THE HENRY J. KAISER FAMILY FOUNDATION

U.S. GLOBAL HEALTH POLICY

THE U.S. GOVERNMENT'S EFFORTS TO ADDRESS GLOBAL MATERNAL, NEWBORN, AND CHILD HEALTH: The Global Health Initiative and Beyond

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Overview

This is an important moment to assess the U.S. government's role in improving global maternal, newborn, and child health (MNCH). Along with growing international momentum on these issues, the Obama Administration's newly launched Global Health Initiative (GHI) includes a strong focus on MNCH as part of a broader women- and girls-centered approach to global health and development.

Each year, millions of women, children and newborns die from what are largely preventable or treatable causes, and there is growing concern that the world is not on track to reach the eight Millennium Development Goals (MDGs), particularly those for maternal health (MDG 5) and child health (MDG 4). Although global initiatives to address MNCH have been undertaken in the past, these efforts have only recently gained traction on the international agenda (see Figure 1).[1,2] The U.S. government has been engaged in efforts to improve MNCH in developing countries for several decades and is one of the largest global donors to such programs; however, its attention to and funding for MNCH have also only recently begun to move more toward center stage.[3,4,5]

In launching the GHI in May 2009, the Administration set forth a women- and girls-centered approach, including MNCH, and set specific targets for MNCH to be achieved by 2014.[6,7] This emphasis places an increased focus on the health of mothers; child health programs have received most funding and attention in global MNCH efforts historically. The GHI is intended to build on disease-specific initiatives to combat HIV, TB and malaria, while expanding MNCH and other global health efforts, which are slated to receive an increased share of funding over the course of the six-year Initiative. U.S. funding for MNCH has increased in recent years, particularly since the launch of the GHI; the FY 2011 budget request, if appropriated, would represent the steepest annual increase in MNCH funding in recent years and bring total funding for MNCH during the GHI's first three years to almost $2 billion. Beyond the GHI, the Administration has also elevated women's rights, including reproductive rights, within U.S. foreign policy and reiterated its commitment to achieving global targets in this area, including the MDGs and the 1994 Cairo International Conference on Population and Development (ICPD) objectives.[8,9] Importantly, in addition to the Administration's interest in augmenting MNCH, Congress has and continues to show a strong interest in this area.

Figure 1: Key Global Milestones in MNCH+

1982 Child Survival Revolution
Global campaign to address child health, initiated by UNICEF

1987 Safe Motherhood Initiative
International conference sponsored by WHO, UNFPA, and the World Bank marks launch of global campaign to reduce maternal mortality

1988 Global Polio Eradication Initiative
World Health Assembly launches global polio eradication effort, leading to immunization of millions of children and polio eradication in many countries

1994 Cairo International Conference on Population & Development (ICPD)
Defines reproductive health and sets internationally-agreed upon goal to achieve universal access to reproductive health, including maternal health

2000 UN Millennium Development Goals Summit
Eight international development goals agreed to by all nations for 2015, including MDG 4 (reduce child mortality) & MDG 5 (improve maternal health). Universal access to reproductive health added to MDG 5 in 2007

2000 Global Alliance for Vaccines and Immunisation (GAVI)
Global health partnership representing stakeholders in immunization from both private and public sectors, with particular focus on child health

2005 Partnership on Maternal, Newborn, and Child Health
Launched when the world's three leading maternal, newborn and child health alliances joined forces, with WHO serving as Secretariat

June 2010 G-8 Summit
Canada, the G-8 host, is expected to launch new maternal and child health initiative

September 2010 UN MDG Review
Annual review of international progress toward reaching the MDGs by 2015; Joint Maternal and Child Health Action Plan expected

Against this backdrop, there are several other ongoing or near-term international efforts likely to galvanize additional attention to MNCH. These include this year's Group of Eight (G-8) Summit at which the Canadian host government is expected to launch a new maternal and child health donor initiative; the September gathering of all nations at the UN to review progress toward the MDGs, with the expectation that a new joint action plan for accelerating progress on maternal and child health will be released; and increasing global dialogue about whether or not a new multilateral financing vehicle for MNCH is needed.

Given this context and the important role played by the U.S. in global health, this report provides an overview of U.S. global MNCH policy, programs, and funding, including the new emphasis placed on MNCH by the GHI. It also identifies some possible opportunities and issues on MNCH for the U.S. going forward. (For a more general discussion of key issues on the GHI, see the Kaiser Family Foundation, *The U.S. Global Health Initiative: Key Issues*, April 2010.)

Global Status of Efforts to Improve MNCH

Maternal health, as defined by the World Health Organization (WHO), refers to the health of women during pregnancy, childbirth, and in the postpartum period.[10] Child health generally refers to the health of children from birth through adolescence, although the specific age range varies. Newborn health captures the health of babies from birth through the first 28 days of life. These are most often considered in concert since they are integrally related to one another. Maternal health has a large impact on whether a child survives and thrives. When a mother dies, her children are three to ten times as likely to die as well.[2,11] Babies are most vulnerable to health threats during the first 28 days of life, and although in many developing countries children's health remains precarious throughout childhood, the riskiest time is during the first five years of life. (See Appendix A for glossary of key terms and acronyms and Appendix B for the main causes of maternal, newborn, and child mortality.)

FIGURE 2:
PROGRESS TOWARD MDGS 4 & 5+

MDG 4: Reduce Child Mortality
Target: Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate.

MDG 5: Improve Maternal Health
Target 1: Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio.
Target 2: Achieve, by 2015, universal access to reproductive health.

The latest MDG global status report found that countries had made the least progress toward MDG 5, reducing maternal mortality; many were also making little or no progress toward MDG 4. Of the 68 priority countries for maternal, newborn and child health identified by the Countdown to 2015, 50 were evaluated as making either no or insufficient progress toward MDG 4 (reduce child mortality) and having high or very high maternal mortality ratios, the key indicator for MDG 5 (improve maternal health). Only 10 countries had shown good progress toward both MDGs (see Appendix D).

In 2000, world leaders gathered at the United Nations (UN) and adopted the United Nations Millennium Declaration, committing nations to a set of time-bound, international development goals for 2015, designed to tackle some of the world's most pressing challenges—extreme poverty, disease, inequality, hunger, and illiteracy—in the poorest countries.[12] Among the eight MDGs adopted at the summit are two specific to maternal (MDG 5) and child (MDG 4) health, each of which has specific targets (see Figure 2).

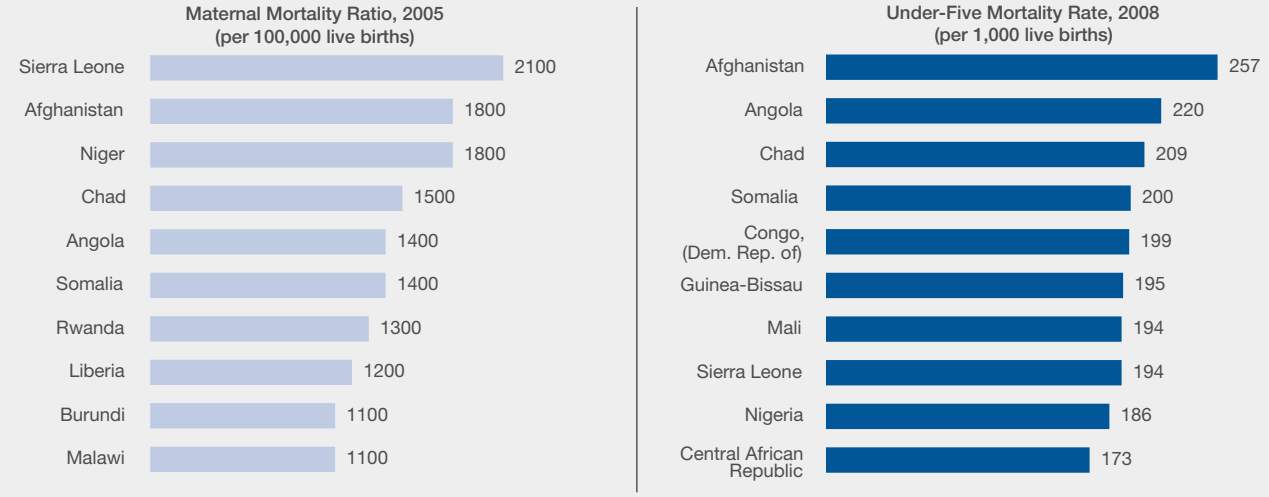
Numerous indicators are used to assess MNCH, including several used to measure progress toward MDGs 4 and 5: maternal mortality ratio, lifetime risk of maternal death, presence of a skilled birth attendant during delivery, neonatal mortality rate, under-five (or child) mortality rate, and the proportion of infants (less than one year old) immunized against measles (see Table 1). Maternal, newborn, infant, and child mortality are often viewed as barometers of overall socioeconomic well-being. For example, maternal mortality is seen as an important measure of whether a health system is well-functioning because of the many facets of the healthcare mechanism that must function smoothly to ensure a safe outcome.[13,14,15,16]

Table 1: Key Maternal, Newborn, and Child Health Indicators[24]

UNICEF Region	Maternal Mortality Ratio, 2005	Lifetime Risk of Maternal Death, 2005	Births with Skilled Birth Attendant, 2003–2008	Neonatal Mortality Rate, 2004	Infant Mortality Rate, 2008	Under-Five Mortality Rate, 2008	Infants Immunized against Measles, 2008
	(deaths/ 100,000 live births)	(1 in:)	(%)	(deaths/ 1,000 live births)	(deaths/ 1,000 live births)	(deaths/ 1,000 live births)	(%)
World	**400**	**92**	**64**	**28**	**45**	**65**	**83**
Sub-Saharan Africa	900	22	46	40	86	144	72
Middle East and North Africa	210	140	76	25	33	43	86
South Asia	500	59	42	41	57	76	74
East Asia and Pacific	150	350	91	18	22	28	91
Latin America and Caribbean	130	280	91	13	19	23	93
CEE/CIS	46	1300	97	16	20	23	96
Industrialized countries	8	8000	–	3	5	6	93
Developing countries	450	76	63	31	49	72	81

