁶ The first steps toward task-shifting should start at the district level, where contact with the community is most direct.

How can this shift be achieved at the service level? Services need to establish guidelines, prioritize training, and structure the licensure of people assigned new tasks. For example, Afghanistan’s maternal mortality rate is second highest in the world. The country’s MOH decided early in its reconstruction that midwives would be central to the country’s MCH/RH workforce.⁶⁷ As of 2006, there has been an 86 percent retention rate of trained midwives who claim pride in their role. Further, Afghanistan has advocated for the long-term sustainable training and inclusion of midwives into obstetric care. Local recruitment and context-relevant training are very important, particularly in more remote communities.⁶⁸

Oxytocin in IV bag
(Photo courtesy of
Flickr user SirLyric)

Transportation and referral

The Wilson Center hosted 25 experts from five countries to discuss the case studies of efforts to improve transportation and referral systems in Ghana, India, and Bolivia. The case studies presented a combination of community engagement techniques and new technologies, and yielded up six key areas through which transportation and referral systems can be improved:

1. Multisectoral collaboration and continuous dialogue is needed among key ministries, including Health, Finance, Communication, Social Welfare, Security and Defense, Transportation, and Public Works.
2. Mobile phone technology
3. Public-private partnerships
4. Referral for newborns
5. Indicators for referral
6. Sharing and use of existing evidence to move the transportation and referral agenda forward.

These investments must be accompanied by efforts to address the costs of transporting a pregnant or laboring woman from home to health center or from health center to hospital. Where the family must pick up the costs, micro-insurance schemes may help cover the costs. Creative community-owned transport plans can also help keep costs down, and developing plans ahead of time gives families greater choice over the mode of transportation and the terms under which they use it.

“Referral has been called an orphan cause, because it is everybody’s responsibility and therefore nobody’s responsibility.”

Patricia Bailey, public health specialist, Family Health International and Columbia University, WWICS, May 2010

Case Study: Ghana

To improve maternal health care in Ghana, “we needed to shift [services] to the community level, where 70 percent of our population lives,” said John Koku Awoonor-Williams, the east regional director of Ghana Health Service.⁶⁹ In order to galvanize local leadership and empower communities to engage in health outreach activities, Ghana created the community-based Health Planning and Services (CHPS) program that promotes local leadership and participation in health. The program focused on training community health workers and nurses who were then assigned rural villages to provide health education, maternal/antenatal care, and referral management to hospitals for emergencies. A key support technology to the CHPS program was two-way radios between health workers and clinicians at local hospitals, combined with the distribution of emergency contact information to pregnant women who can call in the event of complications. Challenges included the cost of transportation vehicles and fuel. While communities have pooled funds to purchase both in some cases, rising costs are increasingly a barrier to access.

Case Study: Kenya

When we think about transportation challenges, we often imagine laboring women traveling from afar to distant health clinics to deliver their child. But during the in-country workshop in Nairobi, Kenya, Catherine Kyobutungi, director of Health Systems and Challenges at APHRC, highlighted the challenges facing urban Kenyan women, many of whom deliver at home. When APHRC conducted research in this area, nearly 68 percent of surveyed women said it was not necessary to go to a health facility to deliver.⁷² Poor road infrastructure and insecurity often prevented women from delivering in a facility. Indeed, women who went into labor at night often felt it was unsafe to leave their homes for a facility, and instead chose to risk their lives giving birth at home, away from the support of skilled medical personnel and health facilities. As the urban population increases in the coming years, governments will need to pay more attention to the challenges women face in such urban settings.

Case Study: Bolivia

More than 35 percent of maternal deaths occur at hospitals in Bolivia.⁷⁰ To better understand this mortality rate, Víctor Conde Altamirano of CARE Bolivia evaluated whether pre-hospital barriers and routine antenatal care are associated with near-miss morbidity.⁷¹ He identified risk factors associated with these deaths, including old age; less education; lack of antenatal care; first-time pregnancies; or residence in rural areas. These data were used to engage the community, municipal leaders and hospitals to create a targeted referral program called the *Integrated Model in Maternal and Neonatal Health*.

Under this program, local nurses can alert health facilities about women on their way or in need of emergency transportation. At the Casa Materna, for example, nurses plot on a felt, bulls-eye map the names, due dates, geographical proximity, and travel times of pregnant women in nearby villages. Using two-way radio communication, Casa Materna stays in contact with these remote villages and can signal the regional hospital (often hours away) for ambulance assistance for women needing emergency obstetric care. This local engagement is key to preventing near-miss morbidity rates.

Developing and adapting technology for health

In developing countries, the people most in need are often the most isolated, but mobile technology is emerging as a way to bridge the gaps. Sixty-four percent of global cell phone users live in developing countries. Mobile phone technology and SMS text messaging can be applied to maternal health in many different ways. Cell phones and PDAs can address a wide range of maternal health issues, including weak infrastructure, staffing shortages, and information-sharing problems between clinics and hospitals. These existing technologies can revolutionize healthcare by improving data collection and disease tracking, expanding patient diagnostics, and advancing education and awareness among health workers and patients. Communications devices can also reduce travel time and costs for the individual, improve efficiency of health service delivery, and streamline information to health workers to reduce maternal mortality.

