Women on the Front Lines of Health Care

State of the World's Mothers 2010

Save the Children

Save the Children

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Save the Children EVERY ONE

Save the Children Every One

We are fighting to give millions more children a chance at life. Our goal is to see the achievement of Millennium Development Goal 4, so that 5 million fewer children die every year. Every child has the right to survive. EVERY ONE.

Front cover

Front cover: In Malawi, a community health worker named Madalitso visits the home of a mother and her 5-day-old baby, Shanil. Madalitso takes the baby's temperature, checks on the health of the mother, and gives advice about breastfeeding and care for her newborn. *Photo by Michael Bisceglie*

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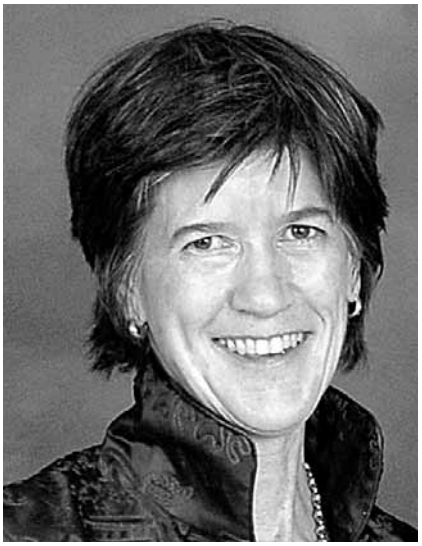
Women on the Front Lines of Health Care

In commemoration of Mother's Day, Save the Children is publishing its eleventh annual *State of the World's Mothers* report. The focus is on the critical shortage of health workers in the developing world and the urgent need for more female health workers to save the lives of mothers, newborn babies and young children. Every year, 50 million women in the developing world give birth with no professional help and 8.8 million children and newborns die from easily preventable or treatable causes. This report identifies countries that have invested in training and deploying more female health workers and shows how these women are delivering lifesaving health care to some of the poorest and hardest-to-reach mothers and babies. It identifies strategies and approaches that are succeeding in the fight to save lives, and shows that effective solutions to this challenge are affordable – even in the world's poorest countries.

Foreword



Bridget Lynch
President
International Confederation of Midwives

It is appropriate and compelling that the launch of this report on May 5 coincides with the annual International Day of the Midwife. Women are the main providers of care within the family and in communities and health facilities. In both the formal and informal health system, midwives working alongside other female health providers in the community have the greatest potential to improve the reproductive health of women and save the lives of mothers and babies in the developing world.

The global community made a commitment in 2000 to "create an environment – at the national and global levels alike – which is conducive to development and to the elimination of poverty." This commitment led to agreement on eight Millennium Development Goals. Central among those goals are MDGs 4 and 5, which aim to improve women's reproductive health and reduce maternal and child mortality. Achieving these goals will not only save the lives of millions of women, newborns and children, but also contribute to achieving the other goals related to health, education, equity and poverty reduction. Yet most countries are not on track to meet MDGs 4 and 5, which call for reducing maternal mortality by three-quarters and child mortality by two-thirds between 1990 and 2015. Urgent global action and support is needed for those countries to get on track in the coming five years.

We know what is needed to save lives. Proven, cost-effective interventions, delivered through a continuum-of-care approach, can prevent millions of needless deaths and disabilities. With a continuum of care approach, women, their newborns and children have access to essential health services – from pregnancy, through delivery and the postnatal period and continuing through childhood. During this continuum, the risk of death for mothers and infants is highest during and immediately after childbirth. The continuum of care approach also calls for care that is provided in an integrated continuum from the home, to the community, health center and hospital.

The current shortage of 4.3 million health workers (which includes a shortage of 350,000 midwives) is a significant barrier to delivering those interventions which can prevent maternal, newborn and child deaths. As this report points out, insufficient numbers of qualified health workers, their inequitable distribution and poor working conditions all contribute to leaving women and children who are most in need without access to even the most basic care.

The International Confederation of Midwives is committed to strengthening midwifery around the globe. A midwife is recognized as a responsible and accountable professional who works in partnership with women to provide the necessary support, care and advice during pregnancy, labor and the postpartum period, to conduct births and to provide care for the newborn and the infant. This care includes preventive measures, the promotion of normal birth, the detection of complications in mother and child, the carrying out of emergency measures and the accessing of medical care or other appropriate assistance when necessary. A midwife may practice in any setting, including the home, community, hospitals, clinics or health units. The midwife also has an important task in health counseling and education and family planning, not only for the woman, but also within the family and the community.

In this timely report, Save the Children compares the well-being of mothers and children in different countries around the world. It is also focusing on a key aspect of sustainable health systems, the female workforce, which is essential to the provision of high quality health care at the community level.

The challenge before us is clear. More investment is needed in the appropriate training, regulation and equitable deployment and support of midwives and other female health providers, so that mothers, newborns and children in the developing world have access to comprehensive, cost-effective, lifesaving services. If we want to achieve the MDGs, the time for that investment is now!

Introduction

Every year, our *State of the World's Mothers* report reminds us of the inextricable link between the well-being of mothers and their children. More than 90 years of experience on the ground have shown us that when mothers have health care, education and economic opportunity, both they and their children have the best chance to survive and thrive.

But many are not so fortunate. Every year, nearly 350,000 women die during pregnancy or childbirth, and nearly 9 million children die before reaching their fifth birthday. Almost all these deaths occur in developing countries where mothers, children and newborns lack access to basic health care services. While child mortality rates in the developing world have declined in recent decades, it is of no solace to the 24,000 mothers who must mourn the loss of a child each and every day. This is especially tragic since most of these deaths could be prevented at a modest cost.

This year's report looks at how female health workers in developing countries are helping to save the lives of mothers, newborns and young children. It highlights women-to-women approaches that are working to bring essential health care to the hard-to-reach places where most deaths occur. It also shows how millions more lives each year can be saved if governments invest in these proven solutions.

Save the Children is working on four fronts as part of our global newborn and child survival campaign:

First, Save the Children is increasing awareness of the challenges and solutions to maternal, newborn and child survival. As part of our campaign, this report calls attention to areas where greater investments are needed and shows that effective strategies are working, even in some of the poorest places on earth.

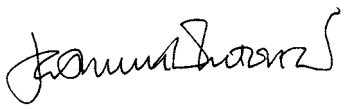
Second, Save the Children is encouraging action by mobilizing citizens around the world to support programs to reduce maternal, newborn and child mortality, and to advocate for increased leadership, commitment and funding for programs we know work.

Third, we are making a major difference on the ground. Save the Children works in partnership with national health ministries and local organizations to deliver high quality health services throughout the developing world. Working together to improve pregnancy and delivery care, vaccinate children, treat diarrhea, pneumonia and malaria, as well as to improve children's nutrition, we have saved millions of children's lives. The tragedy is that so many more could be saved, if only more resources were available to ensure that these lifesaving programs reach all those who need them.

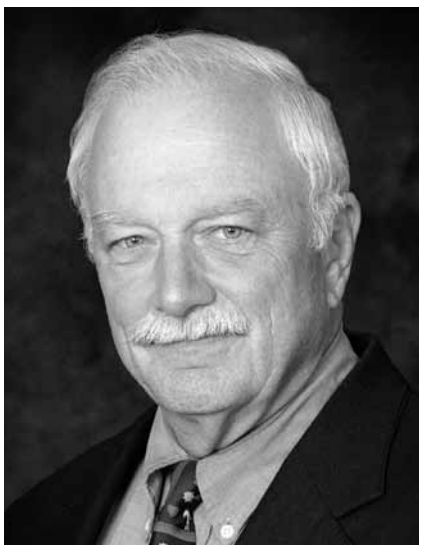
Fourth, within our programs that deliver services, we are leading the way in research about what works best to save the lives of babies in the first month of life, who account for over 40 percent of deaths among children under age 5. Our groundbreaking *Saving Newborn Lives* program, launched in 2000 with a grant from the Bill & Melinda Gates Foundation, has identified better care practices and improved interventions to save newborn lives. The benefits of these efforts have reached over 30 million women and babies in 18 countries and are being extended to new mothers in additional countries now, ensuring that even more babies receive needed care, especially during the critical first week of life.

We count on the world's leaders to take stock of how mothers and children are faring in every country. Investing in this most basic partnership of all – between a mother and her child – is the first and best step in ensuring healthy children, prosperous families and strong communities.

Every one of us has a role to play. Please read the *Take Action* section of this report, and visit our website on a regular basis to find out what you can do to make a difference.



Jasmine Whitbread
Chief Executive Officer
Save the Children



Charles F. MacCormack
President and CEO
Save the Children USA

Executive Summary

The most dangerous time in a child's life is during birth and shortly thereafter. Newborn babies – those in their first four weeks of life – account for over 40 percent of deaths among children under age 5. Childbirth is also a very risky time for mothers in the developing world, around 50 million of whom give birth each year at home with no professional help whatsoever.

If we want to solve the interconnected problems of maternal and newborn mortality, we must do a better job of reaching these mothers and babies with skilled care during pregnancy, childbirth, and the minutes, days and weeks following birth. For a variety of reasons, in many parts of the world, pregnant women and young children will not receive lifesaving health care unless there is a female health worker nearby to provide it.

This year's *State of the World's Mothers* report examines the many ways women working on the front lines of health care are helping to save the lives of mothers, newborns and young children. It shows how investments in training and deploying female health workers have paid off in term of lives saved and illnesses averted, and it points to low-cost, low-tech solutions that could save millions more lives, if only they were more widely available and used.

KEY FINDINGS

1. An alarming number of countries cannot provide the most basic health care that would save mothers' and children's lives. Developing countries have too few health care workers to take on the life or death challenges facing mothers, their babies and young children. Worldwide, there are 57 countries with critical health workforce shortages, meaning that they have fewer than 23 doctors, nurses and midwives per 10,000 people. Thirty-six of these countries are in sub-Saharan Africa. In addition to insufficient numbers, health workers are often poorly distributed, with the impoverished, hard-to-reach and marginalized families being most poorly served. *(To read more, turn to pages 10-11.)*

2. Female health workers have an especially critical role to play in saving the lives of women, newborns and young children. Evidence from many developing countries indicates that investments in training and deploying midwives and other female health workers can make the difference between success and failure in the fight to save lives. Social or cultural barriers often prevent women from visiting male health providers even when they know they – or their children – are ill and need help. Especially in rural areas, husbands and elder family members often decide whether a woman may go for health care outside the home, and may deny permission if the health worker is a man. And for health concerns that are uniquely female – those related to reproductive or sexual issues, pregnancy, childbirth and breastfeeding – it is common for a woman to prefer a female caregiver. When women report greater comfort and higher satisfaction with the care they receive from other women, they are more likely to use professional services, and to seek help before treatable conditions become life-threatening to themselves and their young children. *(To read more, turn to pages 12-15.)*

3. Relatively modest investments in female health workers can have a measurable impact on survival rates in isolated rural communities. It costs a lot of money to train a doctor or operate a hospital. But in developing countries, lifesaving health services can often be delivered cost-effectively by community health workers, when given appropriate training and support. Women with a few years of formal schooling can master the skills needed to diagnose and treat common early childhood illnesses, mobilize demand for vaccinations, and promote improved nutrition, safe motherhood and essential newborn care. These community health workers are most effective when they are rooted

Every year…

…8.8 million children die before reaching age 5.

…343,000 women lose their lives due to pregnancy or childbirth complications.

Did you know?

…41 percent of these child deaths occur among newborn babies in the first month of life.

…99 percent of child and maternal deaths occur in developing countries where mothers and children lack access to basic health-care services.

…250,000 women's lives and 5.5 million children's lives could be saved each year if all women and children had access to a full package of essential health care.

…57 countries have "critical shortages" of health workers – 36 of them in Africa.

◀ Liberia

Afghanistan

in the communities they serve and easily accessible to the mothers and children who need their help most. In one recent study in Bangladesh, female community health workers with limited formal education and 6 weeks of hands-on training contributed to a newborn mortality reduction of 34 percent. *(To read more, turn to pages 17-29.)*

4. The most effective health care often begins at home, or very close to home. Dozens of studies in remote parts of the world have shown ways to harness the power of women-to-women relationships to improve health outcomes for mothers and children. In rural Ethiopia, Malawi, Mali and Senegal, grandmothers have been educated about better ways to care for newborn babies. And in remote areas of Nepal, India and Bolivia, groups of women have been brought together to solve shared problems related to pregnancy, childbirth and newborn care. Improvements as a result of these efforts have included increases in prenatal care, skilled birth attendance, exclusive breastfeeding and reductions in newborn mortality up to 45 percent. *(To read more, turn to pages 14-15 and 18-29.)*

5. Countries that train and deploy more front-line female health workers have seen dramatic declines in maternal, newborn and child mortality. Bangladesh has reduced its under-5 mortality rate by 64 percent since 1990 with the help of tens of thousands of female health workers who have promoted family planning, safe motherhood and essential care for newborn babies. Indonesia cut its maternal mortality rate by 42 percent during that same period, thanks in part to its "midwife in every village" program. Nepal has achieved similar reductions in maternal and child mortality as result of training 50,000 female community health volunteers to serve rural areas. Pakistan's Lady Health Workers succeeded in immunizing 11 million women against tetanus infection during childbirth, cutting newborn tetanus deaths in half. And Ethiopia is already seeing results from its relatively new national plan to deploy female health extension workers to rural villages – immunization rates are up, malaria rates are down and more couples are using modern contraceptives. *(To read more, turn to pages 18-25.)*

RECOMMENDATIONS

1. Train and deploy more health workers – especially midwives and other female health workers. An additional 4.3 million health workers are needed in developing countries to help save lives and meet the health-related Millennium Development Goals. Governments and international organizations should make building health workforce capacity a priority, particularly the recruitment and training of front-line female health care providers to serve in their communities or in clinics close to their homes.

2. Provide better incentives to attract and retain qualified female health workers. Better incentives must be developed to encourage women to become front-line health workers and to keep well-qualified female health workers in the remote or underserved communities where they are needed most. These include better pay, training, support, protection and opportunities for career growth and professional recognition. In the many places in the developing world where personal safety is a concern, governments and international organizations must take measures to ensure female health workers do not have to risk their lives in order to do their jobs.

3. Invest in girls' education. Increased investments in girls' education are essential – not just to enlarge the pool of young women who are qualified to become health workers – but also to empower future mothers to be stronger and wiser advocates for their own health and the health of their children. Educated girls tend to marry later and have fewer, healthier and better-nourished children. Mothers with little or no education are much less likely to receive skilled support during pregnancy and childbirth, and both they and their babies are at higher risk of death.

4. Strengthen basic health systems and design health care programs to better target the poorest and most marginalized mothers and children. Thousands of children die every day in developing countries because health systems are grossly under-funded and cannot meet the needs of the people. More funding is needed for staffing, transport, equipment, medicine, health worker training and supportive supervision, and the day-to-day costs of operating these systems. If children are to survive and thrive, health outreach strategies and funding allocations must target the hardest-to-reach mothers and children who are most in need.

The 2010 *Mothers' Index*: Norway Tops List, Afghanistan Ranks Last, United States Ranks 28th

Save the Children's eleventh annual *Mothers' Index* compares the well-being of mothers and children in 160 countries – more than in any previous year. The *Mothers' Index* also provides information on an additional 13 countries, 6 of which report sufficient data to present findings on children's indicators. When these are included, the total comes to 173 countries.

Norway, Australia, Iceland and Sweden top the rankings this year. The top 10 countries, in general, attain very high scores for mothers' and children's health, educational and economic status. Afghanistan ranks last among the 160 countries surveyed. The 10 bottom-ranked countries – seven from sub-Saharan Africa – are a reverse image of the top 10, performing poorly on all indicators. The United States places 28th this year.