Most maternal, newborn and child deaths occur in the developing world, with Sub-Saharan Africa being the hardest hit region, followed by South Asia. An estimated 82% of maternal, newborn, and child deaths take place in sub-Saharan Africa and South Asia, and within these regions, several countries have particularly high rates of maternal and child mortality (see Figure 3).[17] One recent study concluded that in 2008 more than 50% of all maternal deaths occurred in six countries: Afghanistan, the Democratic Republic of the Congo, Ethiopia, India, Nigeria, and Pakistan.[18] Similarly, almost half of under-five child deaths in 2008 occurred in five countries: China, the Democratic Republic of Congo, India, Nigeria, and Pakistan.[19] In addition, a number of countries, especially in sub-Saharan Africa, have made little progress in reducing child mortality with some even seeing reversals in their progress.[13]

FIGURE 3:
Top 10 Countries, Maternal Mortality Ratio and Under-Five Mortality Rate+



Despite these impacts, WHO reports that declines in maternal mortality have occurred in some regions since the 1990s, including East Asia, South-East Asia, Latin America and the Caribbean, and North Africa. Among the shared attributes of these regions are increased use of contraception to delay and limit childbearing; better access to and use of high quality healthcare services; and broader social changes, such as increased education and enhanced status for women.[20] Child mortality rates have also declined substantially in many regions over this same period, including East Asia and the Pacific, Central and Eastern Europe and the Commonwealth of Independent States (CEE/CIS), and Latin America and the Caribbean.[13]

Although many effective interventions and programs exist to help reduce maternal and child mortality (see Appendix C), the latest global progress report on MDGs 4 and 5 indicates that countries are not on track to meet the 2015 goals, with the least progress on MDG 5.[12] Several barriers have stalled global progress. First, funding shortages have resulted in access and coverage limitations for needed services and programs, particularly for maternal health.[21] According to the Partnership for Maternal, Newborn, and Child Health (PMNCH), based on estimates developed by the High Level Task Force on Innovative International Financing for Health Systems, an additional $30 billion in program costs is needed from 2009 through 2015 (i.e., above current global spending, additional annual costs growing from $2.5 billion in 2009 to $5.5 billion in 2015) to achieve global MNCH goals.[17,22] Second, a number of other broader development challenges—such as access to education, economic status, and availability of clean water and sanitation—have been shown to be closely linked to MNCH. Experts generally agree that MNCH programs should be complemented by such efforts if maternal and child mortality rates are to be sustainably reduced. Third, other complex factors affect the health of mothers and children. For example, MNCH is integrally related to and affected by the status of women and children, particularly girls, in a society. Finally, while strengthening health systems and increasing access to services, including through community-based clinics, are critical to improving the health of mothers, newborns, and children, many of the countries with high burdens of maternal and child mortality face critical shortages of health care workers, which may complicate efforts to implement or expand health services. Sub-Saharan Africa, for example, has 3% of the world's health care workers but accounts for 50% of the world's maternal and child deaths.[23]

Figure 4: Key Dates in the U.S. Global MNCH Response[+]

The U.S. Government Response

Over the past five decades, U.S. activities have played an important role in international efforts to improve maternal, newborn, and child health with the scope of U.S. efforts expanding over time (see Figure 4). Initial programs and interventions were focused on the health of children, beginning in the 1960s with child survival research, including pioneering research on oral rehydration therapy (ORT) that was conducted by the U.S. military, USAID, and the National Institutes of Health (NIH). Early U.S. child survival programs included efforts to control malaria and to fortify U.S. international food aid with Vitamin A. In 1985, the U.S. augmented its child survival activities by doubling its investment in these efforts and partnering with UNICEF for a "child survival revolution." The following year, the first U.S. child survival strategy was developed by USAID.[3,4,5,25]

While the health of mothers and newborns was addressed within USAID's child health programs, it was not until 1989 that USAID's strategy was formally expanded to include maternal health and the first U.S. international maternal and newborn health project was launched. In 2001, the agency developed a newborn survival strategy in response to growing concerns that the increased child survival efforts of the previous two decades had largely overlooked newborns' particular health risks and, therefore, failed to reduce newborn mortality.[3,4,5] In 2008, largely in response to congressional interest and direction, USAID developed an integrated five-year strategy to address MNCH, specifying goals and targets for FY 2008–FY 2013.[3,26,27,28] More recently, with the launch of the Obama Administration's Global Health Initiative, these targets have been updated and extended through FY 2014.[7] In addition, the GHI includes an even broader emphasis on the health of women and girls.

Structure, Programs, and Approach

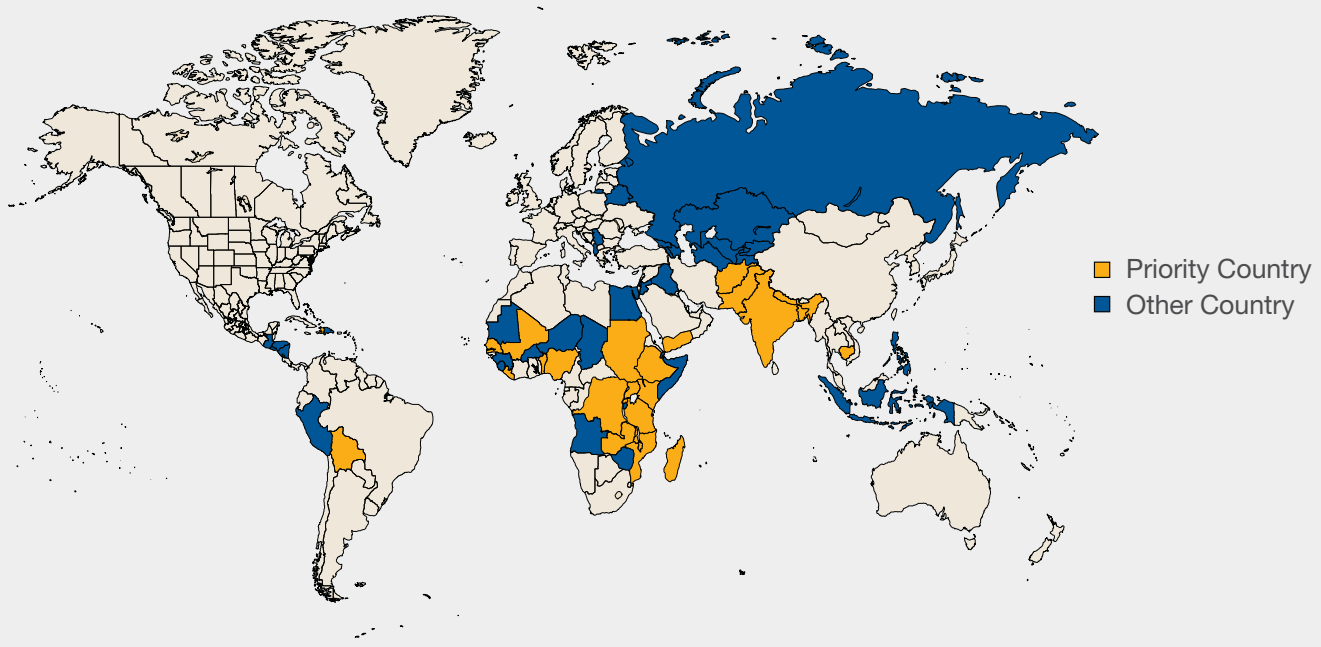
USAID serves as the lead government agency on MNCH efforts, and most funding and programs for MNCH are located at USAID. In addition to USAID, several other U.S. agencies also carry out activities or provide services that address MNCH including the Centers for Disease Control and Prevention (CDC), NIH, and the Peace Corps.[29] Several key U.S. cross-cutting initiatives also play an important role in addressing conditions that affect the health of many women and children, including the President's Emergency Plan for AIDS Relief (PEPFAR), the President's Malaria Initiative (PMI), the U.S. Neglected Tropical Diseases (NTD) Initiative, and the Global Hunger and Food Security Initiative (GHFSI), now called "Feed the Future."[30] In addition to these bilateral efforts, the U.S. also participates in several international organizations that address MNCH. These major efforts are described below.

USAID

USAID operates the bulk of the government's MNCH programs, which are broad in both scope and geographic reach. Its program activities are organized around the following components: maternal health and survival, child health and survival, maternal and child health research, vaccine introduction and new technologies, and polio.[31] Although family planning and reproductive health (FP/RH) is part of the broader USAID MNCH strategy, Congress directs funding to and USAID operates these programs separately.[32]

USAID programs with MNCH components are currently operated in 62 countries.[33,34] Of these, 30 are designated as MNCH "priority countries," which are primarily in Africa and receive the majority of funding (see Figure 5).[3] Priority countries are chosen based on several criteria: need (as reflected by countries' maternal and child mortality rates); the presence of USAID Missions; and the capacity of those Missions and recipient countries to implement MNCH activities. Over time, an increasing share of USAID's funding for MNCH has been concentrated within a smaller number of countries, primarily in Africa. For example, in FY 2008, 24% of MNCH funding was directed to countries in Africa. In the FY 2011 budget request, 37% would go to countries in this region (see Appendix E).[35]

FIGURE 5:
USAID MNCH Priority and Other Country Programs+



USAID's MNCH country programs are often located in countries where other U.S. global health programs operate. For example, most, but not all, countries with USAID MNCH programs also have USAID FP/RH programs; in addition, most have been designated as GHI countries (see Appendix D). USAID countries can also be compared to internationally designated priority countries for MNCH. For example, USAID supports MNCH programs in many of the 68 priority countries designated by the Countdown to 2015, a group of international experts who are monitoring progress toward MDGs 4 and 5, as having the greatest burden of maternal and child mortality.[81] Of the 68 priority countries, a subset of 25 have been further targeted by the "Health 4" (H4)—UNICEF, UNFPA, WHO, and the World Bank—to receive increased resources to address their high rates of maternal mortality; USAID MNCH programs are present in all 25 of these.