The standardization and dissemination of best practices in mobile technologies is taking place, due in large part to the increased interest of government and donors. These technologies are tools, not solutions, however. Although the application of mHealth in developing countries is promising given the initial results, it does raise concerns related to social disparities in access to cell phones, the requirement of literacy for health education applications, and the need to train service providers.⁷³

The overall consensus is that mHealth can strengthen systems' capacity to provide quality maternal and child health care, including emergency obstetric care, at reduced cost. Donors and governments, however, are cautioned to not view mHealth as a comprehensive solution without its own challenges. More research is needed on the value added, unintended consequences, and best ways to apply mHealth.

With rising use of mobile technology in the developing world, cell phones can connect and coordinate health systems to save more lives.⁷⁴ Communities and governments embrace mHealth because both see the added value in ways that matter to them, such as reducing costs for quality care. Already, mHealth is cost-effective for the health system, and in many cases, leverages a product a community member already owns.⁷⁵

“Cell phones can't save lives, [but] the lack of information does kill.”

David Aylward, executive director, mHealth Alliance, United Nations Foundation, WWICS, October 2010

Mobile phones can help compress the time that elapses between a health crisis and care. “Delayed decision-making compounded by delayed transport can have tragic consequences for maternal mortality,” points out Alan Labrique, assistant professor, Johns Hopkins University. Cell phones can help women, their families, and local health workers to seek timely, appropriate medical help for an obstetric emergency.

Many parts of the developing world do not have a 911-style telephone emergency response service. To address this gap in India, the GVK Emergency Management & Research Institute developed a toll-free telephone number for all medical, police, and fire emergencies.⁷⁶ The system serves 433 million Indians in 10 states, and relies on nearly 10,000 EMTs and 10,000 doctors. They found that 31 percent of calls are related to pregnancy. The number has increased institutional deliveries (which are up to 90 percent in Gujarat), and reduced maternal deaths by 20 percent in some areas.

While mobile phones are indeed reaching parts of the world not currently equipped with quality healthcare, the lack of systematic coordination and infrastructure at the district and regional levels must also be addressed. It is critical to remember that mobile phones are not a simple stand-in for weak health systems and sparse services.

Monitoring and accountability: Are present benchmarks enough?

Recent studies by the United Nations and University of Washington suggest that maternal deaths have fallen from 526,000 a year in 1980 to 342,900 in 2008.⁷⁷ Some global health activists fear donors and policymakers will dismiss the issue and call into question the higher maternal mortality rates last reported by the United Nations.⁷⁸ While concerns over monitoring and evaluation raise important methodological questions, this news must also serve as catalyst for world leaders and donors to take action and recognize that investing in women pays.

In advance of the 2010 UN Summit to review MDG progress, the Wilson Center convened a panel on monitoring and evaluation (M&E). The experts reflected from different perspectives on the need to adapt M&E in ways that can promote local ownership for research, analysis, and evidence-based programming for maternal and child health. This effort includes building capacity and streamlining indicators.⁷⁹ President Obama’s Global Health Initiative supports capacity building in M&E, with the purpose of transferring local ownership to recipient countries. This commitment will require the standardization of additional indicators that more directly monitor the presence of skilled birth attendants at delivery, as well as the quality of care and contraceptive prevalence. According to a WHO study, these new indicators can more effectively monitor MCH outcomes. The addition of some indicators may be appropriate, but donors need to minimize the reporting burden on recipient countries.⁸⁰ Indeed, M&E is often an administrative burden that constrains country-level flexibility and innovation.⁸¹

Better measurement is also needed for advocates to hold governments accountable. Governments need not only to allocate funding for maternal health, but also to ensure the money reaches the intended beneficiaries. Therefore pushing for

“We really need to think about monitoring and evaluation and research and innovation as a continuum. They reinforce each other and play different roles in helping us understand what makes programs work or why they are not working.”

Ellen Starbird, deputy director, Office of Population and Reproductive Health, USAID, WWICS, September 2010

increased public funding of maternal health programs should go hand in hand with budget accountability tracking mechanisms. Further, increased women’s participation in international and economic policy forums will help to support national accountability to international agreements around gender equity, MCH, and women’s economic empowerment.

C. RESEARCH AND DATA DEMANDS

Regardless of whether the focus of discussion was on access to services and social barriers to care, or the capacity of health systems to deliver quality services that reach the women who need them, a consistent theme that emerged throughout the series was the need for relevant and reliable data. For instance, one recommendation emphasized the need to measure *quality* of care and what a trained birth attendant did during delivery, rather than simply keep statistics on whether that person was *present* during labor and delivery.

It was noted that measurement and tracking of referral to services is weak and needs improvement. Additional research is needed to identify appropriate indicators to monitor referral systems and transportation. The analyses of weaknesses in health systems emphasized the importance of good data for tracking performance and rewarding competence. More research is also needed on the longer-term effects of having nutrition programs align their objectives and activities, with the aim of serving women as direct beneficiaries. The current focus is primarily on measuring impact on infant and child survival and maternal mortality.