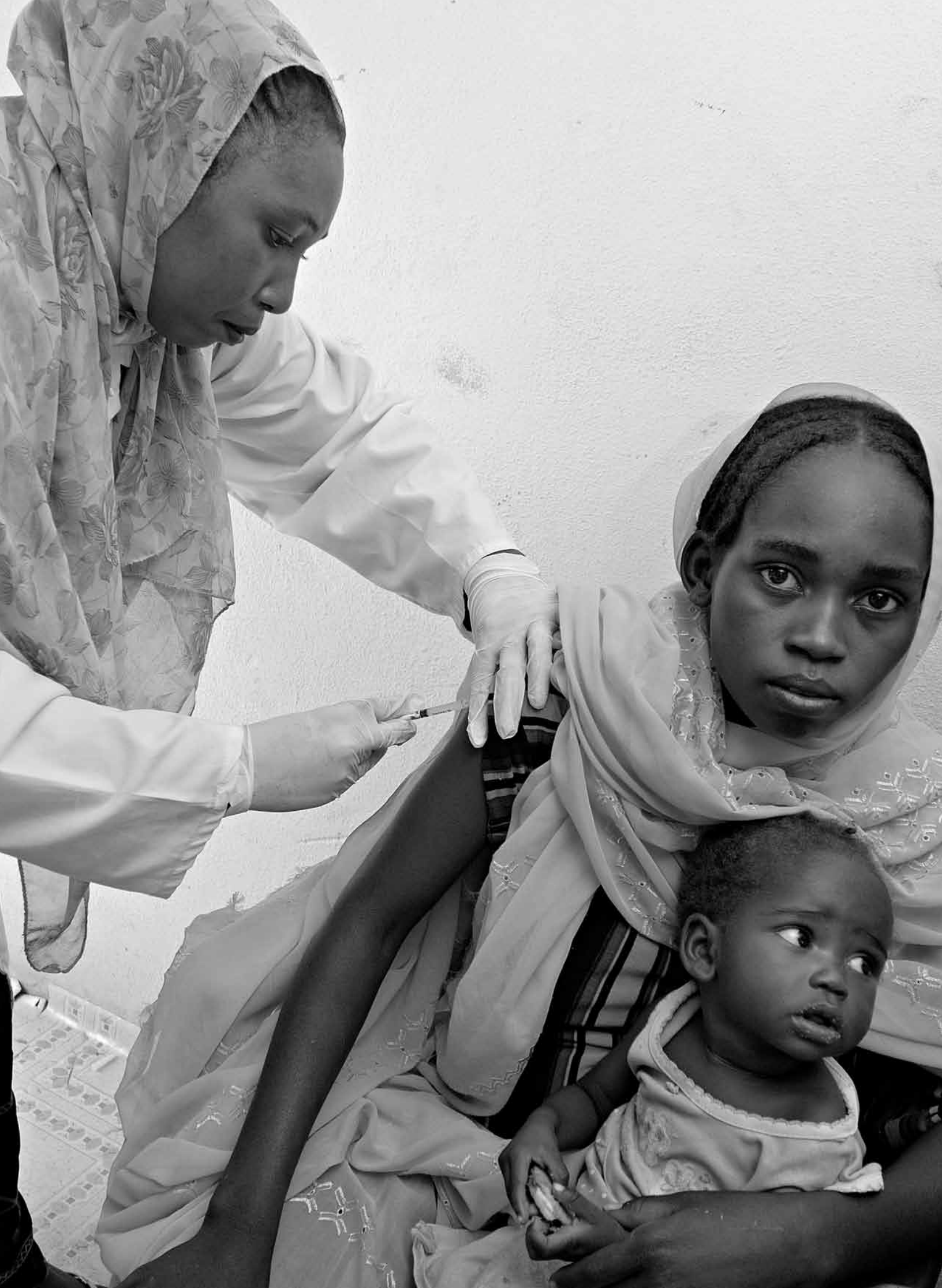
Conditions for mothers and their children in the bottom 10 countries are grim. On average, 1 in 23 mothers will die from pregnancy-related causes. One child in 6 dies before his or her fifth birthday, and 1 child in 3 suffers from malnutrition. Nearly 50 percent of the population lack access to safe water and only 4 girls for every 5 boys are enrolled in primary school.

The gap in availability of maternal and child health services is especially dramatic when comparing Norway and Afghanistan. Skilled health personnel are present at virtually every birth in Norway, while only 14 percent of births are attended in Afghanistan. A typical Norwegian woman has more than 18 years of formal education and will live to be 83 years old. Eighty-two percent are using some modern method of contraception, and only 1 in 132 will lose a child before his or her fifth birthday. At the opposite end of the spectrum, in Afghanistan, a typical woman has just over 4 years of education and will live to be only 44. Sixteen percent of women are using modern contraception, and more than 1 child in 4 dies before his or her fifth birthday. At this rate, every mother in Afghanistan is likely to suffer the loss of a child.

Zeroing in on the children's well-being portion of the *Mothers' Index*, Sweden finishes first and Afghanistan is last out of 166 countries. While nearly every Swedish child – girl and boy alike – enjoys good health and education, children in Afghanistan face a 1 in 4 risk of dying before age 5. Thirty-nine percent of Afghan children are malnourished and 78 percent lack access to safe water. Only 2 girls for every 3 boys are enrolled in primary school.

These statistics go far beyond mere numbers. The human despair and lost opportunities represented in these numbers demand mothers everywhere be given the basic tools they need to break the cycle of poverty and improve the quality of life for themselves, their children, and for generations to come.

See the Appendix for the *Complete Mothers' Index* and *Country Rankings*.



Women Helping Women: A Powerful Force for Health and Survival

Every year, nearly 9 million newborn babies and young children die before reaching 5 years of age[1] and nearly 350,000 women lose their lives due to pregnancy or childbirth complications.[2] Another million babies are lost during the birth process itself – stillborn but having been alive in the mother's womb minutes or hours earlier.[3]

Most of these deaths occur in areas of the developing world where basic health care is often unavailable, too far away, or of very low quality. And most of these deaths could be prevented if skilled and well-equipped health care workers were available to serve the poorest, most marginalized mothers and children. It is estimated that 74 percent of mothers' lives could be saved if all women had access to a skilled health worker at delivery and emergency obstetrics care for complications[4] and 63 percent of children under 5 could also be saved if all children were to receive a full package of essential health care that includes skilled birth attendance, immunizations and treatments for pneumonia, diarrhea and malaria.[5] That's about 250,000 women and 5.5 million children whose lives could be saved each year.

Female health workers have an especially critical role to play in saving the lives of women, newborns and young children. Evidence from many developing countries indicates that investments in building a strong female health workforce can make the difference between success and failure in the fight to save lives.

Bangladesh

Millennium Development Goals

The Millennium Development Goals (MDGs) are eight international development goals that all 192 United Nations member states and at least 23 international organizations have agreed to achieve by the year 2015. They include reducing extreme poverty, reducing child and maternal mortality, fighting disease epidemics such as AIDS, and developing a global partnership for development.

The target for MDG 4 is to reduce the world's under-5 mortality rate by two-thirds. The target for MDG 5 is to reduce the maternal mortality ratio by three-quarters. Sixty-eight priority countries have been identified that together account for 97 percent of maternal, newborn and child deaths each year. With only five years left until the 2015 deadline, only 16 of these 68 countries are on track to achieve the child survival goal (MDG 4)[6] and only 5 of the 68 are on track to achieve the targeted maternal mortality reduction (MDG 5).[7]

◀ Sudan

A Note on Maternal Mortality Data Used in This Report

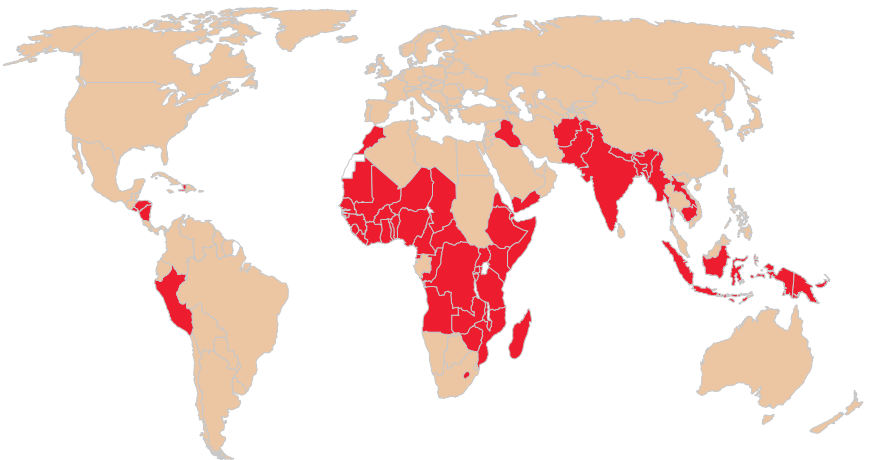
The *State of the World's Mothers Report* uses the most up-to-date information available to describe the health of mothers, newborns and children around the world. The data used in this publication come from a variety of sources, including official reports issued by the United Nations and academic journals. Estimates for maternal mortality in this report were first published online by *The Lancet* on April 12, 2010 in an article that included data collected in the year 2008. Official United Nations estimates for maternal mortality – which will also include data collected in 2008 – are expected to be published in May 2010, after this report goes to press.

WHY DO WE NEED MORE HEALTH WORKERS?

Developing countries have too few health care workers to take on the life or death challenges facing mothers, their babies and young children. Worldwide, there are 57 countries with critical health workforce shortages, meaning that they have fewer than 23 doctors, nurses and midwives per 10,000 people.[8] Making up for these shortages would require an additional 2.4 million doctors, nurses and midwives. Some of this gap is addressed by community health workers, but when these shortages and other lower-level health professionals are factored in, the developing world needs an additional 4.3 million health workers to reach minimum target levels.[9]

Thirty-six of the countries with critical health worker shortages are in sub-Saharan Africa, which has 12 percent of the world's population, 25 percent of the global burden of disease, and only 3 percent of the world's health workers.[10] South and East Asia have 29 percent of the disease burden and only 12 percent of the health workers.[11] In contrast, the Americas region – which includes Canada and the United States – represents only 9 percent of the global burden of disease, yet almost 37 percent of the world's health workers live in this region, which spends more than 50 percent of the world's financial resources devoted to health.[12]

57 Countries Have Too Few Health Workers to Make a Difference for Mothers and Children



Countries with critical shortage of health workers
Countries without critical shortage of health workers

While there is no gold standard for assessing the sufficiency of the health workforce, the World Health Organization estimates that countries with fewer than 23 health care professionals (physicians, nurses and midwives) per 10,000 population will be unlikely to achieve adequate coverage rates for the key primary health care interventions prioritized by the Millennium Development Goals.[13] For example, they generally fail to achieve an 80 percent coverage rate for measles immunization or the presence of skilled birth attendants.[14] Fifty-seven countries fall below this threshold; 36 of them are in sub-Saharan Africa. For all these countries to reach the target levels of health worker availability would require an additional 2.4 million doctors, nurses and midwives globally. If all necessary health workers are included, the global shortage approaches 4.3 million health workers.

Countries with the Most Child and Maternal Deaths Also Have the Greatest Health Worker Shortages

Country	Under-5 Mortality		Maternal Mortality		Health Workforce Gap	
	Ranking for number of under-5 deaths	Annual number of under-5 deaths (1,000s)	Ranking for number of maternal deaths	Annual number of maternal deaths (1,000s)	Ranking for number of health workers needed	Estimated shortage* (1,000s)
India	1	1,830	1	68	1	515
Nigeria	2	1,077	2	37	14	42
DR Congo	3	554	6	15	6	108
Pakistan	4	465	3	20	4	202
China	5	365	10	7	—	—
Ethiopia	6	321	5	18	5	167
Afghanistan	7	311	4	20	12	45
Uganda	8	190	16	5	22	28
Kenya	9	189	13	6	16	38
Bangladesh	10	183	7	12	3	276
Tanzania	11	175	9	8	7	89
Indonesia	12	173	8	10	2	306
	5.8 million under-5 deaths = 66% of global total		227,600 maternal deaths = 66% of global total		1.8 million health professionals = 77% of global total	

Two-thirds of all under-5 and maternal deaths occur in just 12 countries. Many of these countries have very large populations (such as China, India and Pakistan); others have very high percentages of children and mothers dying (Afghanistan and DR Congo) and Nigeria has both a large population and high maternal and child mortality rates. These same 12 countries account for 77 percent of the global health workforce shortage. Data on health worker shortages are for doctors, nurses and midwives. However, in many developing countries, lifesaving services such as immunizations, contraception, nutrition rehabilitation and treatments for pneumonia, diarrhea and malaria can be delivered by community health workers more affordably and closer to home.

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* Estimates include the number of doctors, nurses and midwives only and are calculated as the difference between the current density and the WHO-recommended minimum ratio (2.28 health care professionals per 1,000 population) multiplied by 2009 population. Data sources: *Under-5 deaths: UNICEF. The State of the World's Children, Table 1; Maternal deaths: Hogan, Margaret, et al. "Maternal Mortality for 181 Countries, 1980-2008: A Systematic Analysis of Progress Towards Millennium Development Goal 5." The Lancet. Published online April 12, 2010; Health workforce density: WHO. Global Health Atlas (http://apps.who.it/globalatals1); 2009 population: UNFPA. State of World Population 2009.*

In addition to insufficient absolute numbers, health workers are often poorly distributed, with the impoverished, hard-to-reach and marginalized populations being most poorly served. Health worker density is generally highest in urban centers where hospitals tend to be located, and where incomes are highest. For example, Nigeria – where more than 1 million children die every year before their fifth birthday[15] – has the greatest number of health care workers in sub-Saharan Africa,[16] but the majority live in urban areas and not enough serve the poorer parts of the country where childhood diseases are most rampant and where the most children are dying.[17, 18]

Problems with too-few health workers in rural areas often are compounded by inadequate pay and insufficient medical supplies, equipment and facilities. Poor working and living conditions in marginalized areas make it difficult to attract and keep talented health workers. One survey in South and South-East Asia found, for example, that rural postings were shunned by qualified health workers because of lower income, low prestige and social isolation.[19]

Health worker distribution is often most out-of-sync with human needs in countries suffering from armed conflict. For example, Democratic Republic of the Congo – a country where very large numbers and percentages of women and children are dying – has only 32 percent of doctors in rural areas,[20] even though 65 percent of the population is rural.[21]

"I was afraid to go to the hospital to have my baby because I had never been to a hospital before. Also my husband and his family would not allow me to have my delivery with a male doctor."

Naseem, 30-year-old mother of five in India

WHY FEMALE HEALTH WORKERS?

The most dangerous time in a child's life is during birth and shortly thereafter. Newborn babies – those in their first four weeks of life – account for over 40 percent of deaths among children under age 5.[22] Childbirth is also a very risky time for mothers in the developing world, around 50 million of whom give birth each year at home with no professional help whatsoever.[23] Poorer and less educated women, and especially those living in rural areas, are far less likely to give birth in the presence of a skilled health worker than better educated women who live in wealthier households.

If we want to solve the interconnected problems of maternal and newborn mortality, we must do a better job of reaching these mothers and babies with skilled care during pregnancy, childbirth, and the minutes, days and weeks following birth. For a variety of reasons, in many parts of the world, pregnant women and their families prefer that childbirth care be provided by a woman. Evidence is also mounting that the quality of woman-to-woman care is oftentimes seen as superior. When women report greater comfort and higher satisfaction with the care they receive from other women, they are more likely to use professional services, and seek help before treatable conditions become life-threatening to themselves and their young children.

Social or cultural barriers often prevent women from visiting health providers even when they know they need help and want to go. In many countries in South Asia, the Middle East and Africa, women typically are not empowered to make independent decisions.[24] Especially in rural areas, husbands and elder family members often decide whether a woman may go for health care outside the home. Although women are usually the first to notice their own and their children's health problems, they must overcome hurdles of decision-makers within the household, which can result in significant delays in seeking care and sometimes in denial of permission altogether. These delays can be life-threatening for infants experiencing dehydration from diarrhea and women experiencing complications while giving birth.

