

MATERNAL, NEONATAL, AND CHILD HEALTH

STRATEGY OVERVIEW

OUR MISSION

Guided by the belief that all lives have equal value, the Bill & Melinda Gates Foundation works to help all people lead healthy, productive lives. Our Global Health Program supports this mission by harnessing advances in science and technology to save lives in poor countries.

We focus on problems that have a major impact on people in the developing world but get too little attention and funding. Where proven tools exist, we support sustainable ways to improve their delivery. Where they don't, we invest in research and development of new interventions, such as vaccines, drugs, and diagnostics.

Our financial resources, while significant, represent a very small fraction of the overall funding needed to improve global health on a large scale. We therefore advocate for the policies and resources needed to provide people with greater access to health solutions. Strong partnerships are also essential to our success in making a difference and saving lives.

THE OPPORTUNITY

This is a promising time to be working on ensuring the care of mothers and newborns. The global health community has at its disposal a range of cost-effective, proven solutions that can halt the majority of conditions causing maternal and neonatal deaths.^{1,2,3,4} These include antibiotics for infections, sterile blades to cut umbilical cords, misoprostol and oxytocin for preventing and treating postpartum hemorrhage, and teaching mothers the importance of immediate, exclusive breastfeeding and skin-to-skin contact to keep their babies warm. Applying such low-cost interventions can ensure the survival of up to 70 percent of newborns.^{3,4,5} New tools and technologies for early identification of dangerous conditions, plus strategies to more rapidly diagnose and treat mothers and babies, also provide a significant ability to achieve maximum health impact.

However, even with tested, low-cost solutions for maternal and neonatal health available, mothers and infants die needlessly. Every year, more than 500,000 women die from complications of pregnancy and childbirth, and many more are permanently disabled.⁶ Even when infants survive, their chance for a healthy and productive life is much diminished by the death or disability of the mother.

Additionally, nearly 4 million babies die each year before they are a month old, from birth asphyxia or conditions such as prematurity and serious infections, and more than 3 million are stillborn.^{7,8} When stillbirths (infants born dead after 28 weeks gestational age) are included, about half of all deaths of children under 5 occur before the end of the first 28 days of life. Despite much progress, achieving the Millennium Development Goals (MDGs) related to maternal and child health is considered unlikely, given that the majority of high-burden, priority countries are not on track to reach MDGs 4 and 5.^{9,10}

There are a number of reasons why the tools and treatments available for maternal and neonatal health are not reaching mothers and infants at the critical times and places needed to save lives. Ensuring access to interventions for the poorest women, who often deliver at home and rarely see a trained health provider, has been a significant challenge. Even when they can see a skilled provider, effective curative and preventive interventions are often unavailable or not practiced, particularly among the poorest. Another challenge is the lack of strong political will and leadership to tackle this issue at national and global levels.

OUR STRATEGY

Given that childbirth and the early postnatal period are the times when services are most lacking in poor communities and when most deaths occur, our strategy emphasizes using existing solutions and developing new tools and treatments to ensure mothers and their infants survive and remain healthy during these crucial periods

and beyond. This work complements our other areas of focus, such as nutrition, family planning, vaccine-preventable diseases, and other areas of child health, including diarrhea and pneumonia.

Our approach in maternal and neonatal health recognizes that frontline workers—individuals ranging from qualified medical professionals to private drug sellers, community health workers, and skilled birth attendants—are essential to delivering health care solutions to families. Not only can frontline workers deliver the majority of care to mothers and newborns, they also are the first point of contact with the health system and can have the broadest reach to mothers, newborns, and children in an integrated manner. To support these critical interactions between frontline workers and families, our strategy includes:

- adapting and developing innovative tools and treatments for frontline workers to use in homes, communities, and first-level clinics
- stimulating demand for quality maternal and neonatal health care among families
- enhancing frontline workers' capabilities and performance
- advocating for targeted national and global policies, funding, and leadership

We aim to learn how these same efforts can be extended to improve the health of young children under 2.

Our primary geographic focus at this time is in northern India, Ethiopia, and northern Nigeria, which together account for 6 percent of the global population and 10 percent of global births, but 16 percent of global maternal and neonatal mortality.¹⁰ Once we have adapted, developed, and evaluated optimal service packages, we aim to demonstrate implementation in these geographic areas and facilitate expansion to other countries with high maternal and neonatal mortality.