Panelists proposed adding several indicators to the standard data on percentage of deliveries with a skilled birth attendant, including near-miss morbidity, rates of cesarean section, and contraceptive prevalence rates. Panelists also called for special attention to

contraception because the prevention of unwanted pregnancies and unsafe abortions is a cost-effective, rights-based strategy.

Meanwhile, in the emerging mHealth work, more data is needed to determine how these tools might strengthen and enhance health systems. A clearer research agenda can help ensure that evidence-based solutions guide programming and result in the most effective application of these emerging technologies.

One glaring weakness highlighted in the series was the lack of attention to maternal morbidities, which receive little attention in comparison to maternal mortality. Participants agreed that measures of near-miss morbidity, rates of cesarean section, and contraceptive prevalence rates are closely associated with maternal mortality outcomes, and that programs should routinely collect data on these indicators. The scope of maternal morbidities is broad, with the most prevalent morbidities including anemia, fistula, infertility, uterine prolapse, and maternal depression. Even though the dearth of data prevents comparisons across countries, researchers estimate that 50,000–100,000 new cases of fistula alone occur each year.⁸² Maternal morbidities accrue an estimated global cost of \$6.8 billion, and currently affect 20 million women and girls.⁸³

Maternal morbidity deserves a special focus in the discussion of measurement and research in maternal health. For every death, 20–30 women are affected by maternal morbidity. Given the overlap in how a health system can act to address mortality and morbidity, a policy and programmatic discussion on mortality should include ‘explicit’ attention to morbidities, including how to measure and classify them and the impact they have on women’s lives. The development community particularly needs to address norms that make women vulnerable to experiencing obstetric fistula, and then shame them for it. If there is to be shame, it is that in most cases fistula is preventable or treatable, yet so many women suffer with it. As the project director of the Fistula Care Project said, the problem “is an issue of equity [and] the health system’s failure to support women’s needs in childbirth.”⁸⁴

There exist several key gaps in the area of maternal morbidity. First, there is little to no nationally comparative data and more data on the incidence and prevalence of morbidities is needed. A practical recommendation would be to include indicators on maternal morbidities in the Demographic and Health Surveys (as Nigeria did in 2008). Second, there is a need to standardize measurement and classification. Morbidities range from acute to chronic, and how they are classified impacts budgets, programs, and policy. Here, the recommendation is to expand dialogue, training, and use of WHO guidelines on “mortality and near-miss” classification. Third, the development community needs to raise policy attention and awareness at international fora where maternal mortality is discussed. Even reporting on MDG 5 on maternal and child health neglects maternal morbidities. As a consequence, governments, donors and programs often do not respond to the need. The issue of maternal morbidity is relatively invisible given its costs at all levels.

With regard to programming, panelists were united in their call to address maternal morbidities systematically wherever maternal mortality is discussed. They noted that prevention is key, and thus many of the recommendations for preventing maternal

mortality apply to preventing morbidities, utilizing tactics such as adolescent-friendly services, and access to contraception and quality maternal health services. Fistula can be prevented through access to family planning, and use of a partograph⁸⁵—a tool for monitoring, documenting and managing labor—to identify complications correctly and consistently. To support this broadened prevention effort, clinical training for midwives, physicians and others must be expanded to increase their ability to identify and treat morbidities, including catheterization of the woman immediately after prolonged or obstructed labor and performance of emergency surgery.

Reducing maternal morbidities requires the clinical focus to extend beyond the delivery room, and well before and after a due date. Communities need to be involved as well, with a comprehensive response to maternal morbidities addressing norm change. It is also crucial to continue working with men, community leaders, religious leaders and others who help shape women's access to services and support. Additional data are needed to measure the prevalence and effects of morbidities, and safe motherhood programs should expand their focus to address these life-altering conditions.



Voluntary

- Prevents
- Provides treatment
- Reduces knowledge
- Empowers positive behaviours.
- Voluntary and confidential.
- It is available free of charge.



Moving the Maternal Health Agenda Forward: Conclusions and Next Steps

The mandate for addressing maternal mortality around the world is growing ever more precise and unavoidable. As the dozens of experts who participated in the series *Advancing Dialogue to Improve Maternal Health* made clear, several clusters of factors harm women's health and limit their access to the quality services they need to protect them from maternal illness and death. The good news is that for each set of factors, a number of specific strategies have emerged that can make a difference. In the area of economic, social, and cultural factors and gender inequities, women's access to education, employment opportunities and better nutrition across the life cycle will make an important difference to maternal health outcomes. In addition, women's families and communities can find ways to be more supportive, and programs can help them plan and anticipate what women need during pregnancy, labor and delivery. What is more, strong evidence makes the case that policymakers should invest in maternal health.

With regard to health systems strengthening, many openings exist to prioritize and address women's health. These are opportunities that will improve health systems overall, not just for pregnant women and mothers, but also for transport and referral systems, finance reform, workforce reconfiguration and training, and greater accountability through the devolution of responsibility to local bodies.