When there is no female health care provider available, the likelihood increases that a woman will be denied permission to seek health care. And women themselves often choose to forego health care if the provider is male, due to embarrassment or social stigma:

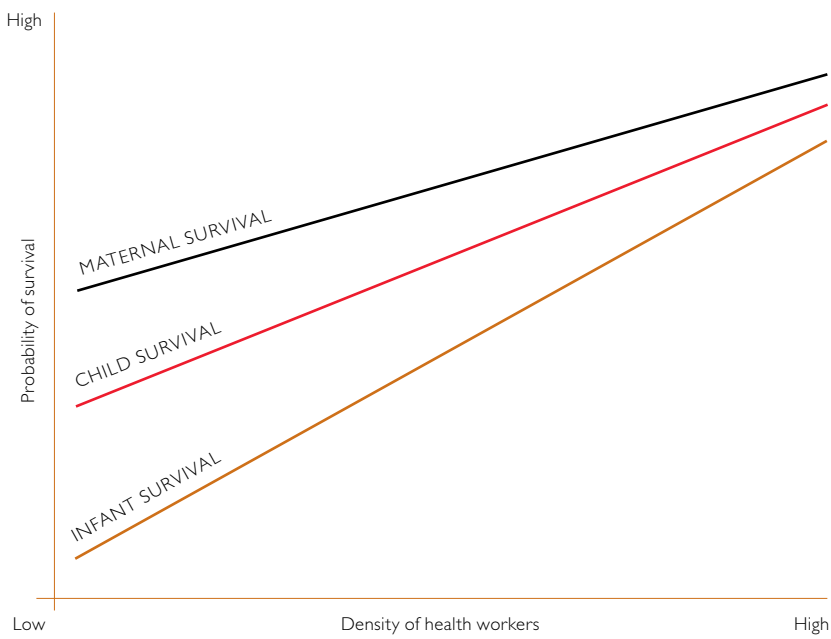
- A 2009 analysis of *Demographic and Health Surveys* from 41 developing countries found that nearly one quarter of women listed not having a female health provider as a reason that they did not go to a health facility to give birth.[25]
- An assessment in Afghanistan found that women were unable or unwilling to receive potentially lifesaving tetanus toxoid vaccinations because it was considered shameful to expose their arm to a male vaccinator.[26]

- A study in northern Ethiopia found one reason women would not seek treatment for malaria was that the community health workers were male and the women feared the perception of sexual disloyalty.[27]

While the gender of a health care provider is not always a critically important factor, it often is, and a growing body of evidence shows that when women are on the front lines providing health care and health information, the outcomes are often better. For health concerns that are uniquely female – those related to reproductive or sexual issues, pregnancy, childbirth and mothering – it is common for a woman to prefer a caregiver who shares her experiences. Many women report higher levels of satisfaction with female health workers, who they see as more responsive to their needs and the needs of their children. And when female health workers are nearby and easily accessible, more women and children will seek health care when they need it.

- In Brazil, a study found that female health workers spent longer in consultation with children under age 5 (an additional minute, on average) than their male counterparts. The difference between genders was even more pronounced for providers who had been trained in a new set of interventions with the potential to reduce under-5 mortality.[28]
- In northern Ghana, female nurses were relocated from subdistrict health centers to isolated rural communities where child mortality rates were well above the national average. The nurses had been trained to prevent and treat common childhood diseases, promote safe motherhood, provide basic midwifery services, antibiotics, vaccinations and modern contraceptives, but when they worked in health centers located miles away from rural households, their services were underutilized and their impact was minimal. The communities subsequently provided housing for

Where There Are More Health Workers, More Mothers and Children Survive



Source: *WHO. World Health Report 2006, p.xvi*

Mali

the nurses so they could live close to the people they served, and the government provided additional training to enable the nurses to organize community health services, build community relationships and supervise volunteers. After three years, under-5 mortality rates in these communities were cut in half.[29]

- In many countries in Latin America, as well as several in Africa and Asia, female health workers and hospital-based volunteers teach mothers of underweight, preterm babies to use a technique called "kangaroo care" to save their babies' lives. The mothers serve as human incubators, keeping their babies next to their skin for warmth and encouraging them to breastfeed frequently. A recent review of 15 studies in developing countries found kangaroo care was more effective than incubator care, cutting newborn deaths by 51 percent for preterm babies who were stable. The findings suggest that up to half a million newborns could be saved each year if kangaroo care were used everywhere, especially in low-income countries where newborn mortality rates are highest.[30]

The true front-line health care providers of the world – the ones who respond first to children's health needs and to the concerns of young, inexperienced new mothers – usually are not formally trained health professionals at all. Health care tends to begin at home, and it is mothers, grandmothers, older sisters and other close relatives and friends who provide it. Recent studies have looked at ways to harness the power of women-to-women relationships to improve health outcomes for mothers and children. Such efforts have been especially effective in poor, hard-to-reach communities where people are more likely to become ill, less likely to get appropriate treatment, and often express a strong preference for care close to home.

- In Nepal, female facilitators organized monthly meetings where women gathered to solve shared problems related to pregnancy, childbirth and care of newborn babies. The groups devised their own strategies to tackle challenges, and the result was more prenatal care, more trained birth attendance, more hygienic care, and dramatically fewer newborn and maternal deaths.[31]

- The same approach was tested in very poor areas of India. The groups were facilitated by women recruited in the local area who tended to be married with some schooling, were respected members of the community, but were not health care professionals. Again, the results were dramatic: by the second and third years of the trial, the newborn mortality rate in the areas where participatory women's groups existed had fallen by 45 percent. These areas also saw a significant drop (57 percent) in depression among mothers.[32] "There was a move away from harmful practices such as giving birth in an unclean environment and delaying breastfeeding," said Professor Anthony Costello of the Institute of Child Health at University College London. "We saw significant improvements in areas such as basic hygiene by birth attendants, clean cord care and women responding earlier to care needs."[33]
- In rural areas of Ethiopia, Malawi, Mali and Senegal, grandmothers often wield considerable power within families and make critical decisions about what children are fed and how they are cared for in the first days and months of their lives. Harmful traditional practices have been passed down for generations; for example: delaying breastfeeding for up to 24 hours after birth and introducing harmful foods and liquids during the first six months when it is recommended that babies be exclusively breastfed. In all four of these countries, grandmothers have been educated about better newborn care practices, and are making changes within families that promote improved nutrition, health and survival rates of young children.[34-37]

India

Reducing Maternal Mortality in Asia

Three Asian countries offer dramatic examples of how sustained political will to provide better health care has saved mothers' lives. Since the 1950s, Malaysia, Sri Lanka and Thailand have each reduced their maternal mortality rates by an astonishing 97 percent.[38] In Sri Lanka, for example, the odds that a woman will die due to complications of pregnancy and childbirth have decreased from 1 in 95 to 1 in 3,333 live births.[39,40] And in Malaysia, the odds have dropped from 1 in 187 to 1 in 2,381.[41,42]

How did these countries do it? Each of them made equity a guiding principle and put in place policies and systems to ensure free or low-cost health care would reach the poorest, most disadvantaged and isolated communities.

Another key component of these Asian successes was putting women on the front lines of health care. For example, Malaysia and Sri Lanka invested in midwives, increasing their numbers and status with well-run training and certification programs.[43] Thailand instituted a successful safe motherhood program that made skilled birth attendance nearly universal by 2001. Thailand also trained many more nurses and midwives, growing their numbers from about 10,000 in 1971 to 85,000 in 2002.[44]

Zimbabwe

WHAT ARE THE CHALLENGES?

Why are there not enough female health care workers to provide lifesaving care to mothers and children in developing countries? And why is it especially difficult to place female health care workers where they are needed most – in the poorest, most marginalized communities?

One reason is the persistently poor quality of education for girls. Worldwide, 39 million girls are not attending school and countless millions more complete only a year or two of schooling.[45] These educational shortfalls among girls tend to be most pronounced in impoverished rural areas. When local girls do not have the basic educational qualifications to enter training to become nurses, midwives or even community health workers, a community's only hope may be to attract someone from outside – a less desirable option, and often one that is impossible to fulfill.

Safety and quality-of-life concerns often prevent female health workers from living alone in isolated rural areas. If the health worker is single, her parents may be reluctant to let her work far away from home. And if she is married, her spouse may not want to live in a rural area where employment and schooling opportunities for their children may be limited.

The International Labour Organization has noted the high risk of violence and unfair wage differentials common among nurses and midwives. Violence and sexual harassment of female health professionals in developing countries has been understudied, but is believed to be widespread. The lack of a safe workplace compromises the health and well-being of female staff as well as the families they serve. In particular, the lack of personal safety at health posts and other front-line health facilities often staffed by a single female health worker will make it unlikely that the facility can be open 24 hours a day. And yet, round-the-clock coverage is precisely what is needed for obstetric emergencies and life-threatening diseases that strike children.[46]

Many of the best qualified health workers leave developing countries to pursue better pay and higher standards of living overseas. For example, 34 percent of nurses and midwives trained in Zimbabwe[47] and 85 percent of the nurses trained in the Philippines[48] are now working abroad. Likewise, health workers migrate within countries, from rural to urban areas, and within regions, from poorer to better-off countries. In all these cases, it is the poorest and neediest communities that lose out.

"Community health workers should be members of the communities where they work, should be selected by the communities, should be answerable to the communities for their activities, should be supported by the health system but not necessarily a part of its organization, and have shorter training than professional health workers."

World Health Organization [49]

WHAT ARE THE SOLUTIONS?

Increased investments in girls' education are essential – not just to enlarge the pool of young women who are qualified to become health workers – but also to empower future mothers to be stronger and wiser advocates for their own health and the health of their children. Educated girls tend to marry later and have fewer, healthier and better-nourished children.[50] Mothers with little or no education are much less likely to receive skilled support during pregnancy and childbirth, and both they and their babies are at higher risk for death.[51]

More specifically, there are various ways in which girls' limited educational opportunities have a negative impact on their own and their future children's health. These include not being able to read information about good health practices, lack of self-confidence and authority to make decisions, and inability to negotiate with authorities for services. Since discrimination against girls is known to begin early, promoting gender equality and respect for the rights of women – and encouraging fathers to play an active role in child care – should begin with early education programs.

Afghanistan

In order to address critical shortages of health workers and persistent inequities in the way they are distributed, governments and international organizations must prioritize recruitment and training of front-line female health care providers to serve in their home villages or clinics close to their homes. These female health care providers should be equipped appropriately to meet urgent needs in remote communities.

Better incentives must be developed to keep front-line health care workers in these remote communities where they are needed most. These include better pay, training, support, protection and opportunities for career growth and professional recognition.

Where personal safety is a concern, governments and international organizations must go the extra distance to ensure female health workers do not have to risk their lives in order to do their jobs. For example, in Afghanistan, security has been provided to facilities where women health providers work at night, and male family members sometimes accompany female health workers when they travel.[52] And in Uganda, following reports of midwives being attacked on their way home from work at night, there have been renewed calls for the government to make good on its promise to provide housing close to where health providers work.[53]

Health workers in developing countries do not need to be highly educated to be effective. Experience in many countries has shown that community health workers with a few years of formal schooling can master the skills needed to deliver basic health interventions, including diagnosing and treating common early childhood illnesses, mobilizing demand for vaccinations and vitamin A, and promoting critical newborn health and nutrition practices. Especially in isolated rural areas – where education levels tend to be low and where it is highly desirable to have health workers who are rooted in the community – decision-makers should consider modifying policies related to basic qualifications to enhance the likelihood that local girls can be recruited and trained to be health workers, as has been done successfully in Nepal and Pakistan.

Governments should set targets to reduce disparities in health care provided to rich and poor citizens and reduce maternal and child mortality rates across income and social groups. This should occur with an overall effort to strengthen health systems through strategic, data-driven decision-making processes on health services and clear national policies with ongoing commitment – including funding – to achieve established goals.

Saving Mothers and Children in Bangladesh

Bangladesh Vital Statistics

1 child in 15 dies before age 5
57% of these deaths are newborn babies
Lifetime risk of maternal death: 1 in 51
1 doctor for every 3,330 people
Health worker shortage: 275,700*

* Data are for shortages of doctors, nurses and midwives. However, in many developing countries, lifesaving services such as immunizations, contraception, nutrition rehabilitation and treatments for pneumonia, diarrhea and malaria can be delivered by community health workers more affordably and closer to home.

Bangladesh has made tremendous strides in maternal and child health over the past 30 years. Between 1990 and 2008, under-5 mortality declined 64 percent[54] and Bangladesh is on track to achieve the Millennium Development Goal for child survival.[55] Bangladesh also cut its maternal mortality rate dramatically during this same period – by 53 percent.[56] Still, more than 11,600 mothers and 120,000 newborn babies die each year in Bangladesh,[57] mainly because of inadequate care during childbirth. The country does not have enough skilled birth attendants and 82 percent of deliveries occur at home without proper assistance.[58]

It is common for Bangladeshi girls to marry while still in their teens and to begin having babies before their bodies have fully matured. In rural areas, 69 percent of females are married before they turn 18.[59] Large numbers of women in Bangladesh have no say in their own health care needs – 48 percent say their husbands alone make the decisions regarding their health care.[60]

Much of Bangladesh's progress is attributed to increased use of modern contraception, which has enabled couples to choose smaller, healthier families. Starting in the 1970s, the government and NGOs organized more than 35,000 female fieldworkers to go door-to-door offering family planning information and contraceptive services. In a culture where most women were not permitted to leave the home, doorstep delivery of services by a woman was key to the effort's success. Studies suggest the program also improved women's status in general. The presence of these family welfare assistants in every hamlet in Bangladesh showed that women were employable, mobile, socially gregarious and autonomous. Young female clients in particular benefitted from these encounters – and received information and services that would otherwise not have been available to them.[61] Cultural norms began to change, and by the 1990s many

Bangladesh

more women who wanted family planning supplies were able to leave their homes alone to get them.[62]

In 1997, the government launched a safe motherhood initiative aimed at improving emergency obstetric care and training 17,000 skilled birth attendants to work at the community level. Family planning was integrated into a broader package of health services that includes prenatal and postnatal care, child immunization and disease prevention.[63]

Bangladesh benefits from a vibrant homegrown NGO sector and welcoming policies towards international organizations. For example, the indigenous NGO BRAC currently supports a health program that includes 70,000 female community health workers providing services to 31 million people in rural areas.[64] Also, Pathfinder International is now partnering with Grameenphone and 30 local NGOs on a safe motherhood and infant care program supporting thousands of clinics offering reduced-cost or free services to poor families. To date, more than 16,500 pregnant women and 13,000 infants have received care through this program.[65]

The Projahnmo Project, supported by Save the Children, the Bill & Melinda Gates Foundation and USAID, trained female community health workers to provide prenatal and postnatal care during home visits in rural areas with high newborn mortality rates. The health workers treated life-threatening infections and taught families better ways to care for their babies. As a result, newborn deaths were reduced by 34 percent. These findings were significant because they showed that health workers with limited education and training can have a significant impact on newborn survival. Based on these results, a large-scale community-based project is being implemented to improve newborn health throughout rural Bangladesh.[66]

Mahmuda

"I could share everything with Mahmuda because she was a woman too. Only a woman knows how another woman feels in certain situations. If Mahmuda was not there, I might have had a fatal health hazard. With Mahmuda's guidance and care, my baby was born safe." Murjahan, 45-year-old mother of five in Bangladesh

54,000 Female Volunteers for Health Care in India

In 2000, the state of Chhattisgarh was created when the large central Indian state of Madhya Pradesh was divided. Chhattisgarh had high levels of poverty and illiteracy, and inherited a weak public health system with too few facilities and too few staff. The rural infant mortality rate was the second highest in India.[67]

To combat these challenges, the government and civil society representatives established a strong team of 54,000 women community health volunteers called *Mitanins* ("friends" in the local language). These volunteers come from the communities they serve. Many are not formally educated, but they have been trained to dispense drugs, provide nutrition counseling, manage childhood illnesses, provide essential newborn care and identify danger signs that require prompt referral to a health care facility for proper treatment.[68]

Independent surveys show that the rural infant mortality rate in Chhattisgarh decreased from 85 deaths per 1,000 live births in 2002 to 65 in 2005. In addition, the initiation of breastfeeding within two hours after birth increased from 24 percent to 71 percent, and the use of oral rehydration salts for diarrhea in children under 3 increased by 12 percent.[69]

The success of the *Mitanins* has also led to advances for women in Chhattisgarh, individually and collectively. Many *Mitanins* have entered elected office and have led community actions to establish early child care facilities, secure tribal livelihoods, and fight deforestation, corruption and alcoholism.[70]

A Midwife in Every Village in Indonesia

Indonesia Vital Statistics

1 child in 23 dies before age 5
43% of these deaths are newborn babies
Lifetime risk of maternal death: 1 in 97
1 doctor for every 7,690 people
Health worker shortage: 305,900*

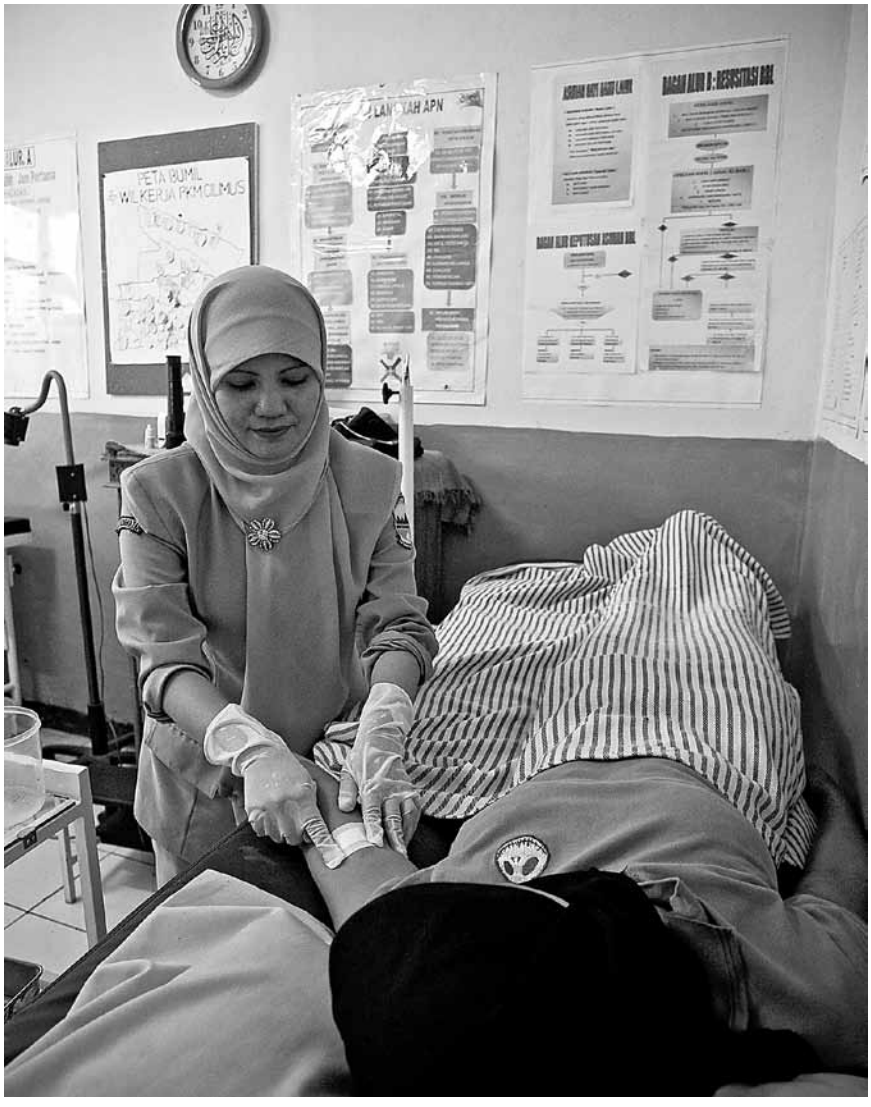
* Data are for shortages of doctors, nurses and midwives. However, in many developing countries, lifesaving services such as immunizations, contraception, nutrition rehabilitation and treatments for pneumonia, diarrhea and malaria can be delivered by community health workers more affordably and closer to home.