USAID's MNCH strategy focuses on developing, introducing, and bringing to scale "high impact interventions" and health systems strengthening (e.g., healthcare workforce, pharmaceutical management, etc.). Programs and interventions are supported through direct and indirect mechanisms, including: USAID field staff working with governments and other on-the-ground partners; financial and technical support provided to countries, facilities, implementing partners, and others who in turn provide direct services and programs; training efforts (e.g., of community health workers, birth attendants); procurement of medications and other supplies; and operational research (see Table 2).

Programs are also aimed at preventing malnutrition among mothers, infants, and children. USAID reports that, in 2008, more than 20 million children benefited from USAID infant and young child nutrition programs.[36] Key efforts in this area include the following:

- Exclusive breastfeeding for children under six months and continued breastfeeding through 24 months;
- Improved feeding practices with an emphasis on diet quality and quantity for young children by promoting consumption of diverse, locally available foods; and
- Introduction of innovative products like home-based or commercially prepared complementary foods, including micronutrient powders and lipid-based nutrient supplements.[37]

USAID also carries out health-related research activities, including playing a key role in vaccine development research and other global health-related research.[38,39,40] Approximately 6–7% of its overall health-related budget supports research and development, including on issues of relevance to MNCH such as HIV/AIDS, FP/RH, infectious diseases, and MNCH, including polio and micronutrients.[40] For MNCH research specifically, USAID obligated approximately $11 million in FY 2006, $9.7 million in FY 2007, $10.3 million in FY 2008, and $13.3 million in FY 2009.[38,41]

<table>
<tr><th colspan="3">Table 2: U.S.-Funded Maternal, Newborn, and Child Health Interventions and Activities[3,4]</th></tr>
<tr><th>Women</th><th>Newborns</th><th>Children</th></tr>
<tr><td>Antenatal care, including aseptic techniques to prevent sepsis</td><td>Essential newborn care</td><td rowspan="3">Prevention, care and treatment of severe childhood diseases, including antibiotics to treat respiratory infections/pneumonia, oral rehydration therapy (ORT) with zinc supplementation for diarrhea, antimalarials for malaria, and promotion of good hygiene behavior</td></tr>
<tr><td>Skilled care at birth, including skilled birth attendants and active management of the third stage of labor</td><td>Postnatal visits</td></tr>
<tr><td>Emergency obstetric care, including postpartum hemorrhage treatment</td><td>Treatment of severe newborn infection</td></tr>
<tr><td>Improved access to reproductive health services and family planning, including contraceptives</td><td colspan="2">Immunizations, including polio eradication and measles control efforts</td></tr>
<tr><td colspan="3">Preventing malaria with insecticide-treated bed nets (ITNs) and intermittent preventive treatment during pregnancy (IPTp)</td></tr>
<tr><td colspan="3">HIV prevention/control, including prevention of mother-to-child transmission (PMTCT) of HIV</td></tr>
<tr><td colspan="3">Improved nutrition/supplementation, including Vitamin A fortification</td></tr>
<tr><td colspan="3">Clean water/sanitation efforts</td></tr>
<tr><td colspan="3">Health systems strengthening
(health workforce, information systems, pharmaceutical management, infrastructure development)</td></tr>
<tr><td colspan="3">Research and development, including basic science research and implementation science</td></tr>
</table>

CDC

Along with those of USAID, CDC's immunization efforts—against polio, measles, and other diseases—have saved the lives of millions of children over the years and prevented lifelong illness that often comes with childhood diseases.[42] CDC has played an important role in confronting challenges to the eradication of polio as a leading partner in the Global Polio Eradication Initiative. CDC also provides significant scientific and technical assistance, working to build capacity in a broad array of MNCH and reproductive health areas, including developing surveillance systems, and conducting worldwide activities that improve the health of women, children, and families.[43,44,45]

CDC, in collaboration with Emory University, serves as a WHO Collaborating Center on reproductive, maternal, perinatal, and child health.[46] The Center aims to build reproductive health capacity and provide technical assistance in ways that ultimately improve reproductive outcomes for mothers and infants around the world. It is also working with the Pan American Health Organization to improve monitoring and surveillance of maternal and neonatal health throughout Latin America.

For FY 2011, the Administration has requested $2 million to begin a new initiative in global integrated MNCH at CDC. Among other things, CDC would use this funding, if appropriated by Congress, to establish an evidence base for integrating U.S. government MNCH programs. According to CDC, it will support country-specific activities, particularly the following:

- Integrating and expanding service delivery programs targeted toward MNCH populations in one country with high burdens of maternal, neonatal, and infant mortality;
- Implementing integrated service delivery programs and building capacity in laboratory, surveillance, and monitoring and evaluation activities, in order to provide a comprehensive package of interventions targeting the pregnancy, delivery, newborn and infancy periods in addition to strengthening the overall health system;
- Providing technical assistance to the Ministry of Health on laboratory diagnostics, surveillance, logistics, and monitoring and evaluation to ensure that these interventions are fully integrated into MNCH programs; and
- Evaluating the impact of an integrated approach to MNCH health services delivery—using a standard package of services—on maternal, infant and early childhood outcomes.[42]

In addition to the funding provided directly to CDC by Congress, a share of CDC's MNCH funding is provided through interagency transfers such as for PMTCT activities through PEPFAR and malaria programs through the PMI.[47]

NIH

NIH leads U.S. global health basic science research and, through implementation science, contributes to advances in field programs by translating recent research into tools appropriate for developing country settings.[48] In addition to offering grant support to leading scientists, NIH also invests in training scientists, including those from developing countries. NIH also engages with other countries through bilateral health agreements, which sometimes include a focus on maternal and child health research.[49]

Among its contributions to the field of MNCH is research demonstrating that an inexpensive drug not typically used in developed countries could be appropriately used in resource poor settings to prevent postpartum hemorrhage, since it did not require cold storage and could be administered by trained nurse-midwives rather than specialized medical personnel.[49]

Most of NIH's Institutes and Offices are engaged in MNCH efforts. The National Institute for Childhood Development (NICHD) carries out much of the global research related to MNCH, including sponsoring research on development, before and after birth; maternal, child, and family health; reproductive biology and population issues; and medical rehabilitation.[50] NICHD's Center for Research for Mothers and Children also hosts the Global Network for Women's and Children's Health Research which includes the National Center for Complementary and Alternative Medicine, the National Institute of Dental and Craniofacial Research, the National Cancer Institute, and the Fogarty International Center.[51,52]

Major U.S. Disease-Specific and Nutrition Initiatives That Address MNCH

Infectious diseases, such as HIV/AIDS, malaria, NTDs, and tuberculosis (TB), and undernutrition cause or contribute to many maternal, newborn, and child deaths each year. As targeted efforts to reduce the impact of these health threats, U.S. global health initiatives such as PEPFAR, PMI, the U.S. NTD Initiative, and Feed the Future each contribute to U.S. efforts to reduce the global burden of maternal, newborn, and child deaths. These initiatives are largely focused on sub-Saharan Africa, where the greatest burdens of these diseases as well as maternal and child mortality exist, but—in the case of PEPFAR and the NTD Initiative—also reach other parts of the world, such as Asia and Latin America and the Caribbean. Although estimates for how much these programs invest in interventions that improve MNCH are not readily available (and such disaggregation is difficult), the activities of these programs often target mothers, newborns, and children and improve their health.

- **PEPFAR**, originally launched in 2003, is the largest effort by any nation focused on a single disease. Its programs aim to address the particular needs of mothers and children in HIV prevention, treatment, and care. PEPFAR's impact on maternal and newborn health has been substantial. For example, PEPFAR reports that during its first six years, it prevented HIV infection in 340,000 babies through its support for a drug that prevents mother-to-child transmission of HIV (PMTCT) during pregnancy and childbirth.[53] PEPFAR's second phase, as specified in PEPFAR's five-year strategy and the GHI, aims to provide increased services to mothers and children and to increase links between PEPFAR programs and MNCH efforts.[54] For example, PEPFAR aims to double the number of at-risk babies born HIV-free and significantly scale up coverage of HIV testing for pregnant women.

- **PMI** programs focus on preventing and treating malaria infections through the use of several tools: insecticide-treated nets (ITNs) for mosquitoes to be used while sleeping, intermittent preventive treatment during pregnancy (IPTp) with a drug that prevents the mother from passing malaria to her child, and indoor residual spraying (IRS) with insecticides. Stressing free provision of ITNs for pregnant women and young children as well as expanded coverage of IPTp, PMI's contributions to MNCH are in the initial stages of being evaluated. However, early data suggests that in 6 of the 15 PMI countries, child mortality dropped by 19-36% between 2003 and 2008, which is attributed at least in part to U.S. malaria support through the PMI and prior U.S. efforts.[55] The U.S. government's recently released six-year global malaria strategy specifies that, as part of the GHI, U.S. global malaria efforts, including PMI activities, will work to ensure that women remain at the center of USG-supported malaria prevention and treatment activities, and will target pregnant women and children under five, the two groups most vulnerable to the effects of malaria.[56] PMI's malaria prevention and control activities are implemented as part of integrated MNCH services.