All of this is reinforced by improved monitoring and evaluation, and more relevant research. We must continue to make the case to policymakers that reproductive health education and services are fundamental to the well-being of young people and that maternal health is a key area of investment for the future of their countries. At the end of the day, the women who die during pregnancy, labor and delivery will never be able to speak for themselves, nor tell their story about what went wrong. Even those who suffer from maternal morbidities are often kept from speaking out by the very factors that harmed them in the first place—families, communities, and institutions that did not value their health and well-being. This places great responsibility on the shoulders of the rest of us, who understand what needs to happen and can ensure that it gets done.

**Mother and child at AIDS
clinic in South Africa
(Photo courtesy of TC Davis)**



Woman carries water
in Zambia (Photo by
Jeff Walker, courtesy
of CIFOR)

APPENDIX A:

*Advancing Dialogue To Improve
Maternal Health*
2009–2011 Panel Series

DECEMBER 03, 2009: “Integrating HIV/AIDS and Maternal Health Services” with **Harriet Birungi**, program associate, Population Council-Kenya; **Dr. Claudes Kamenga**, senior director of technical support and research utilization, Family Health International; and **Michele Moloney-Kitts**, assistant coordinator, Office of the U.S. Global AIDS Coordinator

JANUARY 06, 2010: “Human Resources for Maternal Health: Midwives, TBAs, and Task-shifting” with **Pape Gaye**, president and CEO, IntraHealth; **Seble Frehywot**, assistant research professor of Health Policy and Global Health, George Washington University; and **Jeffrey Smith**, regional technical director for Asia, Jhpiego

MARCH 08, 2010: “Maternal and Newborn Health as a Priority for Strengthening Health Systems” with **Helen de Pinho**, assistant professor of Clinical Population and Family Health, Columbia University; **Julio Frenk**, dean, Harvard University School of Public Health; **Agnes Soucat**, lead economist and adviser, Health Nutrition Population for Africa, World Bank

APRIL 29, 2010: “Family Planning in Fragile States: Overcoming Cultural and Financial Barriers” with **Grace Kodindo**, assistant professor of Population and Family Health, Columbia University; **Sandra Krause**, reproductive health program director, Women’s Refugee Commission; **Nabila Zar Malick**, director, Rahnuma Family Planning Association of Pakistan; and **Karima Tunau**, OB/GYN, Usmanu Danpodiyo Hospital

MAY 19, 2010: (PRIVATE ALL-DAY MEETING) “Improving Transportation and Referral for Maternal Health” with **Koki Agarwal**, ACCESS Program; **Deb Armbruster**, U.S. Agency for International Development (USAID); **Julie Babinard**, World Bank; **Patricia Bailey**, Family Health International; **Ann Blanc**, Maternal Health Task Force; **Víctor Conde Altamirano**, CARE Bolivia; **John Koku Awoonor-Williams**, Ghana Health Service; **Etheline Enoch**, University of Aberdeen; **Gary Foster**, Transaid; **Allegra Giovine**, Columbia University; **Sennen Hounton**, UNFPA; **Goldy Mazia**, PATH; **Susan Murray**, King’s College of London; **Mike Norman**, The Ranger Production Company; **Calyn Ostrowski**, Woodrow Wilson International Center for Scholars; **Jennifer Potts**, Columbia

University; **Subodh Satyawadi**, GVK Emergency Management & Research Institute of India; **Erin Sines**, The John D. and Catherine T. MacArthur Foundation; **Pete Sonderskov**, The Ranger Production Company; **Mary Ellen Stanton**, USAID; **Tim Thomas**, MHTF; and **Defa Wane**, Save the Children

MAY 20, 2010: (PUBLIC MEETING) “Improving Transportation and Referral for Maternal Health” with **Víctor Conde Altamirano**, OB/GYN, CARE Bolivia; **John Koku Awoonor-Williams**, east regional director, Ghana Health Service; **Patricia Bailey**, public health specialist, Family Health International and Columbia University; and **Subodh Satyawadi**, chief operating officer, GVK Emergency Management & Research Institute of India

JULY 29, 2010: “The Impact of Maternal Mortality and Morbidity on Economic Development” with **Mayra Buvinic**, sector director, Gender and Development Group, World Bank; **Mary Ellen Stanton**, senior maternal health adviser, USAID; and **Nomonde Xundu**, Health Attaché, Embassy of South Africa in Washington D.C.

SEPTEMBER 08, 2010: “Improving Monitoring, Transparency, and Accountability for Maternal, Newborn, and Child Health” with **Sallie Craig Huber**, global lead for Results Management, Management Sciences for Health; **Marge Koblinsky**, senior technical advisor, John Snow, Inc.; **Ellen Starbird**, deputy director, Office of Population and Reproductive Health, USAID; and **Monique Widyono**, program officer, Gender, Violence, and Rights, PATH

OCTOBER 27, 2010: “New Applications of Existing Communications Technologies” with **David Aylward**, executive director, mHealth Alliance at the UN Foundation; **Alain Labrique**, assistant professor, Johns Hopkins University Bloomberg School of Public Health; and **Josh Nesbit**, executive director, FrontlineSMS: Medic

NOVEMBER 30, 2010: “Expanding Access to Essential Maternal Health Commodities” with **Melodie Holden**, president, Venture Strategies Innovations; **Elizabeth Leahy Madsen**, senior research associate, Population Action International; and **Julia Bunting**, team leader of AIDS and Reproductive Health, Department for International Development (DFID) and coalition chair of the Reproductive Health Supplies Coalition