In 1989, as many as 19,500 women died each year in Indonesia as a result of complications during pregnancy or childbirth.[71] Today, that number is 9,600.[72]

These women's lives were saved largely as a result of the government's investment in the "midwife in every village" program. Over seven years, Indonesia selected, trained and certified 54,000 new village midwives.[73] Each received three years of nursing training followed by a year of midwifery training before being posted to their villages.[74] There are now approximately 80,000 midwives in Indonesia; however, despite this progress, women still die in higher numbers than women in other countries in the region.[75]

The midwives – many equipped with a small birthing room at their house or clinic – provide outreach and reproductive health services, immunizations and counseling about proper nutrition. They were initially given a three-year contract for their services, then later, a second three-year contract.

The midwife program includes a mechanism for public feedback, and the government has responded to criticisms by adapting its strategy, modifying the training curriculum, doing clinical audits to improve the quality of midwife services, and improving the referral system for emergency obstetric care.[76]



Indonesia

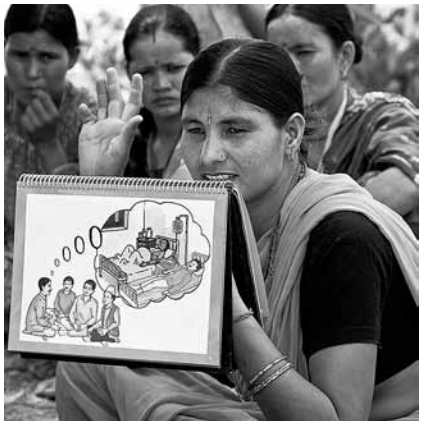
Indonesia also has 125,600 nurses[77] who are well distributed in rural areas.[78] Since there are not enough doctors to serve the population, but relatively large numbers of nurses and midwives, most Indonesians – particularly the poor – receive their health care services from midwives and nurses.[79, 80]

Between 1991 and 2007, the percentage of Indonesian births attended by skilled personnel more than doubled, increasing from 32 percent to 79 percent. Indonesia also lowered both its maternal and newborn mortality rates by more than 40 percent – from 390 maternal deaths per 100,000 live births in 1989 to an estimated 228 in 2007 and from 32 newborn deaths per 1,000 live births to 19 during the same period.[81, 82]

While there has been progress in institutional deliveries over time, inequities between rich and poor continue to be a problem. A recent study in two districts in West Java found that nearly 70 percent of Indonesia's wealthy women gave birth with a health professional, compared to only 10 percent of the poorest women.[83] The poorest wealth quintile in Indonesia still has a very high maternal mortality rate – estimated at 706 per 100,000 live births.[84]

"The community health volunteer is nearby. Whenever I need her, she is there. During my pregnancy, she has come to see me frequently so I do not have to walk all the way to the health post." Yemuna, 23, pregnant with her first baby in Nepal

Female Community Health Volunteers in Nepal



Nepal is a difficult place to be a mother. Especially in rural areas, it is common for girls to marry in their teens and begin having children before their bodies have fully matured. More than 80 percent of births occur at home without the presence of skilled health personnel and 1 woman in 31 dies due to complications of pregnancy and childbirth.

Though Nepal has a long way to go, it is moving in the right direction. For nearly two decades the country has been systematically strengthening its health systems by investing in services for mothers, children and newborns. Nepal cut its maternal mortality rate nearly in half between 1990 and 2008.[85] The under-5 mortality rate has also declined rapidly, falling 64 percent in that same time period.[86]

A key component of these successes has been the recruitment, training and deployment of 50,000 Female Community Health Volunteers (FCHVs) who play an important role in a variety of key public health programs in rural areas, including family planning, maternal care, child health, vitamin A supplementation, deworming, and immunization coverage. FCHVs educate and inform women about birth preparedness, make post-partum visits, and treat and refer children with pneumonia and diarrhea.[87]

Overcoming Cultural Barriers to Health Care in Pakistan

Pakistan Vital Statistics

1 child in 11 dies before age 5
57% of these deaths are newborn babies
Lifetime risk of maternal death: 1 in 74
1 doctor for every 1,280 people
Health worker shortage: 202,500*

* Data are for shortages of doctors, nurses and midwives. However, in many developing countries, lifesaving services such as immunizations, contraception, nutrition rehabilitation and treatments for pneumonia, diarrhea and malaria can be delivered by community health workers more affordably and closer to home.

Social, cultural and religious traditions severely restrict the freedom of Pakistani women and have made it imperative that Pakistan put females on the front lines of health care in order tackle high rates of maternal, newborn and child mortality.

Pakistani women have a subordinate status in society, especially in rural areas, where they are expected to stay at home. In one recent survey, interviewees repeatedly said: "Women do not enjoy any decision-making rights, even in matters pertaining to their own health."[88] The majority of women report they are unable to go to a health facility unaccompanied and an overwhelming majority of rural women report the need for permission, typically from a male household member, to visit a health facility.[89]

Pakistan's National Programme for Family Planning and Primary Health Care has relied heavily on its 90,000 Lady Health Workers who provide basic health care to 55 percent of the country's population, mainly those in rural areas who for cultural reasons cannot leave their homes.[90] The program, launched in 1994, delivers essential primary health care to families through female community health workers who go door-to-door providing services to women and children who otherwise might be denied care.

Pakistan

"We used to lose many children to pneumonia. But now, when children get even minor colds, their parents bring them to us for a check-up. They are not afraid of the illness like before, because they know their children can be cured quickly."

Saira, Lady Health Worker in Pakistan

Stringent selection criteria require that Lady Health Workers come from the community they will serve, be at least 18 years old, have successfully completed middle school education, and be recommended by the residents of their community as a good candidate. Married women are given preference. They receive 15 months of training (3 months full-time, 12 months part-time), and study basics of primary health care and hygiene, community organization, interpersonal communication, data collection and health management information systems. Once installed, they are visited by a female supervisor every week.[91]

The Lady Health Workers treat diarrhea and pneumonia, and make referrals for more serious conditions. They provide prenatal and postnatal care to mothers, provide contraception to couples, conduct basic health education and help coordinate services such as immunizations and anemia control. Research has shown a clear connection between the presence of Lady Health Workers and improved community health.[92, 93] Independent evaluations have found substantial increases in childhood vaccination rates, child growth monitoring, use of contraception and prenatal services, provision of iron tablets to pregnant women and lowered rates of childhood diarrhea.[94] Significant reductions in infant and maternal mortality have also been documented in areas served by the Lady Health Workers.[95]

In 2001, Save the Children, UNICEF, JICA and the government of Pakistan launched a campaign to fight maternal and newborn tetanus, a deadly infection caused by unsafe but common childbirth practices such as using a dirty blade to cut the umbilical cord. Some 28,000 newborn babies were dying each year from tetanus in Pakistan[96] – deaths that could be prevented by giving every pregnant woman two shots of tetanus toxoid or all women of childbearing age three shots over a two-year period. A public awareness campaign used advertisements, brochures, videos and posters to educate women about the lifesaving benefits of tetanus toxoid immunizations. Special events were held at clinics on the days that shots were given and Lady Health Workers were trained to administer the vaccinations in women's homes so that they would not have to go to male health workers in clinics. The campaign succeeded in immunizing 11 million women – cutting deaths from tetanus in half.[97, 98]

In response to persistently high maternal and newborn mortality rates, the government of Pakistan launched its National Maternal, Newborn and Child Health Program in 2005. A key strategy in the plan is to train and deploy 12,000 midwives to rural communities within five years. The first class of trainees graduated in early 2009. More than 1,000 community midwives are now in place, and over 6,250 are currently in training.[99]

Midwifery Training in Afghanistan

Afghanistan is one of the riskiest places on earth for the health of mothers and children. Only 14 percent of births are attended by skilled personnel and maternal and child mortality rates are among the highest in the world. Afghan women face a 1 in 8 risk of dying from complications during pregnancy and childbirth, and 1 child in 4 dies before reaching age 5.

In response to this tragedy, the Ministry of Public Health (with support from USAID) launched a program to rapidly train and deploy midwives to rural areas where there had been little access to formal health care. Since 2002, the number of midwifery schools in Afghanistan has increased from 6 to 31. About 2,400 midwives have been trained and are now employed by the government and NGOs across the country, most of them in service to their home communities.[100] Largely as a result of this effort, the percentage of women in rural Afghanistan receiving prenatal care increased from 5 percent in 2003 to 32 percent in 2006, while deliveries attended by skilled personnel increased from 6 percent to 19 percent in the same period.[101] An additional 300 to 400 midwives are being trained each year.[102] An estimated 8,000 to 10,000 are needed to provide basic obstetric services for all Afghan women.[103, 104]

The government is also stepping up efforts to train and deploy women community health workers (CHWs). An estimated 22,000 to 84,000 female CHWs are needed (this calculation varies depending on whether each CHW is assigned to 40 households or to 150 households). The total number of CHWs (female and male) trained to date is 5,000, representing 22.7 percent of the target at best.[105]

Ethiopia Puts Female Health Workers in Rural Areas Where They Are Needed Most

Ethiopia Vital Statistics

1 child in 8 dies before age 5
32% of these deaths are newborn babies
Lifetime risk of maternal death: 1 in 27
1 doctor for every 42,700 people
Health worker shortage: 167,300*

* Data are for shortages of doctors, nurses and midwives. However, in many developing countries, lifesaving services such as immunizations, contraception, nutrition rehabilitation and treatments for pneumonia, diarrhea and malaria can be delivered by community health workers more affordably and closer to home.

In Ethiopia, 18,200 women and girls die each year as a result of complications during pregnancy or childbirth[106] and more than 500,000 each year suffer from pregnancy-related disabilities.[107] An estimated 321,000 children die each year before reaching their fifth birthday – 127,000 of them newborn babies in the first month of life.[108, 109]

There is only one doctor for every 42,700 people in Ethiopia[110] and most of these doctors are located in urban centers,[111] while 83 percent of the population lives in rural areas.[112] Health systems and infrastructure are seriously underdeveloped, and transportation problems are severe, especially during the rainy season. Almost all births take place at home (94 percent) without a health professional and 1 child in 8 dies before reaching age 5.

The government of Ethiopia is now tackling these challenges head-on with an ambitious new national plan that prioritizes the health of mothers and children. With the support of several external donors, a program was launched in 2004 to train and deploy female health extension workers to rural villages. Some 31,000 of these HEWs are now in place,[113] each with a year's training in basic health services such as safe childbirth, essential newborn care, diarrhea treatment, hygiene and sanitation, malaria prevention and treatment, and health education.[114] Under a new policy approved in February 2010, the HEWs will also be trained to provide antibiotics to treat pneumonia, the

Ethiopia

"The female health workers understand the problems we have. I like it when they come to my home and talk to me about hygiene, sanitation and how to breastfeed my children. Men do not understand all the situations we face as women."

BIRKE, 25-year-old mother of two in Ethiopia

largest killer of children in Ethiopia.[115] In addition, nearly 11,000 health posts have been constructed, with another 4,000 planned.[116]

Preliminary evaluations show the HEWs are having a positive impact on the health of the communities they serve. Improvements have been documented in immunization rates, contraceptive use and hygiene. There have also been decreases in the incidence of malaria due to improved use of bed nets to prevent mosquito bites at night. More people are constructing and using latrines, and disease outbreaks are reported more rapidly to health officials.[117]

Some questions have been raised about the quality of the one-year training program for the HEWs. Studies also point to persistent shortages of skilled nurses and doctors to provide back-up support to the health workers. Resource limitations – such as supervisors, medical equipment and supplies – may also hinder the impact on key indicators.[118]

Health extension workers report they are generally content with their work and motivated by adequate salaries, housing and the availability of safe water and toilet facilities. However, one study found that only 16 percent of HEWs expect to stay more than three years in their current position. While most find their work fulfilling, they say they hope to be promoted to better positions in nursing or environmental health.[119]

Village Health Teams in Uganda

In Uganda, 1 woman in 25 will die in pregnancy or childbirth, and each year 44,000 newborn babies die in the first month of life.[120] While Uganda has made progress in reducing maternal and newborn death rates in the past two decades, the country still has a long way to go.

Uganda has many maternal and newborn health policies, strategies and interventions in place, but they have not been well disseminated, integrated or implemented. Some of the greatest opportunities to strengthen health care in Uganda lie at the community level with innovative interventions, such as a new program to deploy Village Health Teams.[121]

These teams are made up of nine to ten members, at least three of whom must be female. They are selected from and by their communities, and many already have experience as community health workers, change agents or peer educators. They receive additional training, depending on their role, in areas such as malaria treatment and management of childhood illnesses. A recent analysis by the Ugandan Ministry of Health, UNICEF and Save the Children recommends one member of the team also be trained in home-based care for newborns.[122]

Decentralizing Health Care in Tanzania

Tanzania Vital Statistics

1 child in 11 dies before age 5
32% of these deaths are newborn babies
Lifetime risk of maternal death: 1 in 24
1 doctor for every 25,000 people
Health worker shortage: 88,700*

* Data are for shortages of doctors, nurses and midwives. However, in many developing countries, lifesaving services such as immunizations, contraception, nutrition rehabilitation and treatments for pneumonia, diarrhea and malaria can be delivered by community health workers more affordably and closer to home.

Each year in Tanzania, 62,000 newborn babies die[123] and an additional 43,000 are stillborn.[124] Most of these babies die from preventable or treatable causes, and it is estimated that up to two-thirds (34,000 to 40,000) could be saved if essential care reached all mothers and newborns.[125] The situation for mothers in Tanzania is also perilous. More than half of all births take place at home, and it is estimated that 1 woman in 24 will die as a result of complications during pregnancy or childbirth.