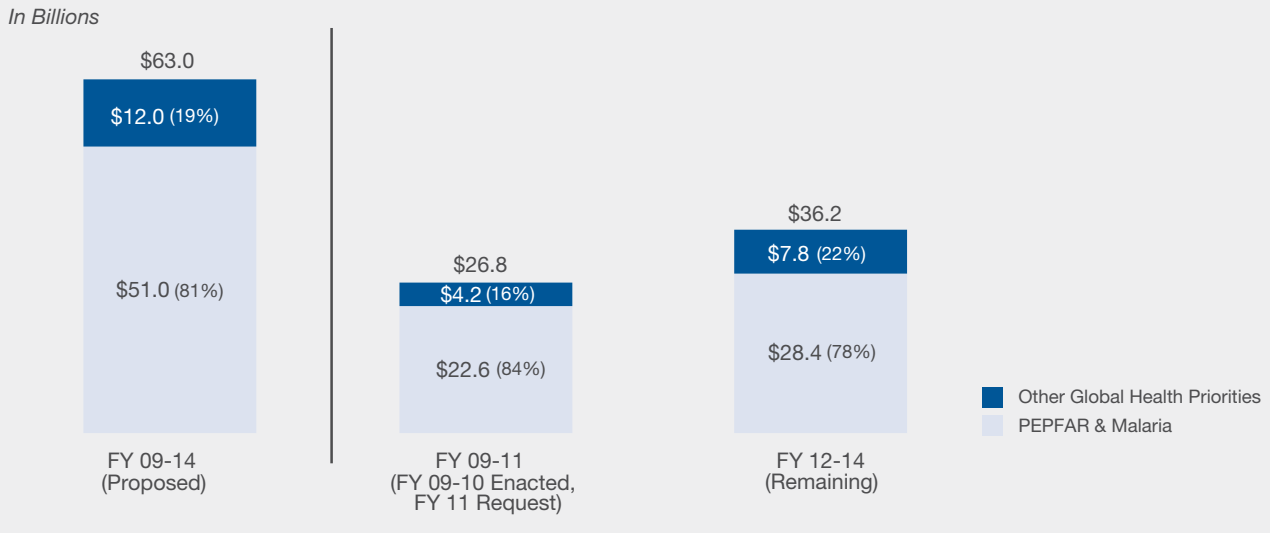
- **The U.S. NTD Initiative** is designed to address seven tropical diseases that are most commonly associated with poverty, poor sanitation, lack of access to clean water, and substandard housing. Pregnant women and children are more vulnerable to these diseases, which can cause serious health problems among these groups including anemia, malnutrition, impaired growth and development, severe disfigurement, and adverse pregnancy outcomes.[57,58] With an emphasis on mass drug administration to address these diseases, the NTD Initiative reports that 50% of the recipients were women.[36]

- **U.S. Tuberculosis Programs** also support interventions that improve the health of mothers and children. Although data about TB's impact on these groups is limited, WHO estimates that 9.6–11% of all TB cases occur among children and that the most commonly affected age group is one to four year olds.[59] TB has been shown to increase the likelihood of poor reproductive health outcomes, including infertility, risk of prematurity, obstetric morbidity, and low birth weight.[60,61] Given increasing global concern about HIV/TB co-infection, which is the result of an immuno-compromised individual's exposure to the other disease in many resource poor areas, and the evidence that maternal mortality is particularly high among HIV-infected pregnant women, TB co-infection may increase the health risks facing such mothers during pregnancy and childbirth. The recently released six-year U.S. global TB strategy indicates that linkages to MNCH programs will be strengthened and includes a focus on reaching vulnerable populations including women and children.[60]
- **Feed the Future (U.S. Global Hunger and Food Security Initiative)** aims to prevent and treat undernutrition in coordination with the GHI (since U.S. funding for "nutrition" is counted in both the GHI and the Feed the Future Initiative) and alongside complementary U.S. international food assistance programs, such as the McGovern-Dole International Food for Education and Child Nutrition Program. Undernutrition weakens the immune system and hinders the effectiveness of medications in both women and children, leading to stunted growth and impeding brain development in children. Nutrition programs supported by the Initiative include research, public health campaigns, the establishment of community health centers, access to micronutrients and fortified foods, and improved health systems. The Initiative was launched in 2009 to help countries improve their agricultural systems, especially through enhanced agricultural productivity and market access, in order to reach MDG 1 (eradicate extreme poverty and hunger).[62]

The U.S. Global Health Initiative[7]

With the launch of the GHI, the U.S. augmented attention to and focus on MNCH, making it a key part of the U.S. global health portfolio within a broader women- and girls-centered framework. While the GHI in large part serves to bring together existing programs in global health, the goals laid out by the GHI indicate a growing share of U.S. funding will be provided to "other global health priorities," which include MNCH, and that MNCH will be increasingly integrated with other global health programs and interventions (see Figure 6). In addition, by emphasizing women and girls, the Obama Administration has placed an increased priority on the health of mothers, which until recently had been less a focus of global MNCH efforts compared to the health of children.

FIGURE 6:
U.S. Government Funding for the GHI, Proposed and Enacted, FY 2009–FY 2014+



Implementing a women-and girls-centered approach is the first core principle of the GHI, and the Administration has identified several general measures for doing so, including supporting systemic long term changes to remove barriers and increase access for women and girls, enhancing monitoring and evaluation of the health of women and girls, improving the training of health providers on gender issues, and involving women and girls in decision-making about program implementation.

In addition to this core principle, the GHI also includes several targets specific to MNCH, which build and expand on those targets identified in USAID's 2008 strategy, as well as targets for FP/RH. These targets generally align with MDGs 4 and 5 (see Table 3) and are for the FY 2009–2014 period (to be measurable in 2015). Other GHI targets are also related to achieving overall MNCH goals, such as the HIV-specific targets of achieving 80% coverage of HIV testing for pregnant women and doubling the number of at-risk babies born HIV-free as well as the nutrition target of reducing child undernutrition by 30%. Among the strategies outlined in the implementation plan that address MNCH are the following:

- expanding information and services for adolescent girls, including FP/RH messages;
- developing and carrying out strategies to address health system weaknesses and bottlenecks that, if continued, would hamper efforts to improve MNCH; and
- innovating to see if new approaches—such as community-based programs that increase understanding of and engagement in MNCH—yield results and, if so, scaling up these interventions.[7]

Table 3. GHI Maternal, Newborn, and Child Health Targets & Corresponding MDGs for 2015

GHI Target[7]	MDG Target[63]
Maternal Health Save approximately 360,000 women's lives by reducing maternal mortality by 30 percent across assisted countries.	**MDG 5: Improve Maternal Health** Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio.
Child Health Save approximately 3 million children's lives, including 1.5 million newborns, by reducing under-five mortality rates by 35% across assisted countries.	**MDG 4: Reduce Child Mortality** Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate.
Family Planning and Reproductive Health Prevent 54 million unintended pregnancies. This will be accomplished by: • reaching a modern contraceptive prevalence rate of 35% across assisted countries, reflecting an average 2 percentage point increase annually, and • reducing to 20% the number of first births by women under 18.	**MDG 5: Improve Maternal Health** Achieve, by 2015, universal access to reproductive health.
Nutrition Reduce child undernutrition by 30% in food-insecure countries in conjunction with the President's Global Food Security Initiative.	**MDG 1: Eradicate Extreme Poverty & Hunger** Halve, between 1990 and 2015, the proportion of people who suffer from hunger, measured in part by the prevalence of underweight children under five years of age
HIV/AIDS Ensure that every partner country with a generalized HIV epidemic has both 80% coverage of testing for pregnant women at the national level, and 85% coverage of antiretroviral drug prophylaxis and treatment, as indicated, of women found to be HIV-infected. Double the number of at-risk babies born HIV-free, from a baseline of 240,000 babies of HIV-positive mothers born HIV-negative during the first five years of PEPFAR.	**MDG 6: Combat HIV/AIDS, Malaria, and Other Diseases**

Participation in International/Multilateral MNCH Programs

While most U.S. government efforts in the area of MNCH are bilateral, the U.S. also participates in several international partnerships and multilateral organizations that help improve maternal and child health, directly and indirectly. U.S. participation ranges from financial contributions (some of which are counted as part of the U.S. MNCH budget), technical assistance, governance, becoming an official party to international agreements and treaties, and other activities. Among the main international bodies that carry out MNCH activities that receive U.S. support are: UNICEF; the Global Alliance for Vaccines and Immunisation (GAVI); the UN Development Fund for Women (UNIFEM); UNFPA; UNAIDS; the Roll Back Malaria (RBM) Partnership; the Global Fund to Fight AIDS, Tuberculosis and Malaria (the Global Fund); and the WHO.

Of these, only U.S. contributions to UNICEF (the main United Nations body that addresses the rights and needs of children including health) and GAVI (a global health partnership designed to accelerate scale up and access to immunizations, with a particular focus on child health and MDG 4) are included as part of the U.S. MNCH budget. Several other international organizations carry out significant MNCH-related activities and are counted in other areas of the U.S. global health budget. For example, U.S. funding for UNFPA (the main United Nations body that addresses reproductive health and safe motherhood efforts) is counted as part of the FP/RH budget. Its funding was only recently restored by the Obama Administration after prior Administrations had withheld funding based on determinations that UNFPA's activities in China violated the Kemp-Kasten amendment, which prohibits funding any organization or program that, as determined by the President, supports coercive abortion or involuntary sterilization.[64,65] U.S. funding for the Global Fund, an international financing organization that supports HIV, TB, and malaria programs, is counted as part of the PEPFAR budget and the U.S. is the Global Fund's largest contributor. While the Global Fund does not focus explicitly on MNCH, many of its programs and activities support MNCH, and its Board has begun exploring whether it should take on a bigger and more explicit role on MDGs 4 and 5.[79,80]

In addition to funding provided to international organizations, the U.S. can also choose to be party to international agreements and treaties that address MNCH. For example, the WHO was created by a treaty to which the U.S. and all other nations are party. There are currently two international treaties that include MNCH components that have not yet been ratified by the U.S: the UN Convention on the Rights of the Child (CRC) and the UN Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW). The U.S. is one of only two nations that has not ratified CRC (with Somalia); it is one of only seven that has not ratified CEDAW (with Sudan, Somalia, Iran, Nauru, Palau, and Tonga). Recent statements by the Obama Administration signal an increased emphasis on multilateralism in global health and development, including in areas that address maternal and child health. Secretary Clinton, for example, has stated support for ratifying CEDAW.[66]

Congress

Congress plays an important oversight and funding role in U.S. global MNCH efforts. In 2008, Congress held a hearing on child survival and mortality, which not only drew attention to areas of success but also to those in need of improvement within U.S. child health programs.[28] During the hearing, Members called for greater coordination, transparency, and accountability within these programs and urged the U.S. government to develop a MNCH strategy. In other hearings, Members have raised questions about the progress of U.S. MNCH efforts and examined the contributions of disease-specific initiatives to MNCH. A number of bills have been introduced over the years to improve MNCH, including several during the 111th Congress. Among those are the Newborn, Child, and Mother Survival Act of 2009 (H.R. 1410); the Global Child Survival Act of 2009 (S.1966); the Global Sexual and Reproductive Health Act of 2010 (H.R. 5121), and the Improvements in Global Maternal and Newborn Health Outcomes While Maximizing Success Act (H.R. 5268).[67]