NOVEMBER 30, 2010 (PRIVATE MEETING): “Expanding Access to Essential Maternal Health Commodities” with **Grace Adeya**, Management Sciences for Health; **Jen Bergeson-Lockwood**, USAID; **Amy Boldosser**, Family Care International; **Julia Bunting**, Department for International Development; **Temple Cooley**, Population Services International; **Jessica Dorney**, United Nations Foundation; **John Francis**, JMF Research Associates; **Elaine Fultz**, JMF Research Associates; **Amy Grossman**, Venture Strategies Innovations; **Carolyn Hart**, John Snow Inc.; **Melodie**

Holden, Venture Strategies Innovations; **Caitlin Horrigan**, Population Action International; **Rima Jolivet**, White Ribbon Alliance; **Bonnie Keith**, PATH; **Elizabeth Leahy Madsen**, PAI; **Melinda McKay**, John Snow Inc.; **Leslie Patykewich**, John Snow Inc.; **Calyn Ostrowski**, WWICS; **Suzy Scher**, John Snow Inc.; **Madeline Taskier**, Women Deliver; **Tim Thomas**, MHTF; **Carolyn Vogel**, PAI; **Defa Wane**, Save the Children; **Rachel Wilson**, PATH

DECEMBER 15, 2010: “Maternal Undernutrition: Implementing Effective Solutions” with **Amy Webb Girard**, assistant professor, Emory University School of Public Health; **Doyin Oluwole**, director of Africa’s Health in 2010, Academy for Educational Development; and **Mary Ellen Stanton**, senior maternal health adviser, USAID

JANUARY 25, 2011: “Reality Check: Challenges and Innovations in Addressing Postpartum Hemorrhage” with **Deborah Armbruster**, senior maternal and newborn health advisor, USAID; **Jennifer Blum**, senior program associate at Gynuity Health Projects; **Blami Dao**, director of Maternal and Newborn Health at Jhpiego; **Farouk Jega**, program manager for Pathfinder International Nigeria; **Paul LaBarre**, technical officer at PATH; **Sudhir Maknikar**, project leader for Pathfinder International India; **Suellen Miller**, director of Safe Motherhood Programs at the Bixby Center for Global Reproductive Health; **Ndola Prata**, medical director at Venture Strategies Innovation; **Shabnam Shahnaz**, senior program associate for Pathfinder International; and **Kathy Solter**, senior fellow at Pathfinder International

APRIL 19, 2011: “Accessing Maternal Health Care Services in Urban Slums: What Do We Know?” with **Luc de Bernis**, senior advisor on maternal health, UNFPA; **Anthony Kolb**, urban health advisor, USAID; **Catherine Kyobutungi**, director of health systems and challenges, African Population Health Research Center; and **John Townsend**, vice president of reproductive health programs for Population Council

JULY 12, 2011 (NAIROBI, KENYA): “Maternal Health Challenges in Kenya: What New Research Evidence Shows” with **Hon. Sofia Abdi**, Kenya National Assembly; **Japheth Achola**, EngenderHealth; **Kjetil Leon Bordvik**, UNFPA; **Lucia Buyanza**, Reproductive Health and Rights Alliance; **Thomas Bwire**, Pamoja Radio FM; **Tony Daly**, Department for International Development; **Domnic Dieto**, Community Member Korogocho; **Hon. Ekwee Ethuro**, Parliamentary Network for Population and Development; **Humpres Evelia**, CSA Kenya; **Alex Ezeh**, APHRC; **Jean Christophe Fotso**, APHRC; **Denis Galava**, Population and Health Research Center; **Carmen Humboldt**, GIZ Nairobi; **Alexander Ilyin**, UNFPA; **James Kimani**, APHRC; **Elizabeth Kimani**, APHRC; **Joyce Kinaro**, Planned Parenthood Federation of Kenya; **James Kinyua**, Kiss/Classic FM Radio; **Hon. Jackson Kiptanui**, Kenya National Assembly; **Catherine Kyobutungi**, APHRC; **Joyce Lavussa**, WHO; **Jennifer Liku**, Family Health International; **Manguya Lusri**, Korogocho Division; **Wanjiku Manguyu**, Center for African Family Studies;