The government of Tanzania has responded with a number of policies and strategies to improve the health and survival of women and children. Free services are now offered to all women during pregnancy, delivery and the post-natal period, and to children under the age of 5.[126] The government has also launched national nutrition policies to decrease childhood malnutrition.[127]

Tanzania has done an unusually good job of positioning health workers close to people who need them in remote areas. Eighty percent of nurses and 88 percent of midwives are in rural areas.[128] In fact, newborn mortality rates are lower in rural areas than they are in urban areas, despite higher incomes, education levels and better health services in the cities (this may be explained by higher prevalence of HIV and AIDS in urban areas).[129]

Tanzania

Nurses and midwives – 84 percent of whom are female[130]– assist in more than 80 percent of all skilled deliveries,[131] and 65 percent of all pregnant women receive prenatal care from a nurse or midwife.[132] Cesarean deliveries are commonly performed by trained "clinical officers" who are more likely than doctors to be female.[133]

Tanzania also has a village health worker (VHW) program that aims to place two VHWs in each village, one of whom is to be responsible for maternal and child health, while the other is responsible for environmental sanitation. At least one VHW is required to be female.[134] The VHWs assist pregnant women with birth planning, which includes knowing danger signs, preparation for clean delivery and saving money to manage a possible emergency.[135]

Despite these efforts, the percentage of births attended by skilled professionals has declined over the past decade, falling 7 percentage points from 1992 to 2004/05 (from 53 to 46 percent).[136] On other fronts, however, Tanzania is showing progress. Nearly every pregnant woman (97 percent) now has at least one prenatal care visit.[137] The percentage of newborns protected against tetanus has more than tripled since the early 1990s, from 23 to 81 percent.[138] And while exclusive breastfeeding for the first six months is not as widely practiced as it should be, rates have risen from 29 percent in 1996 to 41 percent in 2004/05.[139]

Tanzania is also challenged by a rapidly growing population, while its overall health workforce is shrinking fast. In 1994, there were 67,600 health workers for a population of 29 million, but today there are only about 25,000 health workers for a population of more than 40 million.[140] Tanzania has one doctor for every 25,000 people overall, but in most regions there is only one doctor for every 100,000 people.[141]

"I had severe bleeding and my mother-in-law refused to let me go to the hospital. She told me it was normal. I told her the nurse said severe bleeding is a risk sign. Finally, she let me go. The doctor said if I hadn't come, I would have died."

Om Mohamed, 27-year-old mother of three in Egypt

Scaling Up Midwifery in Nigeria

Nigeria faces considerable challenges with its large population, high birth rate, widespread poverty and inadequate health systems. Sixty-one percent of births occur at home without skilled assistance[142] and 36,700 women and girls die each year as a result of complications during pregnancy or childbirth.[143] The lifetime risk of maternal death is 1 in 18. Babies also die at high rates, with a total of 283,000 newborns perishing every year in the first month of life.[144]

The government of Nigeria – together with international partners and support from the U.S. and U.K. governments – is attempting to meet these challenges with a new Integrated Maternal, Child and Newborn Health Strategy designed to rapidly recruit and train health workers, roll out proven health interventions and build health infrastructure.

One component of the plan aims to increase the number of births attended by a trained midwife.[145] Until recently, there were few public health centers offering 24-hour care and many health centers did not have a qualified midwife. Current and retired midwives have been called to action and given additional training for emergency obstetric and newborn care. As of January 2010, more than 2,800 midwives had been sent to rural villages.[146] The program's goal is to continue to scale up, first to 5,000 midwives and then to 10,000 by 2012.[147] To ensure adequate numbers of midwives in the system, girls and young women are to be identified and sponsored for midwifery training, with a requirement that they return to their communities to work for three to four years afterwards.[148]

Fighting Maternal Mortality in Honduras

Honduras Vital Statistics

1 child in 31 dies before age 5
50% of these deaths are newborn babies
Lifetime risk of maternal death: 1 in 93
1 doctor for every 1,750 people
Health worker shortage: 2,900*

* Data are for shortages of doctors, nurses and midwives. However, in many developing countries, lifesaving services such as immunizations, contraception, nutrition rehabilitation and treatments for pneumonia, diarrhea and malaria can be delivered by community health workers more affordably and closer to home.

Between 1990 and 1997 Honduras achieved one of the most rapid reductions in maternal mortality ever recorded in the developing world.[149] Over this period, Honduras advanced from having rates of maternal mortality as high as 182 deaths per 100,000 live births, to having relatively "low" maternal mortality of 108 deaths per 100,000 live births – a 41 percent reduction in just seven years.[150]

Over roughly the same period, Honduras' under-5 mortality rate fell by 27 percent (from 55 to 40 deaths per 1,000 live births).[151] This rate has continued to fall to a low of 31 in 2008 – representing a 44 percent reduction from 1990 levels.[152] Still, Honduras remains a country with some of the highest maternal, under-5 and newborn mortality rates in Latin America.[153]

Starting in the mid-1980s, the Honduran government began implementing initiatives to provide better prenatal care for pregnant women and training to traditional birth attendants. It also created faster and more affordable ways for women to reach medical facilities when they were facing serious birth complications.

Honduras constructed 23 birthing homes[154] that were typically staffed by a nurse with special training in obstetrics who provided basic care for routine childbirths. Most had transport available in case of emergencies that required hospital care. Birthing homes are less expensive to maintain than hospitals and bring skilled attendant care closer to pregnant women living in hard-to-reach areas.[155]

Honduras

Honduras also established maternity waiting homes. These were built near hospitals to provide a place for women from remote areas to go near the time of delivery so that they could have easy access to a medical facility. Young, first-time mothers, older mothers who had already had five or more children and those with underlying medical conditions were referred to these waiting homes in anticipation of a higher risk delivery. Traditional birth attendants and other community health workers, as well as nurses and doctors staffing health clinics, were trained to assess risks and refer women appropriately.[156]

Today the primary vehicle of Honduras' maternal and child health strategy is the Community-Based Integrated Child Care Program (AIN/C). This program utilizes community volunteers – *monitoras* – who can be men, but are usually women. The program is aimed at teaching mothers about nutritional care for the first two years of their children's lives.[157]

Despite this progress, Honduras is one of only a handful of Latin American countries with a critical shortage of health personnel, and those that exist are disproportionately concentrated in urban areas.[158] While the majority of prenatal and delivery care is provided by doctors, traditional birth attendants still play an important role in childbirth care, especially in rural areas where they attend 42 percent of births.[159]

"Elena has helped me a lot. I feel more secure when she visits me and gives me advice. Maybe it's because she is a mother like I am."

Jacinta, 33-year-old mother of four in Guatemala

Treating Bolivia's Indigenous Mothers With Respect

Bolivia is one of the poorest countries in Latin America with some of the highest maternal and child death rates in the hemisphere. Inadequate health care disproportionately affects rural indigenous women, who often avoid going to medical facilities because they fear mistreatment due to their gender, ethnicity and traditions.

In the early 1990s, a project called Warmi organized rural women into groups to identify and address their health problems. It also trained birth attendants and husbands in safe birthing techniques. Warmi succeeded in increasing the proportion of women receiving prenatal care and breastfeeding on the first day after birth.[160] The Warmi approach has served as a model for other successful initiatives in Nepal, India, Zambia and several Latin American countries.[161]

PROCOSI, a network of 33 NGOs, has been working for more than two decades to promote gender sensitivity as a necessary component of high-quality care. PROCOSI has set standards to certify clinics as gender sensitive, thereby increasing women's satisfaction and use of services.[162]

These efforts, along with successful family planning programs, contributed to a dramatic 59 percent decline in maternal mortality in Bolivia between 1990 and 2008.[163]

Bolivia has virtually no professional midwives[164] due to the cancelation of its midwifery program in the 1970s.[165] However, the government recently pledged its support for a new generation of midwives to be trained at three rural universities.[166]


Save the Childr
EVER
ONE

Take Action Now to Train More Health Workers and Save Mothers' and Babies' Lives

Every year, nearly 9 million newborn babies and young children die before reaching age 5 and nearly 350,000 women lose their lives due to pregnancy or childbirth complications.

An additional 4.3 million health workers are needed in developing countries to help save these lives and meet the health-related Millennium Development Goals. These workers should be in place no later than 2012.

HELP US SAVE THE LIVES OF MOTHERS, CHILDREN AND BABIES AROUND THE WORLD.

- Citizens everywhere should urge their governments – national governments and donors alike – to live up to the commitments made to achieve Millennium Development Goals 4 and 5.
- Donor countries and international agencies must keep their funding commitments to achieving MDGs 4 and 5. We urge the nations participating in the G-8 Summit in June 2010 in Canada to double total G-8 bilateral aid for maternal, newborn and child health.
- Developing country governments must commit to recruiting and deploying the additional health workers – especially female health workers – needed to deliver lifesaving services to mothers, newborns and young children.
- African governments must invest in health by meeting the Abuja target set in 2001 to devote at least 15 percent of government spending to the health sector. This must include resources for the implementation of a national action plan for maternal, newborn, and child health that is supported by accountable leadership and good stewardship of resources.
- All governments should commit to a Global Action Plan on maternal, newborn and child health to be adopted at the September United Nations Summit on the Millennium Development Goals in order to accelerate progress on MDGs 4 and 5.
- Governments, donors and international agencies should make the education of girls a priority, which will empower and enable mothers to be better caretakers and increase the pool of young women who are qualified to become health workers.
- Join Save the Children's newborn and child survival campaign.

VISIT WWW.SAVETHECHILDREN.NET TO FIND THE CAMPAIGN IN YOUR COUNTRY AND JOIN OUR MOVEMENT.

◀ Liberia

Appendix: The Mothers' Index and Country Rankings

Nicaragua

The eleventh annual *Mothers' Index* helps document conditions for mothers and children in 160 countries – 43 developed nations[167] and 117 in the developing world – and shows where mothers fare best and where they face the greatest hardships. All countries for which sufficient data are available are included in the *Index*.

Why should Save the Children be so concerned with mothers? Because more than 90 years of field experience have taught us that the quality of children's lives depends on the health, security and well-being of their mothers. In short, providing mothers with access to education, economic opportunities and maternal and child health care gives mothers and their children the best chance to survive and thrive.

The *Index* relies on information published by governments, research institutions and international agencies. The *Complete Mothers' Index*, based on a composite of separate indices for women's and children's well-being, appears in the fold-out table in this appendix. A full description of the research methodology and individual indicators appears after the fold-out.

MOTHERS' INDEX RANKINGS

European countries – along with New Zealand and Australia – dominate the top positions while countries in sub-Saharan Africa dominate the lowest tier. The United States places 28th this year.

While most industrialized countries cluster tightly at the top of the *Index* – with the majority of these countries performing well on all indicators – the highest ranking countries attain very high scores for mothers' and children's health, educational and economic status.

TOP 10 – best places to be a mother		**BOTTOM 10** – worst places to be a mother	
Rank	Country	Rank	Country
1	Norway	151	Equatorial Guinea
2	Australia	152	Eritrea
3	Iceland	152	Sudan
3	Sweden	154	Mali
5	Denmark	155	DR Congo
6	New Zealand	156	Yemen
7	Finland	157	Guinea-Bissau
8	Netherlands	158	Chad
9	Belgium	159	Niger
9	Germany	160	Afghanistan

The 10 bottom-ranked countries in this year's *Mothers' Index* are a reverse image of the top 10, performing poorly on all indicators. Conditions for mothers and their children in these countries are devastating.

- Sixty percent of all births are not attended by skilled health personnel.
- On average, 1 in 23 mothers will die from pregnancy-related causes.
- 1 child in 6 dies before his or her fifth birthday.
- 1 child in 3 suffers from malnutrition.
- Roughly 1 child in 5 is not enrolled in primary school.
- Only 4 girls are enrolled in primary school for every 5 boys.

- On average, females have little over 5 years of formal education.
- Women earn only 40 percent of what men do for equal work.
- Nine out of 10 women are likely to suffer the loss of a child in their lifetime.

The contrast between the top-ranked country, Norway, and the lowest-ranked country, Afghanistan, is striking. Skilled health personnel are present at virtually every birth in Norway, while only 14 percent of births are attended in Afghanistan. A typical Norwegian woman has over 18 years of formal education and will live to be 83 years old, 82 percent are using some modern method of contraception, and only 1 in 132 will lose a child before his or her fifth birthday. At the opposite end of the spectrum, in Afghanistan, a typical woman has just over 4 years of education and will live to be only 44. Sixteen percent of women are using modern contraception, and more than 1 child in 4 dies before his or her fifth birthday. At this rate, every mother in Afghanistan is likely to suffer the loss of a child.

The data collected for the *Mothers' Index* document the tremendous gaps between rich and poor countries and the urgent need to accelerate progress in the health and well-being of mothers and their children. The data also highlight the regional dimension of this tragedy. Three of the bottom 10 countries are Arab States and seven are in sub-Saharan Africa. Sub-Saharan Africa also accounts for 16 of the 20 lowest-ranking countries.

Individual country comparisons are especially startling when one considers the human suffering behind the statistics:

- Fewer than 15 percent of births are attended by skilled health personnel in Chad and Afghanistan. In Ethiopia only 6 percent of births are attended. Compare that to 99 percent in Sri Lanka and 94 percent in Botswana.
- 1 woman in 7 dies in pregnancy or childbirth in Niger. The risk is 1 in 8 in Afghanistan and Sierra Leone. In Bosnia and Herzegovina, Greece and Italy the risk of maternal death is less than 1 in 25,000 and in Ireland it's 1 in 47,600.
- A typical women will die before the age of 50 in Central African Republic, Democratic Republic of the Congo, Mali, Mozambique, Nigeria, Sierra Leone and Zambia. Life expectancy for women is only 46 in Lesotho, Swaziland and Zimbabwe. In Afghanistan, the average woman does not live to see her 45th birthday while in Japan women on average live over 86 years.
- In Somalia, only 1 percent of women use modern contraception. Rates are less than 5 percent in Angola, Chad and Guinea. Eighty percent or more of women in Norway, Thailand and the United Kingdom and 86 percent of women in China use some form of modern contraception.
- In Afghanistan, Jordan, Lebanon, Libyan Arab Jamahiriya, Morocco, Oman, Pakistan, Syria and Yemen, women earn 25 cents or less for every dollar men earn. Saudi Arabian and Palestinian women earn only 16 and 12 cents respectively to the male dollar. In Mongolia, women earn 87 cents for every dollar men earn and in Mozambique they earn 90 cents.
- In Belize, Comoros, Micronesia, Oman, Saudi Arabia, the Solomon Islands and Qatar, not one seat in the lower or single house of parliament is occupied by a woman. In Bahrain, Papua New Guinea and Yemen, women have only one seat. Compare that to Rwanda where well over half – 56 percent – of all seats are held by women. In Sweden, women hold 46 percent of parliamentary seats.

What the Numbers Don't Tell You

The national-level data presented in the *Mothers' Index* provide an overview of many countries. However, it is important to remember that the condition of geographic or ethnic sub-groups in a country may vary greatly from the national average. Remote rural areas tend to have fewer services and more dire statistics. War, violence and lawlessness also do great harm to the well-being of mothers and children, and often affect certain segments of the population disproportionately. These details are hidden when only broad national-level data are available.

Afghanistan

- A typical female in Afghanistan, Angola, Chad, Djibouti, Eritrea and Guinea-Bissau receives less than five years of formal education. In Niger, women receive less than four years. In Australia and New Zealand, the average woman stays in school for over 20 years.
- Forty-five percent of children in Djibouti and Papua New Guinea are not enrolled in primary school. Out-of-school rates are 48 percent in Eritrea. In comparison, nearly all children in Australia, Belgium, France, Germany, Italy, the Netherlands, Spain and Sweden make it from preschool all the way to high school.
- In Central African Republic and Chad, fewer than 3 girls for every 4 boys are in primary school. In Afghanistan and Guinea-Bissau, it's 2 girls for every 3 boys.
- 1 child in 5 does not reach his or her fifth birthday in Angola, Chad, Democratic Republic of the Congo and Somalia. In Afghanistan, child mortality rates are higher than 1 in 4. In Finland, Iceland, Luxembourg, Singapore and Sweden, only 1 child in 333 dies before age 5.
- Over 40 percent of children under age 5 suffer from malnutrition in Bangladesh, Madagascar, Nepal, Niger and Yemen. In India and Timor-Leste, nearly half of all children in this age group are moderately or severely underweight.
- More than half of the population of Chad, Democratic Republic of the Congo, Equatorial Guinea, Ethiopia, Fiji, Madagascar, Mozambique, Niger, Nigeria and Papua New Guinea lack access to safe drinking water. In Somalia and Afghanistan, 71 and 78 percent of the population, respectively, lack access to safe water.

Statistics are far more than numbers. It is the human despair and lost opportunities behind these numbers that call for changes to ensure that mothers everywhere have the basic tools they need to break the cycle of poverty and improve the quality of life for themselves, their children, and for generations to come.

Frequently Asked Questions About the Mothers' Index

Why doesn't the United States do better in the rankings?