Several other bills also address MNCH but focus on broader areas of development and global health, such as clean water and sanitation (Senator Paul Simon Water for the World Act of 2009, S. 624 and its companion bill, H.R. 2030); global hunger and nutrition (Global Food Security Act of 2009, H.R. 3077; Roadmap to End Global Hunger and Promote Food Security Act of 2009, H.R. 2817), violence against women (International Violence Against Women Act of 2010, S. 2982), and child marriage (International Protecting Girls by Preventing Child Marriage Act of 2009, H.R. 2103 and its companion bill, S. 987).[68]

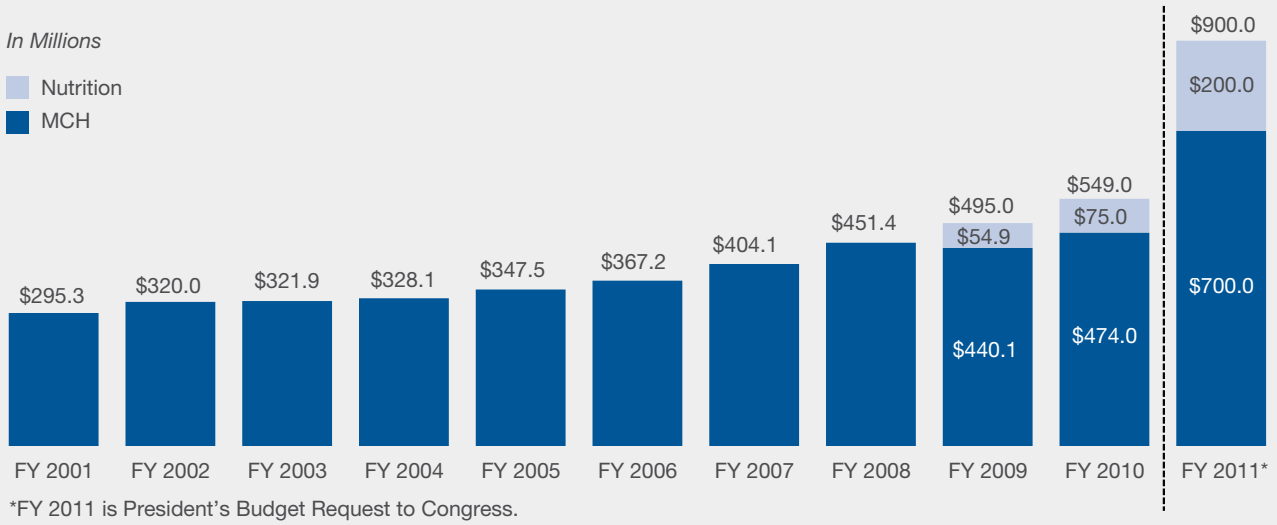
U.S. Funding for MNCH[103]

U.S. funding for MNCH is provided through the "Global Health and Child Survival" (GHCS) account at USAID, other USAID accounts, as well as to accounts at the State Department. The GHI includes only USAID's GHCS account funding for MNCH. Additional funding provided through other accounts is not currently counted as part of the GHI.

MNCH funding through the USAID GHCS account is specified by Congress in annual appropriations bills (other MNCH funding is not). MNCH funding within the GHCS account increased relatively slowly during the prior decade (see Figure 7). It was just under $300 million in FY 2001 and remained below $400 million until FY 2007. Greater increases began as of FY 2008, and by FY 2010, funding for MNCH was $549 million. The FY 2011 budget requests $900 million and, if appropriated, would represent the steepest annual increase in MNCH funding in this period, in part due to a significant increase in funding for nutrition, which Congress and the Administration began counting separately from MNCH starting in FY 2010. The $200 million in nutrition funding is both counted in funding totals for the GHI and Feed the Future. Besides MNCH and nutrition funding that is included as part of the GHI, funding for MNCH from other accounts has totaled approximately $300 million to $400 million per year in recent years. With these other amounts, U.S. funding for MNCH increases from $549 million to a total

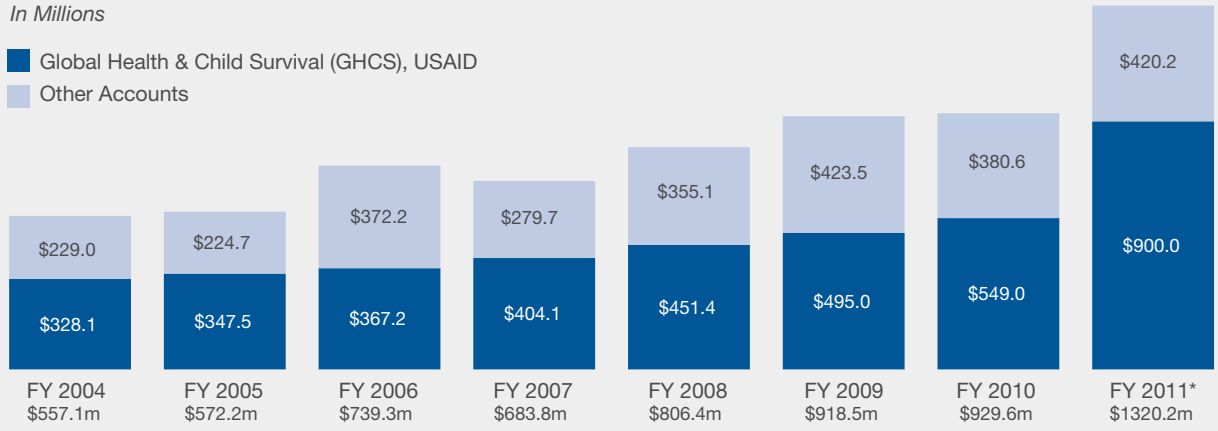
of $929.6 million in FY 2010. The FY 2011 requested amount would reach $1.3 billion altogether (see Figure 8).[69] Despite recent increases, however, designated funding for MNCH (through the GHCS) has not kept pace proportionally with the growth in U.S. global health funding: it has declined from 10% in FY 2004 (of funding for those programs now considered part of the GHI) to 6% of the GHI total in FY 2010, although it represents 9% of the FY 2011 request (see Figure 9).

FIGURE 7:
USAID Funding for Global MNCH/Nutrition within the GHCS Account, FY 2001–FY 2011*+



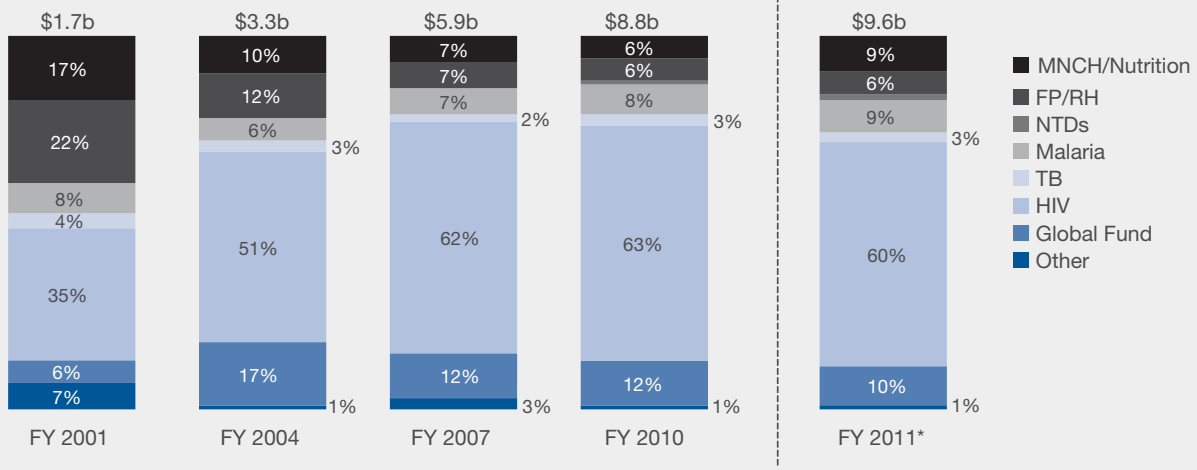
*FY 2011 is President's Budget Request to Congress.

FIGURE 8:
U.S. Government Funding for Global MNCH/Nutrition, FY 2004–FY 2011*+



*FY 2011 is President's Budget Request to Congress.

FIGURE 9:
Distribution of Funding for Programs in the GHI, by Sector, FY 2001–FY 2011*+



*FY 2011 is President's Budget Request to Congress.

Key Policy Issues & Questions

As one of the largest global donors to maternal, newborn, and child health efforts in resource poor settings, the U.S. plays and will continue to play a critical role in MNCH. The GHI and congressional interest in MNCH are likely to boost efforts in this area, as is growing momentum internationally including at some upcoming global events and evaluations of progress. However, the impact of the global economic crisis and budget pressures in the U.S. specifically could affect the level of investment in MNCH.[21] The confluence of these factors presents significant opportunities for the U.S. but also raises questions moving forward. These include the following:

- **Balancing U.S. Funding for MNCH with Other U.S. Global Health Efforts.** It is still not known what the total amount of funding for the GHI will be over the six-year period, especially in light of the financial crisis and budgetary constraints; it is also not known how future GHI funding will be allocated across global health priorities, although the Administration has indicated its desire to increase funding for MNCH and other global health areas. Some rebalancing has already occurred, and to meet the GHI's proposed six-year budget parameters, funding increases for MNCH and these other areas would continue to have to accelerate while increases for disease-specific initiatives, such as PEPFAR, would have to slow. Some have raised questions about the implications of this potential rebalancing for disease-specific programs, particularly PEPFAR, given the integral link between such programs and MNCH. How this balance gets decided to ensure desired health outcomes in all areas of the GHI and the extent to which further rebalancing occurs will be key questions going forward.