Abraham Marita, FM Radio; **Rosemary Mburu**, KANCO; **Shukri Mohamed**, APHRC; **George Momita**, Kenya Broadcasting Cooperation T.V; **Hon. Dr. Robert Monda**, Kenya National Assembly; **Guendolyn Morgan**, APHRC; **Wanjiru Mukoma**, Liverpool VCT; **Deborah Mupusi**, APHRC; **Alex Murage**, Kenya Broadcasting Cooperation T.V; **Baraka Muvengi Musyoka**, Kijabe District Hospital; **Faith Mutisya**, Level 5 hospital; **Patrick Mutisya**, African Science News Services; **Joseph Mwangi**, Management Sciences for Health; **Albert Mwangi**, APHRC; **Doreen Mwasi**, Koch FM; **Chaacha Mwita**, APHRC; **John Ngirachu**, Daily Nation Newspaper; **Ronald Njoroge**, Xinhua; **Richard Nyami**, Neema Healthcare; **Boaz Otieno Nyunya**, Obstetrician and Gynecology Society; **Albert Obbuyi**, CSA Kenya; **Kayly Ober**, WWICS; **Michael Ochieng**, EngenderHealth; **JPR Ochieng Odero**, Consortium for National Health Research; **Jonathan Odhong**, APHRC; **Victor Okeyo**, World Relief for Disabled People; **Florence A. Olum**, Korogocho Community; **Nyabuto Omanche**, Viwandani Division; **Norah Ondieki**, Kenya News Agency; **Rosemary Muganda Onyando**, PATH; **Michael Oriedo**, Standard Daily Newspaper; **Mumia Osaaji**, University of Nairobi; **Calyn Ostrowski**, WWICS; **Dorothy Otieno**, Standard Daily Newspaper; **Wellington Otieno**, Centre for Research and Technology Development; **Lilian Otiso**, Liverpool VCT Nairobi; **Emily Puckart**, MHTF; **Graham Reid**, APHRC; **Janet Shauri**, PATH; **Kiplangat Sigei**, Ministry of Medical Services; **Marsden Solomon**, Family Health Options Kenya; **Josephine Telewa**, Community Member Viwandani; **Mate Tongola**, Radio Maisha; **Mary Wangai**, Management Sciences for Health; **Charlotte Warren**, Population Council; **Grace Waruiru**, Nairobi Hospital

JULY 12, 2011 (WASHINGTON, DC): “Maternal Health Challenges in Kenya: What New Research Evidence Shows” with **Laurence Ikamari**, director of Population Studies and Research Institute (PSRI); **Catherine Kyobutungi**, director of Health Systems and Challenges at the African Population and Research Center; **Dr. Nahed Matta**, senior maternal and newborn health advisor, USAID; **Geoffrey Mumia Osaaji**, Professor at the University of Nairobi; and **John Townsend**, vice-president of reproductive health programs for Population Council

SEPTEMBER 27, 2011: “Silent Suffering: Maternal Morbidities in Developing Countries” with **Ann Blanc**, director, Maternal Health Task Force; **Karen Beattie**, project director for fistula care, EngenderHealth; **Karen Hardee**, president of Hardee Associates; and **Marge Koblinsky**, senior technical advisor, John Snow, Inc.

OCTOBER 17, 2011 (NAIROBI, KENYA): “Improving Maternal Health: A Conversation with Kenyan Field Workers and Policymakers” with **Batula Hassan Abdi**, UNFPA; **Sam Abutu**, Changamka Microhealth Ltd; **Sandeep Bathala**, WWICS; **Leon Bordvik**, UNFPA; **Lucia Buyanza**, Reproductive Health and Rights Alliance; **Thomas Bwire**, Pamoja Radio FM; **Joyce Chimbi**, African Women and Child Features Services; **Meghna Desai**, CDC; **Carolyne Egesa**,

APHRC; **Remare Ettarh**, APHRC; **Alex Ezeh**, APHRC; **Kennedy Isolio**, OHERS; **Catherine Kamau Amani**, Venture Strategies Innovations; **Richard Karori**, Kenya Association of Maternal and Neonatal Health; **Robinson Karuga**, Family Care International; **Joyce Kinaro**, Planned Parenthood Federation of Kenya; **Christine Kisaka**, D.S.W; **Geoffrey M. Osaaji**, University of Nairobi; **David Mugonyi**, Kenya National Assembly; **Deborah Mupusi**, APHRC; **Julie Murugi**, MDG Centre for East and South Africa; **Grace Muthumbi**, International Medical Corps; **Faith Mutisya**, Level 5 hospital; **Augustine Mutisya**; **Baraka Muvengi Musyoka**, Kijabe District Hospital; **Albert Mwangi**, APHRC; **Sarah Mwangi**, Ghetto Radio; **Chaacha Mwita**, APHRC; **Eulalia Namai**, World Relief for Disabled People; **Meshack Ndolo**, Intrahealth International; **Joyce Nga'nga**, Liverpool VCT; **Richard Nyamai**, Neema Health Care; **Josephine Nyambura**, Health Rights Advocacy Forum; **Sylvia O. Bushuru**, OHERS; **Aisha Mohamed**, Ministry of Public Health; **Faith Mutisya**, Level 5 Hospital; **Albert Obbuyi**, CSA Kenya; **Angela Mutunga**, Family Care International; **JPR Ochieng Odero**, Consortium for National Health Research; **Jonathan Odhong**, APHRC; **Daniel Ogola**, Matibabu Foundation; **Nerea Ojanga**, Midwives Chapter of the National Nurses Association of Kenya; **Fred Okango**, Matibabu Foundation; **Victor Okeyo**, World Relief for Disabled People; **Florence A. Olum**, APHRC; **Maureen Omondi**, FEMNET; **Fredrick Opundo**, African Institute for Health and Development; **Michael Oriedo**, Standard Daily Newspaper; **Calyn Ostrowski**, WWICS; **Wellington Otieno**, Centre for Research and Technology Development; **Lillian Otiso**, Liverpool VCT; **Philomena Owende**, KNH; **Carolne Oyugi**, African Woman and Child Feature Service; **Emily Puckart**, MHTF; **Teresa Saliku**, APHRC; **Mate Tongola**, Radio Maisha; **Caroline Wafula**, Daily Nation; **Aliya Walji**, Jacaranda Health; **Charlotte Warren**, Population Council