The United States ranked 28th this year based on several factors:

- One of the key indicators used to calculate well-being for mothers is lifetime risk of maternal death. The United States' rate for maternal mortality is 1 in 4,800 – one of the highest in the developed world. Thirty-five out of 43 developed countries performed better than the United States on this indicator, including all the Western, Northern and Southern European countries (except Estonia and Albania) as well as Australia, Bulgaria, Canada, Czech Republic, Hungary, Japan, New Zealand, Poland, Slovakia, and Ukraine. A woman in the Unites States is more than five times as likely as a woman in Bosnia and Herzegovina, Greece or Italy to die from pregnancy-related causes in her lifetime and her risk of maternal death is nearly 10-fold that of a woman in Ireland.
- Similarly, the United States does not do as well as many other countries with regard to under-5 mortality. The U.S. under-5 mortality rate is 8 per 1,000 births. This is on par with rates in Slovakia and Montenegro. Thirty-eight countries performed better than the U.S. on this indicator. At this rate, a child in the U.S. is more than twice as

likely as a child in Finland, Iceland, Sweden or Singapore to die before his or her fifth birthday.

- Only 61 percent of children in the United States are enrolled in preschool – making it the seventh lowest country in the developed world on this indicator.
- The United States has the least generous maternity leave policy – both in terms of duration and percent of wages paid – of any wealthy nation.
- The United States is also lagging behind with regard to the political status of women. Only 17 percent of seats in the House of Representatives are held by women, compared to 46 percent of seats in Sweden and 43 percent in Iceland.

Why is Norway number one?

Norway generally performed as well as or better than other countries in the rankings on all indicators. It has the highest ratio of female-to-male earned income, the highest contraceptive prevalence rate, one of the lowest under-5 mortality rates, and one of the most generous maternity leave policies in the developed world.

Why is Afghanistan last?

Afghanistan has the highest rate of under-5 mortality, the lowest female life expectancy and the worst gender disparity in primary education in the world. Performance on most other indicators also place Afghanistan among the lowest-ranking countries in the world.

Why are some countries not included in the Mothers' Index?

Rankings were based on a country's performance with respect to a defined set of indicators related primarily to health, nutrition, education, economic and political status. There were 160 countries for which published information regarding performance on these indicators existed. All 160 were included in the study. The only basis for excluding countries was insufficient or unavailable data or national populations below 250,000.

What should be done to bridge the divide between countries that meet the needs of their mothers and those that don't?

- Governments and international agencies need to increase funding to improve education levels for women and girls, provide access to maternal and child health care and advance women's economic opportunities.
- The international community also needs to improve current research and conduct new studies that focus specifically on mothers' and children's well-being.
- In the United States and other industrialized nations, governments and communities need to work together to improve education and health care for disadvantaged mothers and children.

2010 Mothers' Index Rankings

Country	Mothers' Index Rank*	Women's Index Rank**	Children's Index Rank***
TIER I: More Developed Countries			
Norway	1	2	9
Australia	2	1	28
Iceland	3	5	6
Sweden	3	7	1
Denmark	5	4	19
New Zealand	6	3	24
Finland	7	6	18
Netherlands	8	9	22
Belgium	9	11	13
Germany	9	14	3
Ireland	11	8	26
France	12	13	4
Spain	13	15	11
United Kingdom	14	10	24
Switzerland	15	18	12
Slovenia	16	12	20
Estonia	17	19	13
Italy	17	24	2
Portugal	19	22	8
Canada	20	17	21
Hungary	21	15	23
Lithuania	22	21	27
Czech Republic	23	27	13
Greece	24	26	17
Latvia	25	19	33
Austria	26	33	5
Croatia	27	25	32
United States	28	23	34
Luxembourg	29	34	9
Poland	29	29	29
Slovakia	31	30	30
Japan	32	38	6
Belarus	33	28	36
Bulgaria	34	31	31
Malta	35	41	13
Serbia	36	40	35
Romania	37	32	39
Russian Federation	38	35	38
Ukraine	39	37	37
Moldova, Republic of	40	38	41
Bosnia and Herzegovina	41	36	43
Macedonia, TFYR	42	42	40
Albania	43	43	42
TIER II: Less Developed Countries			
Cuba	1	1	10
Israel	2	2	2
Argentina	3	4	13
Barbados	3	3	2
Korea, Republic of	5	6	7
Cyprus	6	8	1
Uruguay	7	7	8
Kazakhstan	8	9	21
Bahamas	9	12	5
Mongolia	10	4	53
Thailand	11	10	19
Costa Rica	12	21	12
Chile	13	20	4
Colombia	13	10	33
Brazil	15	15	19
South Africa	16	14	51
Peru	17	18	31
China	18	13	42
Ecuador	18	17	40
Venezuela, Bolivarian Republic of	20	16	34
Dominican Republic	21	19	26
Mexico	21	26	18
Uzbekistan	23	23	36
Bahrain	24	26	17
Kyrgyzstan	25	24	38
Panama	26	21	39
Trinidad and Tobago	27	34	25
Tunisia	28	36	14
Jamaica	29	30	29
Kuwait	30	30	27
Mauritius	31	35	27
Vietnam	31	24	57
Bolivia, Plurinational State of	33	29	52
Paraguay	34	28	54
Armenia	35	36	37
Suriname	36	38	47
Namibia	37	30	65

Country	Mothers' Index Rank*	Women's Index Rank**	Children's Index Rank***
TIER II: Less Developed Countries (Continued)			
Malaysia	38	45	22
Qatar	39	49	9
Sri Lanka	40	33	60
El Salvador	41	39	56
Iran, Islamic Republic of	42	43	35
Georgia	43	55	10
Libyan Arab Jamahiriya	43	41	46
Guyana	45	48	48
Botswana	46	45	45
United Arab Emirates	46	56	23
Cape Verde	48	50	49
Lebanon	48	60	6
Philippines	48	41	62
Belize	51	54	30
Algeria	52	52	41
Azerbaijan	53	51	54
Indonesia	54	44	66
Tajikistan	55	40	71
Jordan	56	61	14
Egypt	57	61	24
Gabon	57	45	70
Nicaragua	57	57	59
Honduras	60	58	58
Turkey	60	65	16
Saudi Arabia	62	67	32
Swaziland	63	53	72
Ghana	64	59	69
Syrian Arab Republic	64	68	42
Guatemala	66	66	63
Zimbabwe	67	61	73
Morocco	68	73	61
Oman	69	70	67
Kenya	70	64	79
Cameroon	71	69	76
Congo	71	71	74
India	73	74	75
Papua New Guinea	74	72	81
Pakistan	75	76	77
Côte d'Ivoire	76	76	78
Nigeria	77	75	80
TIER III: Least Developed Countries			
Maldives	1	1	4
Rwanda	2	2	10
Lesotho	3	3	2
Malawi	4	6	7
Uganda	5	5	11
Bhutan	6	12	3
Solomon Islands	7	13	1
Mozambique	8	4	26
Lao People's Democratic Republic	9	6	19
Cambodia	10	8	21
Nepal	10	10	12
Comoros	12	11	8
Gambia	13	17	5
Madagascar	14	8	30
Bangladesh	15	15	14
Tanzania, United Republic of	16	18	13
Burundi	17	14	27
Senegal	18	23	6
Mauritania	19	18	20
Timor-Leste	19	16	28
Liberia	21	21	22
Togo	21	24	14
Guinea	23	22	23
Zambia	23	26	16
Ethiopia	25	20	32
Benin	26	28	17
Burkina Faso	27	26	31
Djibouti	28	30	17
Sierra Leone	29	25	38
Angola	30	29	34
Equatorial Guinea	31	31	24
Eritrea	32	34	33
Sudan	32	36	25
Mali	34	33	36
Congo, Democratic Republic of the	35	32	39
Yemen	36	37	29
Guinea-Bissau	37	38	35
Chad	38	35	40
Niger	39	39	41
Afghanistan	40	40	42

* Due to different indicator weights and rounding, it is possible for a country to rank high on the women's or children's index but not score among the very highest countries in the overall *Mothers' Index*. For a complete explanation of the indicator weighting, please see the *Methodology and Research Notes*.

*** Rankings for Tiers I, II and III are out of the 43, 77 and 40 countries respectively for which sufficient data existed to calculate the *Women's Index*.

*** Rankings for Tiers I, II and III are out of the 43, 81 and 42 countries respectively for which sufficient data existed to calculate the *Children's Index*.

The Complete Mothers' Index 2010

TIER I	Women's Index								Children's Index			Rankings		
Development Group	Health Status			Educational Status	Economic Status			Political Status	Children's Status			SOWM 2010		
MORE DEVELOPED COUNTRIES	Lifetime risk of maternal death (1 in number stated)	Percent of women using modern contraception	Female life expectancy at birth (years)	Expected number of years of formal schooling for females	Maternity leave benefits (2009)		Ratio of estimated female to male earned income	Participation of women in national government (% seats held by women)	Under-5 mortality rate (per 1,000 live births)	Gross pre-primary enrollment ratio (% of total)	Gross secondary enrollment ratio (% of total)	Mothers' Index Rank (out of 43 countries)+	Women's Index Rank (out of 43 countries)+	Children's Index Rank (out of 43 countries)+
	2005	2008	2009	2008	length	% wages paid	2007	2010	2008	2008	2008			
Albania	490	22	80	11	365 days[1]	80, 50 (a)	0.54	16	14	49	78	43	43	42
Australia	13,300	71	84	21	12 months	— (b)	0.70	27	6	101	148	2	1	28
Austria	21,500	47	83	15	16* weeks	100	0.40	28	4	92	100	26	33	5
Belarus	4,800	56	76	15	126 days[1]	100	0.63	32	13	102	95	33	28	36
Belgium	7,800	73	83	16	15 weeks	82, 75 (c,d)	0.64	38	5	121	110	9	11	13
Bosnia and Herzegovina	29,000	11	78	13 (z)	1 year	50-100	0.61	19	15	11	89	41	36	43
Bulgaria	7,400	40	77	14	135 days	90	0.68	21	11	82	105	34	31	31
Canada	11,000	72	83	16	17 weeks	55 (d,e)	0.65	22	6	70	101	20	17	21
Croatia	10,500	—	80	14	1+ year	100 (f,g)	0.67	24	6	51	94	27	25	32
Czech Republic	18,100	63	80	16	28* weeks	69	0.57	16	4	114	95	23	27	13
Denmark	17,800	72	81	18	52 weeks	100 (d)	0.74	38	4	96	119	5	4	19
Estonia	2,900	56	79	17	140* days[1]	100	0.65	23	6	95	100	17	19	13
Finland	8,500	75	83	18	105* days[11]	70 (h)	0.73	40	3	64	111	7	6	18
France	6,900	77	85	16	16* weeks	100 (d)	0.61	19	4	113	113	12	13	4
Germany	19,200	66	83	16 (z)	14* weeks	100 (d)	0.59	33	4	108	101	9	14	3
Greece	25,900	46	82	17	119 days	50+ (b,j)	0.51	17	4	69	102	24	26	17
Hungary	13,300	71	78	16	24* weeks	70	0.75	11	7	89	97	21	15	23
Iceland	12,700	—	84	20	3 months	80	0.62	43	3	96	110	3	5	6
Ireland	47,600	66	83	18	26 weeks	80 (h,d)	0.56	14	4	—	113	11	8	26
Italy	26,600	41	84	17	5 months	80	0.49	21	4	101	100	17	24	2
Japan	11,600	44	87	15	14 weeks	67 (b)	0.45	11	4	88	101	32	38	6
Latvia	8,500	56	78	17	112 days[1]	100	0.67	22	9	90	115	25	19	33
Lithuania	7,800	33	78	17	126 days[1]	100	0.70	19	7	69	99	22	21	27
Luxembourg	5,000	—	82	13	16 weeks	100	0.57	20	3	86	95	29	34	9
Macedonia, The former Yugoslav Republic of	6,500	10	77	12	9 months	— (k)	0.49	33	11	38	84	42	42	40
Malta	8,300	43	82	15	14 weeks	100 (l)	0.45	9	6	101	98	35	41	13
Moldova, Republic of	3,700	43	73	12	126 days[1]	100	0.73	24	17	72	83	40	38	41
Montenegro	4,500‡	17	77	—	—	—	0.58	11	8	—	—	—	—	—
Netherlands	10,200	65	82	17	16 weeks	100 (d)	0.67	42	5	101	120	8	9	22
New Zealand	5,900	72	82	20	14 weeks	100 (d)	0.69	34	6	93	120	6	3	24
Norway	7,700	82	83	18	46-56* weeks	80, 100 (m)	0.77	40	4	92	113	1	2	9
Poland	10,600	28	80	16	16* weeks	100	0.59	20	7	60	100	29	29	29
Portugal	6,400	63	82	16	120 days	100	0.60	27	4	80	101	19	22	8
Romania	3,200	38	77	15	126 days[1]	85	0.68	11	14	72	87	37	32	39
Russian Federation	2,700	53	73	14	140 days[1]	100 (b,d)	0.64	14	13	89	84	38	35	38
Serbia	4,500‡	19	77	14	365 days	100 (n)	0.59	22	7	57	90	36	40	35
Slovakia	13,800	66	79	15	28* weeks	55	0.58	18	8	94	93	31	30	30
Slovenia	14,200	63	82	18	105 days[1]	100	0.61	14	4	80	94	16	12	20
Spain	16,400	62	84	17	16* weeks	100	0.52	37	4	123	119	13	15	11
Sweden	17,400	65	83	16	480 days[1]	80 (o,d)	0.67	46	3	101	103	3	7	1
Switzerland	13,800	78	84	15	14 weeks	80 (d)	0.62	29	5	101	96	15	18	12
Ukraine	5,200	48	74	15	126 days	100	0.59	8	16	98	94	39	37	37
United Kingdom	8,200	82 (r)	82	16	52 weeks	90 (p)	0.67	20	6	73	97	14	10	24
United States	4,800	68	82	16	12 weeks	— (q)	0.62	17(i)	8	61	94	28	23	34

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TIER II	Women's Index							Children's Index					Rankings		
Development Group	Health Status				Educational Status	Economic Status	Political Status	Children's Status					SOWM 2010		
LESS DEVELOPED COUNTRIES and TERRITORIES (minus least developed countries)	Lifetime risk of maternal death (1 in number stated)	Percent of births attended by skilled health personnel	Percent of women using modern contraception	Female life expectancy at birth (years)	Expected number of years of formal schooling for females	Ratio of estimated female to male earned income	Participation of women in national government (% seats held by women)	Under-5 mortality rate (per 1,000 live births)	Percent of children under 5 moderately or severely underweight for age	Gross primary enrollment ratio (% of total)	Gross secondary enrollment ratio (% of total)	Percent of population with access to safe water	Mothers' Index Rank (out of 77 countries)+	Women's Index Rank (out of 77 countries)+	Children's Index Rank (out of 81 countries)+
	2005	2008	2008	2009	2008	2007	2010	2008	2008	2008	2008	2006			
Algeria	220	95	52	74	13	0.36	8	41	4	108	83	85	52	52	41
Argentina	530	99	64	79	17	0.51	39	16	4	115	85	96	3	4	13
Armenia	980	100	19	77	12	0.57	9	23	4	80	88	98	35	36	37
Azerbaijan	670	88	13	73	13	0.44	11	36	10	116	106	78	53	51	54
Bahamas	2,700	99	60	77	12 (z)	0.72 (y)	12	13	—	102	94	97 (y)	9	12	5
Bahrain	1,300	98	31 (s)	78	15	0.51	3	12	9	105	97	—	24	26	17
Barbados	4,400	100	53	80	16 (z)	0.65	10	11	6 (y)	105 (z)	103 (z)	100	3	3	2
Belize	560	95	31	79	12	0.43	0	19	6	120	75	91 (y)	51	54	30
Bolivia, Plurinational State of	89	66	34	68	14	0.61	25	54	6	108	82	86	33	29	52
Botswana	130	94	42	55	12	0.58	8	31	13	110	80	96	46	45	45
Brazil	370	97	70	76	14	0.60	9	22	2 (z)	130	100	91	15	15	19
Brunei Darussalam	2,900	99	—	80	14	0.59	—	7	—	107	97	—	—	—	—
Cameroon	24	63	12	52	9	0.53	14	131	19	111	37	70	71	69	76
Cape Verde	120	78	46 (y)	74	11	0.49	18	29	9	101	68	80 (y)	48	50	49
Chile	3,200	100	58 (y)	82	14	0.42	14	9	1	106	91	95	13	20	4
China	1,300	98	86	75	11	0.68	21	21	7	112	74	88	18	13	42
Colombia	290	96	68	77	14	0.71	8	20	7	120	91	93	13	10	33
Congo	22	83	13	55	8	0.51	7	127	14	114	43	71	71	71	74
Costa Rica	1,400	99	72	82	12	0.46	37 (z)	11	5	110	89	98	12	21	12
Côte d'Ivoire	27	57	8	59	5	0.34	9	114	20	74	26	81	76	76	78
Cuba	1,400	100	72	81	19	0.49	43	6	4	102	91	91	1	1	10
Cyprus	6,400	100 (y)	—	82	14	0.58	13	4	—	102	98	100	6	8	1
Dominican Republic	230	98	70	76	13	0.59	20	33	4	104	75	95	21	19	26
Ecuador	170	99	58	78	14	0.51	32	25	9	118	70	95	18	17	40
Egypt	230	79	58	72	10 (z)	0.27	2	23	8	100	79	98	57	61	24
El Salvador	190	92	66	76	12	0.46	19	18	9	115	64	84	41	39	56
Fiji	160	99	—	71	13	0.38	—	18	8 (y)	94	81	47	—	—	68
Gabon	53	86	12	62	12	0.59	15	77	12	134	53	87	57	45	70
Georgia	1,100	98	27	75	13	0.38	7	30	2	107	90	99	43	55	10
Ghana	45	55	17	58	9	0.74	8	76	14 (z)	102	54	80	64	59	69
Guatemala	71	41	34	74	10	0.42	12	35	23	114	57	96	66	66	63
Guyana	90	83	33	71	12	0.41	30	61	12	109	102	93	45	48	48
Honduras	93	67	56	75	12	0.34	18	31	11	116	65	84	60	58	58
India	70	47	49	66	10	0.32	11	69	48	113	57	89	73	74	75
Indonesia	97	79	57	73	13	0.44	18	41	18 (z)	121	76	80	54	44	66
Iran, Islamic Republic of	300	97	59	73	15	0.32	3	32	5	128	80	94 (y)	42	43	35
Iraq	72	80	33	72	8	—	26	44	8	98	47	77	—	—	64
Israel	7,800	99 (y)	52 (t)	83	16	0.64	19	5	—	111	91	100	2	2	2
Jamaica	240	97	66	76	12	0.58	13	31	2 (z)	90	90	93	29	30	29
Jordan	450	99	41	75	13	0.19	6	20	4	96	86	98	56	61	14
Kazakhstan	360	100	49	72	16	0.68	18	30	4	108	92	96	8	9	21
Kenya	39	42	32	55	9	0.65	10	128	21	112	58	57	70	64	79
Korea, Democratic People's Republic of	140	97	58	70	—	—	16	55	23	—	—	100	—	—	—
Korea, Republic of	6,100	100	75	83	16	0.52	15	5	—	104	97	92 (y)	5	6	7
Kuwait	9,600	98	39 (s)	80	13	0.36	8	11	10	95	91	—	30	30	27