- **Integration of MNCH with U.S. Disease-Specific Programs.** As the GHI principles emphasize, the Administration is aiming to prioritize coordination and ensure the efficient use of resources while minimizing duplication. MNCH programs will, in theory, benefit from this integrated approach to global health by implementing GHI principles through activities such as combining similar systems; planning complementary investments and strategies; and leveraging efforts to obtain improved health outcomes for the individual, if not the entire family, through joint activities. An often cited example of this type of integration is between MNCH programs and PEPFAR's global HIV/AIDS programs. By building a strong network of antenatal care facilities and co-locating these efforts with HIV/AIDS programs, the benefits of each program will hopefully flow to not only the targeted women but also their children, their partners, and their broader communities. It is also viewed by U.S. implementers as a way of reaching greater numbers of individuals who may be in need of their services but would have otherwise not visited their specific clinic.[70] Still these programs remain separately funded and structured within the government, and their integration on the ground will likely vary from country to country. Determining the best way to integrate programs and assessing integration will be key areas of focus going forward.

- **The Role of Family Planning/Reproductive Health.** There are particular questions related to the role of FP/RH in MNCH programs. The agreed upon international definition of reproductive health includes family planning and maternal health, and FP/RH is, according to many global health experts, critical to improving maternal health.[71] Still, the issue of international assistance for family planning has been contentious in the U.S. and internationally, largely over the issue of abortion; as such, FP/RH and MNCH continue to be funded separately by Congress and operated distinctly at the agency level. Co-location of MNCH and FP/RH services is now favored by the Obama Administration where culturally and programmatically possible, and some assert that MNCH programs and goals are better served when complemented by FP/RH services.[7,72,73] Where MNCH and FP/RH programs are not fully integrated, for example, a woman may not have access to both kinds of support prior to, during, and after pregnancy. Given these issues and the new emphasis placed on the importance of both MNCH and FP/RH by the Obama Administration (including easing prior restrictions on family planning funding), how these programs are integrated on the ground will be important to assess and likely be the subject of ongoing debate and discussion in Congress and the Administration.

- **The Role of Non-Health Interventions in MNCH.** The health of mothers and children is inextricably linked to complex factors and broader development efforts, including those focused on education, the rights of women, and poverty-reduction. Such efforts have been shown to substantially improve MNCH. Studies suggest that MNCH programs are most effective when coupled with other development efforts that improve health outcomes for mothers and children as well as the rest of their communities. In particular, experts have pointed to education and microfinance programs, especially for women and girls.[74] Globally, child mortality tends to be highest among rural and poor families where mothers lack a basic education.[75] In light of the complex social structures in which MNCH is shaped, key questions include whether and how other non-health investments could be better integrated with MNCH programs to more specifically target the needs of mothers and children, and whether some are particularly suited for this purpose compared to others.

- **Moving from Principle to Practice: A Women- and Girls-Centered Approach.** While there is widespread agreement on the importance of women and girls in global health programs, there are limited models on how to pursue such an approach at the agency or country level. There are also potential challenges that may arise if host countries have policies in place that may inhibit involvement and access by women and girls, and otherwise restrict their rights. In addition, sensitive political divisions remain in the U.S. and elsewhere around some key service areas that are viewed by many as important to addressing the health of women and girls, particularly family planning and access to safe abortion. One key question going forward is how to best implement a women- and girls-centered approach at a country level, including in country plans developed as part of the GHI, and whether there are particular countries best suited for such an approach. It may be also be important to assess whether incentives to do so are needed and what, if any, the U.S. role should be in countries that may have policies that are harmful to women and girls.

- **The U.S. Role in the International Arena on MNCH.** As world leaders gear up for two important global events at which maternal and child health will be discussed, there is increasing attention to the potential role that may be played by the U.S. in keeping a spotlight on women and girls and MNCH, particularly since the Obama Administration has underscored the importance of multilateralism and internationalism. With the G-8 Summit poised to highlight the issue of maternal and child health, for example, there is already public discussion about the scope of a newly proposed maternal and child health initiative, with concerns being raised that the definition originally promulgated by the Canadian government might exclude reproductive health and family planning, including access to safe abortion.[76] Some international advocates, organizations, and governments criticized this approach. Secretary Clinton also stated her view that maternal health includes reproductive health, which in turn encompasses family planning and access to legal, safe abortion.[77] While more recent indications suggest that a G-8 maternal and child health initiative would be designed to allow each G-8 country to decide what to include in its efforts, the scope of the initiative will likely continue to be a focus as will the potential role of the U.S., particularly given U.S. politics, policy, and law concerning international family planning.[78] Beyond the G-8, there are also questions about how the U.S. will choose to engage in international discussions about whether a new multilateral financing mechanism is needed for MNCH, including discussions by the Global Fund about expanding its role in addressing MNCH.[79,80] As the largest donor to and a Board Member of the Global Fund, the U.S. position on this question will be important to assess. Finally, there are questions about whether the U.S. will choose to reconsider becoming a party to CEDAW and CRC, which would require Senate ratification.

Appendix A. Glossary of Key Terms and Acronyms

Terms

Adolescent Health: The health of young people between the ages of 10 and 19 years; a subset of child health.

Asphyxia: The failure to establish breathing at birth.

Child Health: The health of children from birth through adolescence, although the data on child health often refer to those under the age of five.

Child Mortality Rate (CMR): The probability that a child will die before his or her fifth birthday; often reflected in data as the number of deaths of children under five years of age per 1,000 live births in a specific time period, which is also referred to as the Under-Five Mortality Rate (U5MR).

Child Mortality: The death of a child aged 19 years or younger, although most data on child health refers to those under five years of age.

Eclampsia: Very high blood pressure leading to seizures.

Family Planning: The ability of families or persons to anticipate and attain their desired number of children and the spacing and timing of births.

Infant Health: The health of a child from birth through the first year of life.

Infant Mortality Rate (IMR): The probability that a child will die before his or her first birthday; often reflected in data as the number of deaths of children in the first year of life per 1,000 live births in a specific time period.

Lifetime Risk of Maternal Death: The probability of dying from a maternal cause during a woman's reproductive lifespan.

Malnutrition: The result of a lack of nutrients needed by the body for appropriate growth and development and adequate to meet the body's energy demands.

Maternal Health: The health of mothers during pregnancy, childbirth, and in the postpartum period.

Maternal Mortality Ratio (MMR): The probability that a woman will die during pregnancy or within 42 days of pregnancy termination; the number of maternal deaths within 42 days of pregnancy per 100,000 live births in a specific period of time.

Maternal Mortality: The death of a woman from any cause related to pregnancy that occurs during pregnancy or within 42 days of pregnancy termination (e.g., birth, stillbirth, miscarriage, or abortion).

Neonatal Mortality Rate (NMR): The probability that a child will die before he or she is 28 days old; often reflected in data as the number of deaths within the first 28 days of life per 1,000 live births in a specific time period; also the combined number of early and late neonatal deaths of children per 1,000 live births in a specific time period.

Newborn Health: The health of a child from birth through the first 28 days of life.

Postpartum Period: The time from the delivery of the placenta through the first few weeks after the delivery; usually considered to be 6 weeks in duration; after 6 weeks, most of the changes to a woman's body after pregnancy, labor, and delivery have resolved, and the body has reverted to the non-pregnant state.

Reproductive Health: The state of complete physical, mental and social well-being in all matters relating to the reproductive system and to its functions and processes, including family planning and sexual health.

Skilled Birth Attendant: An accredited health professional - such as a midwife, doctor, or nurse - who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth, and the immediate postnatal period, and in the identification, management, and referral of complications in women and newborns.

Undernutrition: The outcome of insufficient food intake and repeated infectious diseases; includes being underweight for one's age, too short for one's age (stunted), dangerously thin for one's height (wasted) and deficient in vitamins and minerals (malnutrition).

Acronyms

CDC: U.S. Centers for Disease Control and Prevention

CEDAW: Convention on the Elimination of All Forms of Discrimination Against Women

CEE/CIS: Central and Eastern Europe and the Commonwealth of Independent States

Countdown to 2015: A collaboration among individuals and institutions established in 2005, the Countdown aims to stimulate country action by tracking coverage for interventions needed to attain MDGs 4 and 5 as well as parts of MDGs 1, 6 and 7.[81]

CRC: Convention on the Rights of the Child

FP/RH: Family planning/reproductive health

G-8: Group of 8; includes the U.S., Canada, France, Germany, Italy, Japan, Russia, and the United Kingdom

GAVI: Global Alliance for Vaccines and Immunisation

GHCS: Global Health and Child Survival; major global health funding account at USAID

GHFSI: U.S. Global Hunger and Food Security Initiative (Feed the Future)

GHI: U.S. Global Health Initiative

Global Fund: Global Fund to Fight AIDS, Tuberculosis, and Malaria

H4: Health 4; includes UNICEF, UNFPA, WHO, and the World Bank

HIV/AIDS: Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome

ICPD: 1994 Cairo International Conference on Population and Development

IPTp: Intermittent preventive treatment during pregnancy

IRS: Indoor residual spraying

ITN: Insecticide-treated net

MDG: Millennium Development Goal

MNCH: Maternal, newborn, and child health

NICHD: National Institute for Childhood Development at NIH

NIH: National Institutes of Health

NTD: Neglected tropical disease

ORT: Oral rehydration therapy

PEPFAR: The U.S. President's Emergency Plan for AIDS Relief

PMI: The U.S. President's Malaria Initiative

PMNCH: Partnership for Maternal, Newborn & Child Health; convened under the auspices of WHO, a group of about 260 organizations, foundations, institutions, and countries that aims to intensify and harmonize national, regional and global action to improve MNCH; the result of a merger in 2005 of three existing partnerships: the Partnership for Safe Motherhood and Newborn Health, the Child Survival Partnership and the Healthy Newborn Partnership.