OCTOBER 17, 2011 (WASHINGTON, DC): “Improving Maternal Health: A Conversation with Kenyan Field Workers and Policymakers” with **Aisha Mohamed**, Ministry of Public Health, Kenya; **Angela Mutunga** country director, Family Care International Kenya; **Faith Mutisya**, physician; **Fred Okango** health program officer, Matibabu Foundation; and **John Townsend** vice president of reproductive health programs for Population Council

NOVEMBER 15, 2011 (PRIVATE ALL-DAY WORKSHOP): “Engaging Faith-Based Organizations in the Response to Maternal Mortality” with **Kabir Abdullahi**, Nigerian Urban Reproductive Health Initiative; **Angeli Achrekar**, Department of State; **Marie Alford-Harkey**, Religious Institute; **Nabeela Ali**, Pakistan Initiative for Mothers and Newborns; **Jamila AlSharie**, Pathfinder International; **Elidon Bardhi**, Adventist Development Relief Agency, Bangladesh; **Sandeep Bathala**, WWICS; **Mona Bormet**, Christian Connections for International Health; **Sarla Chand**, IMA World Health; **Lisa Cobb**, Johns Hopkins Center for Communications Program; **Jean Duff**, Full Circle Partners; **Hahna Fridirici**, World Faiths Development

Dialogue; **Sonya Funna**, Adventist Development Relief Agency; **Fe Garcia**, World Vision International; **Anny Gaul**, Berkley Center for Peace, Religion and World Affairs; **Samantha Lattof**, Harvard University; **Katherine Marshall**, World Faiths Development Dialogue; **Ray Martin**, Christian Connections International Health; **Henry Mosley**, Johns Hopkins University; **Jacqueline Ogega**, Religions for Peace; **Calyn Ostrowski**, WWICS; **Erika Pearl**, IMA World Health; **Areana Quinones**, Catholic Medical Mission Board; **Rick Santos**, IMA World Health; **Kristin Savard**, White Ribbon Alliance; **Mary Ellen Stanton**, U.S. Agency for International Development; **Tim Thomas**, Maternal Health Task Force; **Sharon Tobing**, Adventist Development Relief Agency; **Rev. Judith VonOsdo**, El Milagro; **Claudia Zambra**, World Faiths Development Dialogue

NOVEMBER 16, 2011 (PUBLIC EVENT): “Engaging Faith Based Organizations in the Response to Maternal Mortality” with **Mallam Kabir Abdullahi**, team leader, Nigerian Urban Reproductive Health Initiative (NURHI); **Nabeela Ali**, chief of party, Pakistan Initiative for Mothers and Newborns (PAIMAN); **Jamila AlSharie**, community mobilizer, Pathfinder International, Yemen; **Elidon Bardhi**, country director, Adventist Development & Relief Agency, (ADRA); and **Katherine Marshall**, executive director, World Faiths Development Dialogue

Notes

- 1 http://www.who.int/topics/maternal_health/en/
- 2 Joy Nayiga, Ministry of Finance, Planning and Economic Development, Uganda, at Women Deliver conference, June 2011
- 3 Sanam Anwar, Oman Medical College, Global Maternal Health Conference, New Delhi, August 2010
- 4 Anil Paranjap, Indian Institute of Health Management, Global Maternal Health Conference, New Delhi, August 2010
- 5 Katie Chau, consultant to International Planned Parenthood Federation, Women Deliver conference, June 2010
- 6 Katie Chau, consultant to International Planned Parenthood Federation, Women Deliver conference, June 2010
- 7 Bene Madunagu, Girls Power Initiative, Nigeria, Women Deliver conference, June 2010
- 8 Sanam Anwar, Oman Medical College, Global Maternal Health Conference, New Delhi, August 2010
- 9 Temin, Miriam and Ruth Levine. 2010. *Start With a Girl: A New Agenda for Global Health*. Washington, DC: Center for Global Development.
- 10 Sadaf Nasim, Rahnuma Family Planning, Women Deliver conference, June 2010
- 11 Mayra Buvinic, sector director of the Gender and Development Group, World Bank, WWICS, July 2010
- 12 Mary Ellen Stanton, senior maternal health advisor, USAID, WWICS, December 2010
- 13 https://centre.icddrb.org/images/jhpn24_4_Household-Costs.pdf
- 14 Nomonde Xundu, health attaché, South African Embassy, Washington DC, WWICS, July 2010
- 15 Nomonde Xundu, health attaché, South African Embassy, Washington DC, WWICS, July 2010
- 16 Mayra Buvinic, sector director of the Gender and Development Group, The World Bank, WWICS, July 2010
- 17 Mayra Buvinic, sector director of the Gender and Development Group, The World Bank, WWICS, July 2010
- 18 Mary Ellen Stanton, senior maternal health advisor, USAID, WWICS, July 2010
- 19 Amy Webb Girard, assistant professor, Emory University SPH, WWICS, January 2011
- 20 Amy Webb Girard, assistant professor, Emory University SPH, WWICS, January 2011
- 21 Doyin Oluwole, director of the Africa's Health in 2010 Program, WWICS, January 2011
- 22 Doyin Oluwole, director of the Africa's Health in 2010 Program, WWICS, January 2011
- 23 Amy Webb Girard, assistant professor, Emory University SPH, WWICS, January 2011