The Complete Mothers' Index 2010

TIER II continued	Women's Index							Children's Index					Rankings		
Development Group	Health Status				Educational Status	Economic Status	Political Status	Children's Status					SOWM 2010		
LESS DEVELOPED COUNTRIES and TERRITORIES (minus least developed countries)	Lifetime risk of maternal death (1 in number stated)	Percent of births attended by skilled health personnel	Percent of women using modern contraception	Female life expectancy at birth (years)	Expected number of years of formal schooling for females	Ratio of estimated female to male earned income	Participation of women in national government (% seats held by women)	Under-5 mortality rate (per 1,000 live births)	Percent of children under 5 moderately or severely underweight for age	Gross primary enrollment ratio (% of total)	Gross secondary enrollment ratio (% of total)	Percent of population with access to safe water	Mothers' Index Rank (out of 77 countries)+	Women's Index Rank (out of 77 countries)+	Children's Index Rank (out of 81 countries)+
	2005	2008	2008	2009	2008	2007	2010	2008	2008	2008	2008	2006			
Kyrgyzstan	240	98	46	72	13	0.55	26	38	3	95	85	89	25	24	38
Lebanon	290	98	34	74	14	0.25	3	13	4	101	82	100	48	60	6
Libyan Arab Jamahiriya	350	94	26	77	17	0.25	8	17	5	110	93	72 (y)	43	41	46
Malaysia	560	98	30 (w)	77	13	0.42	10	6	8	98	69	99	38	45	22
Mauritius	3,300	98	39	76	13	0.42	17	17	15	99	88	100	31	35	27
Mexico	670	93	67	79	14	0.42	28	17	5	113	87	95	21	26	18
Micronesia, Federated States of	—	88	21	75	12 (z)	—	0	39	15	110	91	94	—	—	49
Mongolia	840	99	61	70	14	0.87	4	41	6	102	95	72	10	4	53
Morocco	150	63	52	74	10	0.24	11	36	10	107	56	83	68	73	61
Namibia	170	81	54	62	12	0.63	27	42	21	112	66	93	37	30	65
Nicaragua	150	74	69	77	11	0.34	21	27	7	117	68	79	57	57	59
Nigeria	18	39	9	49	8	0.42	7	186	27	93	30	47	77	75	80
Occupied Palestinian Territory	—	99	39	75	14	0.12 (y)	—	27	3	80	92	89	—	—	42
Oman	420	99	18 (s)	78	11	0.23	0	12	18	75	88	79 (y)	69	70	67
Pakistan	74	39	22	67	6	0.18	22	89	38	85	33	90	75	76	77
Panama	270	92	54 (y)	79	14	0.58	9	23	8	111	71	92	26	21	39
Papua New Guinea	55	53	20	64	6	0.74	1	69	26	55	—	40	74	72	81
Paraguay	170	82	70	74	12	0.64	13	28	4	108	66	77	34	28	54
Peru	140	71	47	76	14	0.59	28	24	5	113	98	84	17	18	31
Philippines	140	62	36	74	12	0.58	21	32	28	108	81	93	48	41	62
Qatar	2,700	99	32 (s)	77	15	0.28	0	10	6	109	93	100	39	49	9
Saudi Arabia	1,400	91	29 (y,s)	76	13	0.16	0	21	14	98	95	95 (y)	62	67	32
Singapore	6,200	100	53	83	—	0.53	23	3	3	—	—	100 (y)	—	—	—
South Africa	110	91	60	53	14 (z)	0.60	45 (ii)	67	12	105	95	93	16	14	51
Sri Lanka	850	99	53	78	13 (z)	0.56	6	15	22 (z)	105	87	82	40	33	60
Suriname	530	90	41	73	13	0.44	26	27	10	114	75	92	36	38	47
Swaziland	120	69	47	46	10	0.71	14	83	7	108	53	60	63	53	72
Syrian Arab Republic	210	93	43	76	11 (z)	0.20	12	16	10	124	74	89	64	68	42
Tajikistan	160	88	33	70	10	0.65	20 (z)	64	18	102	84	67	55	40	71
Thailand	500	97	80	72	14 (z)	0.63	13	14	9	104 (z)	83 (z)	98	11	10	19
Trinidad and Tobago	1,400	98	38	73	12	0.55	27	35	6	103	89	94	27	34	25
Tunisia	500	95	52	76	15	0.28	28	21	3	108	90	94	28	36	14
Turkey	880	91	43	75	11	0.26	9	22	3	98	82	97	60	65	16
Turkmenistan	290	100	45	69	—	0.65	17	48	11	—	—	72 (y)	—	—	—
United Arab Emirates	1,000	99	24 (s)	79	12	0.27	23	8	14	108	94	100	46	56	23
Uruguay	2,100	100	75	80	16	0.55	15	14	5	114	92	100	7	7	8
Uzbekistan	1,400	100	59	71	11	0.64	22	38	5	94	102	88	23	23	36
Venezuela, Bolivarian Republic of	610	95	62	77	15	0.48	18	18	5	103	81	83 (y)	20	16	34
Vietnam	280	88	68	77	10	0.69	26	14	20	108 (z)	67	92	31	24	57
Zimbabwe	43 (z)	69	58	46	9	0.58 (y)	15	96	17	104	41	81	67	61	73

Note: Data refer to the year specified in the column heading or the most recently available. – No data ' calendar days " working days (all other days unspecified)

+ The *Mothers' Index* rankings include only those countries for which sufficient data were available to calculate both the Women's and Children's Indexes. The *Women's Index* and *Children's Index* ranks, however, include additional countries for which adequate data were available to present findings on either women's or children's indicators, but not both. For complete methodology see *Methodology and Research Notes*.

‡ Data refer to Serbia and Montenegro prior to its separation into two independent states in June 2006.

(i) The total refers to all voting members of the House; (ii) Figures calculated on the basis of permanent seats only; (iii) The parliament was dissolved following the December 2008 coup

(a) 80% prior to birth and for 150 days after and 50% for the rest of the leave period; (b) A lump sum grant is provided for each child; (c) 82% for the first 30 days and 75% for the remaining period; (d) Up to a ceiling; (e) Benefits vary by province and jurisdiction; (f) 45 days before delivery and 1 year after; (g) 100% until the child reaches 6 months, then at a flat rate for the remaining period; (h) Benefits vary, but there is a minimum flat rate; (j) 50% plus a dependent's supplement (10% each, up to 40%); (k) Paid amount not specified; (l) Paid only the first 13 weeks; (m) Parental benefits paid at 100% for 46-week option; 80% for 56-week option; (n) 100% of earnings paid for the first 6 months, 60% from the 6th-9th month; 30% for the last 3 months; (o) 480 calendar days paid parental leave: 80% for 390 days; flat rate for remaining 90; (p) Paid for up to 39 weeks: 90% for the first 6 weeks and a flat rate for the remaining weeks; (q) There is no national program. Cash benefits may be provided at the state level; (r) Data excludes Northern Ireland; (s) Data pertain to nationals of the country; (t) Data pertain to the Jewish population; (w) Data pertain to Peninsular Malaysia; (y) Data are from an earlier publication of the same source; (z) Data differ from the standard definition and/or are from a secondary source

* These countries also offer prolonged periods of leave (at least 2 years). For additional information on child-related leave entitlements see OECD Family database: www.oecd.org/els/social/family/database

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TIER III	Women's Index							Children's Index					Rankings		
Development Group	Health Status				Educational Status	Economic Status	Political Status	Children's Status					SOWM 2010		
LEAST DEVELOPED COUNTRIES	Lifetime risk of maternal death (1 in number stated)	Percent of births attended by skilled health personnel	Percent of women using modern contraception	Female life expectancy at birth (years)	Expected number of years of formal schooling for females	Ratio of estimated female to male earned income	Participation of women in national government (% seats held by women)	Under-5 mortality rate (per 1,000 live births)	Percent of children under 5 moderately or severely underweight for age	Gross primary enrollment ratio (% of total)	Ratio of girls to boys enrolled in primary school	Percent of population with access to safe water	Mothers' Index Rank (out of 40 countries)+	Women's Index Rank (out of 40 countries)+	Children's Index Rank (out of 42 countries)+
	2005	2008	2008	2009	2008	2007	2010	2008	2008	2008	2008	2006			
Afghanistan	8	14	16	44	5	0.24	27	257	39	106	0.66	22	40	40	42
Angola	12	47	5	50	4 (z)	0.64	39	220	16 (z)	84 (z)	0.83 (z)	51	30	29	34
Bangladesh	51	18	48	68	8	0.51	19	54	46	94	1.07	80	15	15	14
Benin	20	74	6	63	6	0.52	11	121	23	117	0.87	65	26	28	17
Bhutan	55	71	31	68	11	0.39	9	81	19	106	1.00	81	6	12	3
Burkina Faso	22	54	13	55	5	0.66	15	169	32	73	0.87	72	27	26	31
Burundi	16	34	9	52	7	0.77	31	168	39	136	0.95	71	17	14	27
Cambodia	48	44	27	63	9	0.68	21	90	36	116	0.94	65	10	8	21
Central African Republic	25	53	9	49	—	0.59	10	173	29	77	0.71	66	—	—	37
Chad	11	14	2	50	4	0.70	5	209	37	83	0.70	48	38	35	40
Comoros	52	62	19	68	10	0.58	0	105	25	122	0.88	85	12	11	8
Congo, Democratic Republic of the	13	74	6	49	6	0.46	8	199	31	90	0.83	46	35	32	39
Djibouti	35	61	17	57	4	0.57	14	95	33	55	0.88	92	28	30	17
Equatorial Guinea	28	65	6	52	7	0.36	10	148	19	99	0.95	43	31	31	24
Eritrea	44	28	5	62	5	0.50	22	58	40	52	0.82	60	32	34	33
Ethiopia	27	6	14	57	7	0.67	22	109	38	98	0.89	42	25	20	32
Gambia	32	57	13	58	8	0.63	8	106	20	86	1.06	86	13	17	5
Guinea	19	46	4	60	7	0.68	— (iii)	146	26	90	0.85	70	23	22	23
Guinea-Bissau	13	39	6	50	5	0.46	10	195	19	120	0.67	57	37	38	35
Haiti	44	26	24	63	—	0.37	4	72	22	—	—	58	—	—	—
Lao People's Democratic Republic	33	20	29	67	8	0.76	25	61	37	112	0.91	60	9	6	19
Lesotho	45	55	35	46	10	0.73	24	79	14 (z)	108	0.99	78	3	3	2
Liberia	12	46	10	60	9	0.50	13	145	24	91	0.90	64	21	21	22
Madagascar	38	51	17	63	10	0.71	9 (z)	106	42	152	0.97	47	14	8	30
Malawi	18	54	38	55	9	0.74	21	100	21	120	1.03	76	4	6	7
Maldives	200	84	34	74	12	0.54	7	28	30	112	0.94	83	1	1	4
Mali	15	49	6	49	7	0.44	10	194	32	91	0.83	60	34	33	36
Mauritania	22	61	8	59	8	0.58	22	118	31	98	1.07	60	19	18	20
Mozambique	45	55	12	49	7	0.90	39	130	18	114	0.88	42	8	4	26
Myanmar	110	57	33	64	9 (z)	0.61	—	98	32	115	0.99	80	—	—	9
Nepal	31	19	44	68	8	0.61	33	51	45	124	0.95	89	10	10	12
Niger	7	33	5	53	4	0.34	12 (z)	167	43	58	0.78	42	39	39	41
Rwanda	16	52	26	53	9	0.79	56	112	23	151	1.01	65	2	2	10
Senegal	21	52	10	58	7	0.55	23	108	17	84	1.02	77	18	23	6
Sierra Leone	8	43	6	49	6	0.74	13	194	21 (z)	158	0.88	53	29	25	38
Solomon Islands	100	70	—	68	9	0.51	0	36	12 (z)	107	0.97	70	7	13	1
Somalia	12	33	1	52	—	—	7	200	36	—	—	29	—	—	—
Sudan	53	49	6	60	5 (z)	0.33	19	109	31	69	0.88	70	32	36	25
Tanzania, United Republic of	24	43	20	57	5	0.74	31	104	22	110	0.99	55	16	18	13
Timor-Leste	35	18	7	63	10 (z)	0.53	29	93	49	107	0.94	62	19	16	28
Togo	38	62	11	65	8 (z)	0.45	11	98	21	105	0.86	59	21	24	14
Uganda	25	42	18	54	10	0.69	32	135	20	120	1.01	64	5	5	11
Yemen	39	36	19	65	7	0.25	0.3	69	46	85	0.80	66	36	37	29
Zambia	27	47	27	47	7	0.56	14	148	19	119	0.98	58	23	26	16

Methodology and Research Notes

COMPLETE MOTHERS' INDEX

1. In the first year of the *Mothers' Index* (2000), a review of literature and consultation with members of the Save the Children staff identified health status, educational status, political status and children's well-being as key factors related to the well-being of mothers. In 2007, the *Mothers' Index* was revised to include indicators of economic status. All countries with populations over 250,000 were placed into one of three tiers according to United Nations development groups: more developed countries, less developed countries and least developed countries. Indicators for each development group were selected to best represent factors of maternal well-being specific to that group and published data sources for each indicator were then identified. To facilitate international comparisons, in addition to reliability and validity, indicators were selected based on inclusivity (availability across countries) and variability (ability to differentiate among countries). To adjust for variations in data availability when calculating the final index, indicators for maternal health and children's well-being were grouped into sub-indices (see step 7). This procedure allowed researchers to draw on the wealth of useful information on those topics without giving too little weight to the factors for which less abundant data were available. Data presented in this report includes information available through March 1, 2010.

   Sources: 2009 Population: United Nations Population Fund. *State of World Population 2009.* (New York: 2009); Classification of development regions: United Nations Population Division. *World Population Prospects: The 2008 Revision.* Population Database available online at: esa.un.org/unpp/index.asp?panel=5

2. In vTier I, data were gathered for seven indicators of women's status and three indicators of children's status. Sufficient data existed to include analyses of two additional indicators of children's well-being in Tiers II and III. Indicators unique to specific development groups are noted below.