PMTCT: Prevention of mother-to-child transmission of HIV

PSA: Private Sector Alliances

RBM: Roll Back Malaria Partnership

TB: Tuberculosis

UN: United Nations

UNAIDS: Joint United Nations Programme on HIV/AIDS

UNFPA: United Nations Population Fund

UNICEF: United Nations Children's Fund

UNIFEM: United Nations Development Fund for Women

USAID: U.S. Agency for International Development

USG: U.S. Government

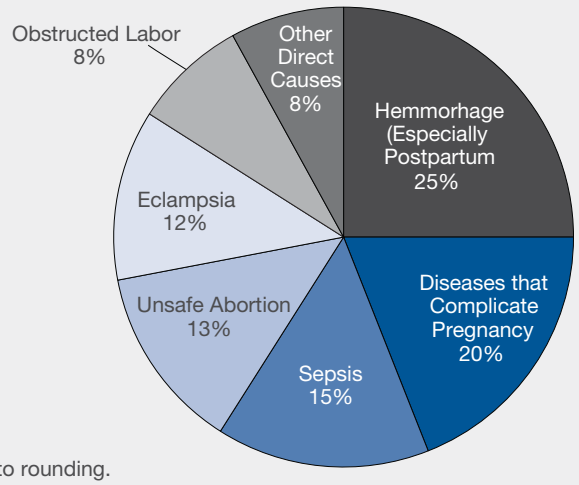
WHO: World Health Organization

Appendix B. Causes of Maternal, Newborn, and Child Mortality

Maternal Mortality

Each year, there are an estimated 342,000 to 500,000 maternal deaths, of which 99% are in developing countries.[17,18] With access to basic maternal health and primary care services, an estimated 80% of these deaths could be averted.[83] Maternal deaths are most often due to so-called direct causes such as severe bleeding, primarily during the postpartum period; sepsis; unsafe abortion; eclampsia; and obstructed labor (see Figure B-1).[2] Sometimes diseases, such as pre-existing conditions or diseases that develop during pregnancy, complicate pregnancy or are made worse by pregnancy. These diseases are indirect causes of a portion of maternal deaths and include, for example, anemia, cardiovascular diseases, HIV/AIDS, and malaria.[2] The lifetime risk of maternal death for many women during their reproductive years is increased by a lack of adequate care during pregnancy as well as high fertility rates; these are often due to a lack of access to contraceptives and other reproductive health services in an area.[24,83,84]

FIGURE B-1:
Causes of Maternal Mortality*+



*Total does not equal 100% due to rounding.

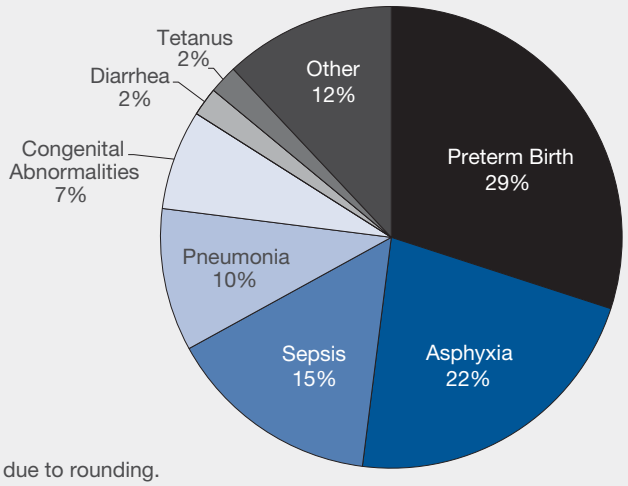
Undernutrition increases the risk of maternal death during childbirth, leading some to attribute 20% of such deaths to undernutrition.[81] Adolescent girls who become pregnant face many risks, and their babies are more likely to be ill, have a low birth weight, or die than those born to older mothers. In developing countries, more adolescent girls die due to complications of pregnancy and childbirth than due to any other cause; their deaths comprise about 15% of global maternal deaths and 26% of those in Africa.[20]

Another 20 million women will suffer long-term infection, illness or disability due to pregnancy, such as obstetric fistula—a devastating injury to the birth canal that leaves a woman with uncontrollable leaking of urine or feces. Particularly in the case of maternal near-misses (where a women nearly dies during pregnancy), women may face long recoveries from severe complications, such as organ failure or uterine rupture. Less is known about these illnesses than maternal mortality due to definitional and recordkeeping problems. According to WHO, a greater understanding of these challenges might contribute to more robust maternal and child health programs.[2]

Newborn Mortality

An estimated 3.6 million newborns die each year, representing approximately 41% of all deaths of children under five years of age and 60% of infant deaths.[19,81,83] This figure alarms many experts and advocates alike, as it shows that newborn deaths are an increasing proportion of under-five deaths. Despite steady declines in overall child mortality rates globally, newborn mortality rates have declined more slowly.[83] Most newborn deaths occur during the first week of life; common causes during this period include premature birth, congenital anomalies, and asphyxia (see Figure B-2). After the first week of life, most deaths are the result of infection including diarrhea, tetanus, pneumonia, and sepsis. A major risk factor for and indirect cause of newborn death is low birth weight, which is often closely tied to maternal health and morbidity.[2,85]

FIGURE B-2:
Causes of Neonatal Maternal Mortality*+



*Total does not equal 100% due to rounding.

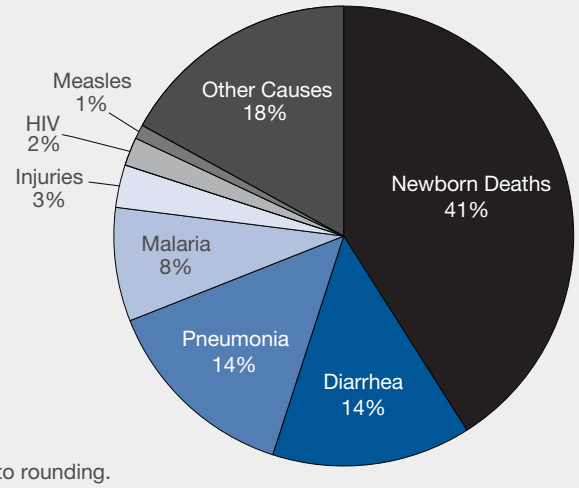
Additionally, up to 3.2 million babies die each year during the last 12 weeks of pregnancy (stillbirths) but are not included in global child mortality figures.[81] Of these, 99% occur in low- and middle-income countries. One of every three stillbirths occurs during birth itself.[86] Experts assert that reducing stillbirths would require more attention to maternal health as well as improved data collection and monitoring of the problem.

Child Mortality

After newborn deaths, so-called childhood diseases (such as diarrhea, pneumonia, malaria, measles, and HIV) along with injuries cause most of the 8.8 million deaths of children under the age of five globally each year (see Figure B-3).[19] Most of these deaths (99%) occur in developing countries where access to the proper interventions may be compromised due to a lack of resources.[87] Many childhood diseases are preventable and/or treatable, and some estimates suggest that two million children die annually from diseases for which vaccines are available.[88] Common vaccine-preventable diseases in children include measles, tetanus, diphtheria, pertussis, and poliomyselitis (polio).

Undernutrition significantly increases children's vulnerability to these conditions, as does the lack of access to clean water and sanitation.[83,89,90] Undernutrition is one of the biggest causes of child mortality and morbidity. More than one-third of deaths in children under five years of age have been attributed to undernutrition as the underlying cause of death, and in developing countries, one-third of children under five are moderately to severely stunted and nearly one quarter are moderately to severely underweight.[24,81] Children born to a malnourished mother or who did not receive proper nutrition during the first two years of life often suffer the most devastating and lifelong damage, such as lower intelligence and reduced physical capacity. This damage may negatively affect the child's ability to contribute to its family and community, perpetuating poverty and increasing the likelihood that the next generation of children will also be malnourished.[91]

FIGURE B-3:
Causes of Child Mortality*+



*Total does not equal 100% due to rounding.

Appendix C. Key Approaches & Interventions

A widely accepted approach to improving MNCH is the comprehensive continuum of care model which emphasizes meeting the needs of women from pre-pregnancy through the postnatal period and in the two years after birth and supports the health of the fetus during pregnancy and the child during the postnatal period and its early years.[92] The phases of the continuum of care model include the following: pre-pregnancy, pregnancy, birth, postnatal/postpartum, infancy, and childhood/maternal health.[93] The model also integrates reproductive health services, given the evidence linking FP/RH services to improved MNCH outcomes.[72,73,94] The definition of reproductive health adopted at the 1994 Cairo ICPD incorporated both family planning and safe motherhood, and the international community reflected this view when it added the target of achieving universal access to reproductive health to MDG 5 in 2007.[71,95]

Maternal Health Interventions

Many causes of maternal mortality—such as eclampsia, hemorrhage, infection, obstructed labor, and unsafe abortion—are preventable or treatable with the use of effective and often relatively inexpensive interventions. Some, such as drugs for postpartum hemorrhage and sepsis, could prevent a third of maternal deaths each year if properly provided, while strengthened primary health care systems might avert up to 20–30% of all maternal deaths.[96] Ensuring mothers are properly nourished and receive adequate care throughout the continuum of care is also key. Other strategies to reduce mortality and morbidity are also important. For example, evidence shows that counseling, information and outreach that target not only the woman but also her husband, other key decision-making family members, and health care providers may help improve maternal health outcomes.[97] Beyond these specific interventions, strengthening health systems overall and improving primary health care services and access to key maternal health interventions are also critical for saving many mothers' lives.[96,98]

Newborn Health Interventions

Newborn deaths may be substantially reduced through increased use of simple, low-cost interventions during birth and the week following it. While many of these tools should be used in the health facility, they may also be used or continued at home. According to UNICEF, these essential interventions include:

- drying the newborn and keeping the baby warm;
- initiating breastfeeding as soon as possible after delivery and supporting the mother to breastfeed exclusively;
- providing special care to low-birth weight infants; and
- diagnosing and treating newborn problems like asphyxia and sepsis.[99]

Ideally, these interventions would be coupled with the assistance of a skilled birth attendant during this time in a newborn's life, especially in light of the many newborn deaths that occur at home. Experts believe that a 70% reduction in the newborn mortality rate would occur if these interventions were brought to scale, which would mean reaching over 90% coverage in health facilities and in the community.[99] Other key interventions include vaccinating newborns against measles, tetanus, and other vaccine-preventable diseases.