- 24 Amy Webb Girard, assistant professor, Emory University SPH, WWICS, January 2011
- 25 Elidon Bardhi, country director, Adventist Development and Relief Agency, WWICS, November 2011
- 26 Karbir Abdullahi, team leader, Nigerian Urban Reproductive Health Initiative, WWICS, November 2011
- 27 Karbir Abdullahi, team leader, Nigerian Urban Reproductive Health Initiative, WWICS, November 2011
- 28 Nabeela Ali, chief of party, Pakistan Initiative for Mothers and Newborns, WWICS, November 2011
- 29 Jamila Alsharie, community mobilizer, Pathfinder International, WWICS, November 2011
- 30 Jamila Alsharie, community mobilizer, Pathfinder International, WWICS, November 2011
- 31 World Health Organization. 2007. *Everybody's Business: Strengthening Health Systems to Improve Health Outcomes. WHO's Framework For Action*. Geneva: WHO. <http://www.who.int/healthsystems/strategy/en/>
- 32 World Bank. *Safe motherhood and the World Bank: Lessons from 10 years of experience*. Washington, DC: World Bank, 1999.
- 33 <http://www.pphprevention.org/>
- 34 Deborah Armbruster, senior maternal health advisor, U.S. Agency for International Development, WWICS, January 2011
- 35 Shabnam Shahnaz, senior program associate, Pathfinder International Bangladesh, WWICS, January 2011
- 36 Farouk Jega, program manager, Pathfinder International Nigeria, WWICS, January 2011
- 37 Paul LaBerre, technical officer, PATH, WWICS, January 2011
- 38 Sudhir Makinar, project leaders, Pathfinder International India, WWICS, January 2011
- 39 Agnes Soucat, lead advisor health, Nutrition, Population (HNP), Africa Region, The World Bank, WWICS, March 2010
- 40 Calyn Ostrowski, program associate, Woodrow Wilson International Center for Scholars, "Maternal and Newborn Health as a Priority for Strengthening Health Systems." *Centerpoint*. March, 2010.
- 41 Julio Frenk, dean, Harvard School of Public Health (former Minister of Health, Mexico), WWICS, March 2010
- 42 Marge Koblinsky, senior technical advisor, John Snow Inc., WWICS, September 2010
- 43 http://whqlibdoc.who.int/publications/2008/9789241596831_eng.pdf
- 44 Marge Koblinsky, senior technical advisor, John Snow Inc., WWICS, September 2010
- 45 Helen de Pinho, associate director of Averting Maternal Death and Disability, WWICS, March 2010

- 46 http://whqlibdoc.who.int/publications/2008/9789241596831_eng.pdf
- 47 Monique Widyono, program officer, PATH, WWICS, September 2010
- 48 Michelle Moloney-Kitts, assistant coordinator, Office of the U.S. Global AIDS Coordinator, WWICS, December 2009
- 49 Richard Horton, editor of *The Lancet*, <http://www.thelancet.com/journals/lancet/article/PIIS0140-6736%2810%2960547-8/fulltext>
- 50 Claudes Kamenga, senior director of technical support and research utilization, Family Health International, WWICS, December 2009
- 51 UN/WHO PMTCT Model Framework
- 52 Grace Kodindo, assistant professor, Columbia University, WWICS, April 2010
- 53 Sandra Krause, reproductive health program director, Women's Refugee Committee's RH Program, WWICS, May 2010
- 54 Nabila Malick, OB/GYN, Director of Advocacy, Pakistan's Rahnuma Family Planning Association, WWICS, May 2010
- 55 Grace Kodindo, assistant professor, Columbia University, WWICS, May 2010
- 56 Grace Kodindo, assistant professor, Columbia University, WWICS, May 2010
- 57 Julia Bunting, Team Leader of AIDS and RH, DFID; co-chair Reproductive Health Supplies Coalition (RHSC), WWICS, December 2010
- 58 Julia Bunting, Team Leader of AIDS and RH, DFID; co-chair Reproductive Health Supplies Coalition (RHSC), WWICS, December 2010
- 59 Elizabeth Leahy Madsen, senior research associate, Population Action International, WWICS, December 2010
- 60 Karima Tunau, OB/GYN, Usmanu Hospital, Nigeria, WWICS, May 2010
- 61 Karima Tunau, OB/GYN, Usmanu Hospital, Nigeria, WWICS, May 2010
- 62 Melodie Holden, president, Venture Strategies Innovations (VSI), WWICS, November 2010
- 63 Seble Frehywot, assistant research professor, George Washington University, WWICS, January 2010
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**Young woman in
Afghanistan (Photo
courtesy of U.S Embassy
Kabul Afghanistan)**



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