THE INDICATORS THAT REPRESENT WOMEN'S HEALTH STATUS ARE:

Lifetime risk of maternal death

A woman's risk of death in childbirth over the course of her life is a function of many factors, including the number of pregnancies she has and the spacing of births as well as the conditions under which she gives birth and her own health and nutritional status. The lifetime risk of maternal mortality is the probability that a 15-year old female will die eventually from a maternal cause. This indicator reflects not only the risk of maternal death per pregnancy or per birth, but also the level of fertility in the population. Competing causes of maternal death are also taken into account. Estimates are periodically calculated by an inter-agency group including the WHO, UNICEF, UNFPA and the World Bank. Data are for 2005 and represent the most recent of these estimates available at the time of this analysis. These figures are likely to be revised downward when the recently released maternal mortality ratio estimates by Hogan et al. published in *The Lancet* on April 12, 2010 are taken into account.

Source: *Maternal Mortality in 2005: Estimates Developed by WHO, UNICEF, UNFPA and the World Bank.* (WHO: 2007) Available online at: www.who.int/whosis/mme_2005.pdf

Percentage of women using modern contraception

Access to family planning resources, including modern contraception, allows women to plan their pregnancies. This helps ensure that a mother is physically and psychologically prepared to give birth and care for her child. Data are derived from sample survey reports and estimate the proportion of married women (including women in consensual unions) currently using modern methods of contraception, which include: male and female sterilization, IUD, the pill, injectables, hormonal implants, condoms and female barrier methods. Contraceptive prevalence data are the most recently available as of May 2009.

Source: United Nations Population Division. *World Contraceptive Use 2009* (wall chart). Available online at: www.un.org/esa/population/publications/contraceptive2009/contraceptive2009.htm

Skilled attendance at delivery

The presence of a skilled attendant at birth reduces the likelihood of both maternal and infant mortality. The attendant can help create a hygienic environment and recognize complications that require urgent medical care. Skilled attendance at delivery is defined as those births attended by physicians, nurses or midwives. Data are from 2003-2008. As nearly every birth is attended in the more developed countries, this indicator is not included in Tier I.

Source: United Nations Children's Fund (UNICEF). *The State of the World's Children Special Edition, Statistical Tables.* (New York: 2009) Table 8, pp.36-39. Available online at: http://www.unicef.org/rightsite/sowc/statistics.php

Female life expectancy

Children benefit when mothers live longer, healthier lives. Life expectancy reflects the health, social and economic status of a mother and captures trends in falling life expectancy associated with the growing number of women with HIV and AIDS. Female life expectancy is defined as the average number of years of life that a female can expect to live if she experiences the current mortality rate of the population at each age. Data estimates are for 2009.

Source: United Nations Population Fund (UNFPA). *State of World Population 2009.* (New York: 2009) pp. 80-84. Available online at: www.unfpa.org/swp/

THE INDICATOR THAT REPRESENTS WOMEN'S EDUCATIONAL STATUS IS:

Expected number of years of formal female schooling

Education is singularly effective in enhancing maternal health, women's freedom of movement and decision-making power within households. Educated women are more likely to be able to earn a living and support their families. They are also more likely than uneducated women to ensure that their children eat well, finish school and receive adequate health care. Female school life expectancy is defined as the number of years a female child of school entrance age is expected to spend at school or university, including years spent on repetition. It is the sum of the age-specific enrollment ratios for primary, secondary, post-secondary non-tertiary and tertiary education. Primary to secondary estimates are used where primary to tertiary are not available. Data are from 2008 or the most recent year available.

Sources: UNESCO Institute for Statistics (UIS). Data Centre. http://stats.uis.unesco.org, supplemented with data from UNESCO. *Global Education Digest 2009.* (Montreal: 2009) Table 12, pp.158- 167. Available online at: www.uis.unesco.org/template/pdf/ged/2009/GED_2009_EN.pdf

THE INDICATORS THAT REPRESENT WOMEN'S ECONOMIC STATUS ARE:

Ratio of estimated female to male earned income

Mothers are likely to use their influence and the resources they control to promote the needs of their children. Where mothers are able to earn a decent standard of living and wield power over economic resources, children survive and thrive. The ratio of estimated female earned income to estimated male earned income – how much women earn relative to men for equal work – reveals gender inequality in the workplace. Female and male earned income are crudely estimated based on the ratio of the female nonagricultural wage to the male nonagricultural wage, the female and male shares of the economically active population, the total female and male population and GDP per capita in purchasing power parity terms in US dollars. Estimates are based on data for the most recent year available between 1996 and 2007.

Source: United Nations Development Programme (UNDP). *Human Development Report 2009.* (New York: 2009) Table K, pp.186-189. Available online at: http://hdrstats.undp.org/en/indicators/130.html

Maternity leave benefits

The maternity leave indicator includes both the length of time for which benefits are provided as well the extent of compensation. The data are compiled by the International Labour Office and the United States Social Security Administration from a variety of legislative and non-legislative sources from 2004 to 2009. Data on maternity leave benefits are reported for Tier I countries only, where women comprise a considerable share of the nonagricultural workforce and thus most working mothers are free to enjoy the benefits of maternity leave.

Source: United Nations Statistics Division. *Statistics and Indicators on Women and Men.* Table 5g. Updated December 2009. Available online at: unstats.un.org/unsd/demographic/products/indwm/tab5g.htm

THE INDICATOR THAT REPRESENTS WOMEN'S POLITICAL STATUS IS:

Participation of women in national government

When women have a voice in public institutions, they can participate directly in governance processes and advocate for issues of particular importance to women and children. This indicator represents the percentage of seats in the lower or single-house of national legislatures or parliaments occupied by women. Data are as of February 28, 2010.

Sources: Inter-Parliamentary Union (IPU). *Women in National Parliaments.* Available online at: www.ipu.org/wmn-e/world.htm, supplemented by data from UNDP. *Human Development Report 2009.* (New York: 2009) Table K, pp.186-189. Available online http://hdrstats.undp.org/en/indicators/127.html

THE INDICATORS THAT REPRESENT CHILDREN'S WELL-BEING ARE:

Under-5 mortality rate

Under-5 mortality rates are likely to increase dramatically when mothers receive little or no prenatal care and give birth under difficult circumstances, when infants are not exclusively breast-fed, few children are immunized and fewer receive preventive or curative treatment for common childhood diseases. Under-5 mortality rate is the probability of dying between birth and exactly five years of age, expressed per 1,000 live births. Estimates are for 2008.

Source: UNICEF. *The State of the World's Children Special Edition, Statistical Tables.* (New York: 2009) Table 1, pp.8-11. Available online at: www.unicef.org/rightsite/sowc/statistics.php

Percentage of children under age 5 moderately or severely underweight

Poor nutrition affects children in many ways, including making them more susceptible to a variety of illnesses and impairing their physical and cognitive development. Children moderately or severely underweight are more than two and three standard deviations below median weight for age of the NCHS/WHO reference population respectively. Data are for the most recent year available between 2003 and 2008. Where NCHS/WHO data are not available, estimates based on WHO Child Growth Standards are used. This indicator is included in Tier II and Tier III only, as few more developed countries report this data.

Source: UNICEF. *The State of the World's Children Special Edition, Statistical Tables.* (New York: 2009) Table 2, pp.12-15. Available online at: www.unicef.org/rightsite/sowc/statistics.php

Gross pre-primary enrollment ratio

Early childhood care and education (ECCE), including pre-primary schooling, supports children's growth, development, learning and survival. It also contributes to proper health, poverty reduction and can provide essential support for working parents, particularly mothers. The pre-primary gross enrollment ratio (GER) is the total number of children enrolled in pre-primary education, regardless of age, expressed as a percentage of the total number of children of official pre-primary school age. GERs can be higher than 100 percent when children enter school later than the official enrollment age or do not advance through the grades at expected rates. Data are for the school year ending in 2008 or the most recently available. Pre-primary enrollment is analyzed across Tier I countries only.

Source: UNESCO Institute for Statistics (UIS). Data Centre. http://stats.uis.unesco.org

Gross primary enrollment ratio

The gross primary enrollment ratio is the total number of children enrolled in primary school, regardless of age, expressed as a percentage of the total number of children of official primary school age. Data are for the school year ending in 2008 or the most recently available. This indicator is not tracked in Tier I, where nearly all children complete primary school.

Sources: UNESCO Institute for Statistics (UIS). Data Centre. http://stats.uis.unesco.org, supplemented with data from UNESCO. *Global Education Digest 2009.* (Montreal: 2009) Table 3, pp.84-93. Available online at: www.uis.unesco.org/template/pdf/ged/2009/GED_2009_EN.pdf

Gender parity index (GPI)

Educating girls is one of the most effective means of improving the well-being of women and children. The ratio of gross enrollment of girls to boys in primary school – or Gender Parity Index (GPI) – measures gender disparities in primary school participation. It is calculated as the number of girls enrolled in primary school for every 100 enrolled boys, regardless of age. A score of 1 means equal numbers of girls and boys are enrolled; a score between 0 and 1 indicates a disparity in favor of boys; a score greater than 1 indicates a disparity in favor of girls. Data are for the school year ending in 2008 or the most recently available. GPI is included in Tier III, where gender equity gaps disadvantaging girls in access to education are the largest in the world.

Sources: UNESCO Institute for Statistics (UIS). Data Centre. http://stats.uis.unesco.org, supplemented with data from UNESCO. *Global Education Digest 2009.* (Montreal: 2009) Table 3, pp.84-93. Available online at: www.uis.unesco.org/template/pdf/ged/2009/GED_2009_EN.pdf

Gross secondary enrollment ratio

The gross secondary enrollment ratio is the total number of children enrolled in secondary school, regardless of age, expressed as a percentage of the total number of children of official secondary school age. Data are for the school year ending in 2008 or the most recently available. This indicator is not tracked in Tier III where many children still do not attend primary school, let alone transition to higher levels.

Sources: UNESCO Institute for Statistics (UIS). Data Centre. http://stats.uis.unesco.org, supplemented with data from UNESCO. *Global Education Digest 2009.* (Montreal: 2009) Table 5, pp.104- 113. Available online at: www.uis.unesco.org/template/pdf/ged/2009/GED_2009_EN.pdf

Percentage of population with access to safe water

Safe water is essential to good health. Families need an adequate supply for drinking as well as cooking and washing. Access to safe and affordable water also brings gains for gender equity, especially in rural areas where women and young girls spend considerable time collecting water. This indicator reports the percentage of the population with access to an adequate amount of water from an improved source within a convenient distance from a user's dwelling, as defined by country-level standards. "Improved" water sources include household connections, public standpipes, boreholes, protected dug wells, protected springs and rainwater collection. In general, "reasonable access" is defined as at least 20 liters (5.3 gallons) per person per day, from a source within one kilometer (0.62 miles) of the user's dwelling. Data are for 2006.

Source: UNICEF. *The State of the World's Children Special Edition, Statistical Tables.* (New York: 2009) Table 3, pp.16-19. Available online at: www.unicef.org/rightsite/sowc/statistics.php

3. Missing data were supplemented when possible with data from the same source published in a previous year, as noted in the fold-out table in this appendix.

4. Data points expressed as percentages were rounded to the nearest tenth of one percent for analysis purposes. Data analysis was conducted using Microsoft Excel software.

5. Standard scores, or Z-scores, were created for each of the indicators using the following formula: $Z=(X-\bar{X})/S$

   where Z = The standard, or Z-score
   X = The score to be converted
   $\bar{X}$ = The mean of the distribution
   S = The standard deviation of the distribution

6. The standard scores of indicators of ill-being were then multiplied by (-1) so that a higher score indicated increased well-being on all indicators.

Notes on specific indicators

- To facilitate cross-country comparisons, length of maternity leave was converted into days and allowances were averaged over the entire pay period.
- To avoid rewarding school systems where pupils do not start on time or fail to progress through the system at expected rates, gross enrollment ratios (GERs) between 100 and 105 percent were discounted to 100 percent. Gross enrollment ratios over 105 percent were either discounted to 100 with any amount over 105 percent subtracted from 100 (for example, a country with a gross enrollment rate of 107 percent would be discounted to 100- (107-105), or 98) or the respective country's net enrollment ratio, whichever was higher.
- To avoid rewarding countries in which girls' educational progress is made at the expense of boys', countries with gender parity indices greater than 1.02 (an indication of gender inequity disfavoring boys) were discounted to 1.00 with any amount over 1.02 then subtracted from 1.00.

7. The Z-scores of the four indicators related to women's health were averaged to create an index score of women's health status. In Tier I, an index score of women's economic status was similarly calculated as a weighted average of the ratio of female to male earned income (75 percent), length of maternity leave (12.5 percent) and percent of wages paid (12.5 percent). An index of child well-being – the *Children's Index* – was also created by first averaging indicators of education, then averaging across all Z-scores. At this stage, cases (countries) missing more than one indicator on either index were eliminated from the sample. Countries missing any one of the other indicators (that is educational, economic or political status) were also eliminated. A *Women's Index* was then calculated as a weighted average of health status (30 percent), educational status (30 percent), economic status (30 percent) and political status (10 percent).
8. The *Mothers' Index* was calculated as a weighted average of children's well-being (30 percent), women's health status (20 percent), women's educational status (20 percent), women's economic status (20), and women's political status (10 percent). The scores on the *Mothers' Index* were then ranked.

NOTE: Data exclusive to mothers are not available for many important indicators (school life expectancy and government positions held, for example). In these instances, data on women's status have been used to approximate maternal status, since all mothers are women. In areas such as health, where a broader array of indicators is available, the index emphasizes indicators that address uniquely maternal issues.

NOTES AND DATA SOURCES FOR VITAL STATISTICS

- Under-5 mortality rate: Data are sourced from the most recent DHS (2005-2007) for each country. *Available online at: www.measuredhs.com/countries/*
- Share of under-5 deaths which are newborn deaths: Calculated as the neonatal mortality rate divided by the under-5 mortality rate. Data are sourced from the most recent DHS for each country.
- Lifetime risk of maternal death: See *Mothers' Index* indicator notes.
- Density of doctors: Includes all physicians, both generalists and specialists.
  Sources: WHO. *Global Atlas of the Health Workforce.* http://apps.who.int/globalatlas/default.asp or other, as noted in the country narrative.
- Health worker shortage: Calculated as the product of 2009 population and the difference between the current density of doctors, nurses and midwives and the minimum threshold recommended by the WHO (2.28 per 1,000 population).
  Sources: 2009 Population: United Nations Population Fund. *State of World Population 2009.* (New York: 2009);
  Health worker density: WHO. *Global Atlas of the Health Workforce.* http://apps.who.int/globalatlas/default.asp

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Bangladesh. *Mahmuda, a community health worker trained by Save the Children, makes a home visit to check on Jasmine and her 23-month-old daughter Tania.*

Page 4 – Rachel Palmer
Liberia. *Mary, 15, and her 14-month-old son Prince receive health care from a clinic supported by Save the Children.*

Page 6 – Mats Lignell
Afghanistan. *A midwife-in-training holds a newborn baby in the delivery ward of a hospital in northern Afghanistan.*

Page 8 – Jenny Matthews
Sudan. *Amina, a health worker trained by Save the Children, vaccinates Salma to prevent tetanus. Baby Taiseer sits in her lap.*

Page 9 –– Jeff Holt
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Page 18 – Jeff Holt
Bangladesh. *Mosammat, a health worker from BRAC, talks to mothers about how to care for their newborn babies.*

Page 19 – Asma Sharmin
Bangladesh. *"In our community, I noticed that sometimes the women were vulnerable and neglected. There was no one to care for them," says Mahmuda, a community health worker trained by Save the Children. "I wanted to be a person who a mother can come to with her baby, or who a pregnant woman can talk to about her problems."*

Page 20 – Fauzan Ijazah
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Back Cover – Michael Bisceglie
Guatemala. *Elaina, a health worker trained by Save the Children, brings her 3-year-old daughter Lucrecia along when she visits a mother and newborn baby at home.*

Guatemala

Every year, nearly 9 million newborn babies and young children die before reaching age 5 and nearly 350,000 women lose their lives due to pregnancy or childbirth complications. Most of these deaths occur in areas of the developing world where basic health care is often unavailable, too far away, or of very low quality. And most of these deaths could be prevented if skilled and well-equipped health workers were nearby to serve the poorest, most marginalized mothers and children.

State of the World's Mothers 2010 looks at the critical role played by female health workers, especially in these remote, hard-to-reach communities where most women and children are dying. It highlights countries where women health workers have contributed to dramatic reductions in maternal, newborn and child mortality. And it presents dozens of examples showing how women on the front lines of health care have made the difference between success and failure in the fight to save lives.

As in previous years, *State of the World's Mothers 2010* presents a *Mothers' Index*. Using the latest data on health, nutrition, education and political participation, the *Index* ranks 160 countries – both in the industrialized and developing world – to show where mothers fare best and where they face the greatest hardships.

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