Addressing maternal health is also an important part of reducing newborn deaths. In light of the approximately 13 million premature babies born worldwide every year, increased coverage of antenatal care visits provides an opportunity to monitor not only the health of the fetus before birth but also that of the mother.[100] If mothers were properly nourished and received adequate care throughout the continuum of care, some suggest that nearly three quarters of all newborn deaths could be averted.[2]

Child Health Interventions

Effective interventions, such as immunizations, ORT, and ITNs, have led to significant reductions in child mortality over the last two decades when scaled-up.[12] Some have suggested that an increased focus on preventing and treating malnutrition is essential to breaking the cycle of poverty and ill health. Child survival and future health and well-being are increasingly linked with early childhood development: 200 million children worldwide fail to reach their full potential because of malnutrition, micronutrient deficiency, and lack of stimulation during early childhood.[45]

Appendix D. Key U.S. and Global MNCH Efforts by Country[3,33,34,81,101,102,103]

Countries and territories	U.S. Government Efforts				Internationally Designated MNCH Priority Countries	
	GHI	MNCH	FP/RH	Other Health Related USG Initiatives	Countdown to 2015	H4 Priority Countries
World	**73**	**62**	**52**	**230**	**68**	**25**
Sub-Saharan Africa	**31**	**26**	**20**	**123**	**40**	**18**
Eastern and Southern Africa	**18**	**13**	**12**	**66**	**18**	**9**
Angola	X	X	X	3	X	
Botswana	X			1	X	
Burundi	X	X		3	X	
Eritrea				0	On Track – MDG 4	
Ethiopia	X	Priority	Priority	6	X	Priority
Kenya	X	Priority	Priority	6	X	Priority
Lesotho	X			1	X	
Madagascar	X	Priority	Priority	5	X	
Malawi	X	Priority	Priority	4	X	Priority
Mozambique	X	Priority	Priority	6	X	Priority
Namibia	X			2		
Rwanda	X	Priority	Priority	4	X	Priority
Somalia	X	X		2	X	
South Africa	X		X	2	X	
Swaziland	X			1	X	
Tanzania (United Rep. of)	X	Priority	Priority	6	X	Priority
Uganda	X	Priority	Priority	6	X	Priority
Zambia	X	Priority	Priority	6	X	Priority
Zimbabwe	X	X	X	2	X	Priority
West and Central Africa	**13**	**13**	**8**	**57**	**22**	**9**
Benin	X	Priority	X	3	X	Priority
Burkina Faso	X	X		3	X	Priority
Cameroon	X			2	X	
Central African Republic				0	X	
Chad		X		0	X	
Congo				0	X	
Congo (Dem. Republic of)	X	Priority	Priority	7	X	Priority
Côte d'Ivoire	X			1	X	
Equatorial Guinea				0	X	
Gabon				1	X	
Gambia				1	X	
Ghana	X	Priority	Priority	6	X	Priority
Guinea	X	X	X	2	X	
Guinea-Bissau				0	X	
Liberia	X	Priority	Priority	6	X	Priority
Mali	X	Priority	Priority	6	X	Priority
Mauritania		X		1	X	
Niger	X	X		3	X	Priority
Nigeria	X	Priority	Priority	6	X	Priority
Senegal	X	Priority	Priority	6	X	
Sierra Leone	X	X		2	X	Priority
Togo				1	X	
Middle East and North Africa	**3**	**7**	**5**	**18**	**6**	**0**
Djibouti	X	X		3	X	
Egypt		X	X	1	On Track – Both	
Iraq		X	X	1	X	
Jordan		X	X	2		
Morocco				1	On Track – Both	
Sudan	X	Priority	Priority	7	X	
West Bank and Gaza		X		1		
Yemen	X	X	Priority	2	X	

Countries and territories	U.S. Government Efforts				Internationally Designated MNCH Priority Countries	
	GHI	MNCH	FP/RH	Other Health Related USG Initiatives	Countdown to 2015	H4 Priority Countries
Asia	**15**	**9**	**8**	**44**	**13**	**6**
South Asia	**5**	**5**	**5**	**26**	**5**	**5**
Afghanistan	X	Priority	Priority	5	X	Priority
Bangladesh	X	Priority	Priority	6	On Track – MDG 4	Priority
India	X	Priority	Priority	6	X	Priority
Nepal	X	Priority	Priority	4	On Track – MDG 4	Priority
Pakistan	X	Priority	Priority	5	X	Priority
East Asia and Pacific	**10**	**4**	**3**	**18**	**8**	**1**
Cambodia	X	Priority	X	4	X	Priority
China	X			1	On Track – Both	
Indonesia	X	Priority		4	On Track – MDG 4	
Korea (Dem. Peo. Rep. of)				0	X	
Lao People's Democratic Rep.	X			1	On Track – MDG 4	
Myanmar	X			1	X	
Papua New Guinea	X			1	X	
Philippines	X	Priority	Priority	3	On Track – Both	
Thailand	X			1		
Timor-Leste	X	X	X	1		
Viet Nam	X			1		
Latin America and Caribbean	**14**	**8**	**8**	**23**	**6**	**1**
Barbados	X			1		
Belize	X			1		
Bolivia	X	Priority	X	1	On Track – Both	
Brazil	X			2	On Track – Both	
Dominican Republic	X	X		2		
El Salvador	X	X	X	1		
Guatemala	X	Priority	X	2	On Track – Both	
Guyana	X			1		
Haiti	X	Priority	Priority	5	On Track – MDG 4	Priority
Honduras	X	X	X	1		
Jamaica	X			1		
Mexico	X			2	On Track – Both	
Nicaragua	X	X	X	1		
Paraguay			X	0		
Peru	X	X	X	2	On Track - Both	
CEE/CIS	**10**	**11**	**11**	**22**	**3**	**0**
Albania		X	X	1		
Armenia	X	X	X	2		
Azerbaijan	X	Priority	X	1	On Track – MDG 5	
Belarus		X		1		
Georgia	X	X	X	3		
Kazakhstan	X	X	X	2		
Kyrgyzstan	X	X	X	2		
Russian Federation	X	X	X	2		
Tajikistan	X	Priority	X	2	On Track – MDG 5	
Turkmenistan	X	X	X	2	On Track – Both	
Ukraine	X		X	2		
Uzbekistan	X	X	X	2		

Note: Countries are grouped regionally by UNICEF regions. Any countries not marked as "On Track" are "Off Track," meaning they have shown insufficient or no progress.

Appendix E: U.S. Funding for MNCH/Nutrition by Country & Region, FY 2008 & FY 2011 (in thousands)[3,34,104]

Country or Region	FY 2008 Enacted	FY 2011 Requested
TOTAL	**$826,476**	**$1,348,119**
Africa	**$199,868**	**$503,291**
Angola	$1,339	$1,350
Benin	$4,396	$4,900
Burkina Faso	$289	$2,000
Burundi	$4,549	$13,660
Chad	$2,211	$3,000
Democratic Republic of Congo	$13,073	$23,800
Djibouti	$248	$150
Ethiopia	$14,211	$51,000
Ghana	$7,892	$27,000
Guinea	$4,246	$2,500
Kenya	$6,757	$20,000
Liberia	$6,863	$12,250
Madagascar	$8,466	$12,924
Malawi	$8,759	$26,900
Mali	$7,177	$29,000
Mauritania	$3,970	$2,000
Mozambique	$13,561	$39,000
Niger	$4,256	$6,500
Nigeria	$16,450	$37,000
Rwanda	$4,879	$17,000
Senegal	$6,878	$16,500
Sierra Leone	$3,905	$6,000
Somalia	$1,248	$1,550
Sudan	$13,399	$33,573
Tanzania	$5,693	$33,000
Uganda	$14,498	$41,500
Zambia	$7,435	$21,000
Zimbabwe	$0	$3,000
Africa Regional Bureau	$10,740	$10,904
East Africa Regional Mission	$1,488	$2,400
West Africa Regional Mission	$992	$1,930
Europe and Eurasia	**$15,745**	**$9,121**
Albania	$524	$1,320
Armenia	$2,343	$1,990
Azerbaijan	$744	$1,298
Georgia	$6,667	$3,500
Kosovo	$1,040	$0
Russia	$2,042	$951
Eurasia Regional	$382	$37
Europe Regional	$22	$25
Ukraine	$1,981	$0

Country or Region	FY 2008 Enacted	FY 2011 Requested
TOTAL (continued)	**$826,476**	**$1,348,119**
Asia and the Middle East	**$262,999**	**$419,866**
Asia Middle East Regional	$2,182	$2,550
East Asia and Pacific	***$26,665***	***$32,520***
Cambodia	$8,555	$12,000
Indonesia	$13,051	$15,500
Philippines	$3,989	$3,020
Timor-Leste	$1,070	$2,000
Near East	***$29,703***	***$48,700***
Egypt	$3,156	$6,000
Iraq	$0	$7,700
Jordan	$20,864	$13,000
Yemen	$2,883	$12,000
West Bank and Gaza	$2,800	$10,000
South and Central Asia	***$204,449***	***$336,096***
Afghanistan	$74,074	$119,914
Bangladesh	$31,292	$58,500
India	$28,462	$37,000
Kazakhstan	$250	$400
Nepal	$7,431	$24,000
Pakistan	$60,906	$92,103
Tajikistan	$1,244	$2,292
Kyrgyz Republic	$300	$1,043
Turkmenistan	$200	$379
Uzbekistan	$290	$465
Western Hemisphere	**$79,992**	**$90,115**
Bolivia	$10,307	$6,010
Dominican Republic	$2,119	$2,000
Ecuador	$2,000	$0
El Salvador	$3,859	$2,000
Guatemala	$13,695	$25,800
Haiti	$24,358	$43,591
Honduras	$8,615	$2,500
Nicaragua	$7,052	$2,200
Peru	$5,760	$3,414
Latin America and the Caribbean Regional	$2,227	$2,600
Global Health	**$66,021**	**$67,326**
Global Health – Int'l Partnerships	**$73,896**	**$128,000**
of which, GAVI	*$71,913*	*$90,000*
IDD/FY08: of which; FY11: separate	*$1,983*	**$2,000**
UNICEF UN Children's Fund	**$127,955**	**$128,000**
USAID Office of Development Partners/Private Sector Alliances (PSA)	**$0**	**$400**

Note: Countries are grouped as reported by the U.S. government.

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