INTERVENTION AREAS

Focus on critical conditions and discover, develop, and introduce new or adapted technologies, tools, and treatments to address those conditions

The majority of maternal and neonatal deaths are due to a limited number of conditions. Hemorrhage, hypertensive disorders, sepsis, and obstructed labor account for 59 percent of all maternal deaths;¹¹ preterm birth, severe infections (e.g., sepsis, pneumonia, meningitis), and birth asphyxia account for 76 percent of neonatal deaths.⁷

In addition to investing in new maternal and neonatal health tools and technologies, we aim to adapt interventions used in referral-level facilities so they can be used in homes, communities, and first-level clinics. Misoprostol's availability in a pill form that does not require injection or refrigeration makes it particularly promising for use by midwives and other frontline workers in home, community, and first-level clinic settings. Oxytocin in Uniject™ is another treatment tool being investigated for postpartum hemorrhage. This single-use, prefilled injection device with a temperature/time indicator could help overcome some of the barriers associated with the conventional use of oxytocin and help extend access to underserved areas. Clinical trials are also under way to demonstrate the efficacy of an anti-shock garment to decrease maternal mortality and morbidity associated with obstetric hemorrhage. This reusable first-aid device can keep women with severe hemorrhages alive by applying pressure on the lower part of the body, preventing shock and protecting vital organs until care can be provided at a health facility.

To target the conditions underlying neonatal mortality, we plan to support a range of population-based studies and advanced trials for prevention of neonatal infections, such as chlorhexidine cleansing of the umbilical cord, topical emollient therapy, and vitamin A supplementation. We are also funding the development of simplified antibiotic treatment regimens for managing neonatal infections.

Increase demand and improve health practices

Though many promising interventions exist to reduce maternal and neonatal mortality, families and communities often don't access care or practice preventive behaviors for a variety of cultural, financial, and societal reasons. For interventions to work, mothers and families need to know and understand them as well as be able to afford them. To support this effort, we are currently making investments to:

- research social and structural barriers and identify solutions that enable the adaption of key household and community maternal and neonatal interventions
- research effective channels to communicate messages and negotiate behavior change
- develop and apply large-scale communication and marketing approaches, and mobilize local networks to promote preventive maternal and neonatal care practices and care-seeking
- achieve greater equity and access by removing financial barriers to care

Enhance frontline workers' capabilities and performance

To effectively deliver interventions, frontline workers should have the capability and motivation to provide care and work with people and communities to improve their health. Our investments are not aimed at training large numbers of health workers, but instead focus on developing more effective approaches that ensure continuous professional learning and the use of innovative tools to improve health for large numbers of people. We are investing in efforts that will:

- develop and demonstrate a model in which female health workers and volunteers provide maternal and neonatal health services, especially around childbirth, in poor urban slums in Bangladesh
- create demand for services and demonstrate approaches that improve health extension workers' performance in increasing access to prenatal, delivery, and postnatal care services in Ethiopia
- demonstrate the effective application of mobile phone technology to improve community health nurses' performance and enhance the use of services by women during pregnancy, delivery, and the early postnatal period in Ghana

Advocate for conducive policies and financing

With increasing evidence showing that relatively few high-burden countries are on track to meet the MDGs related to maternal and child health, these issues have become more visible. A number of effective partnerships and advocacy efforts have emerged, including the White Ribbon Alliance, which has helped set the stage for unprecedented maternal health visibility. It has effectively used influential ambassadors—including Sarah Brown, wife of United Kingdom Prime Minister Gordon Brown; models Naomi Campbell and Christy Turlington; and many others to advocate publicly and bring together key stakeholders toward a common maternal and neonatal health action agenda.

However, the shortage of funding to reduce maternal and neonatal mortality is a significant challenge—the World Health Organization (WHO) estimates that it will take an additional \$10.2 billion (U.S.) yearly to ensure universal coverage of maternal, neonatal, and child health interventions in order to achieve MDGs 4 and 5.¹² And the lack of leadership and political will to implement proven interventions at the country level is a major impediment to success.

Our strategy promotes advocacy for supportive policies and increased funding at country and global levels, to improve maternal and neonatal health outcomes. We are currently making investments to:

- increase policy attention and global funding for maternal and newborn health among donor governments, particularly G20 countries
- identify and develop policies and strategies that will enable countries to deliver critical maternal and neonatal health interventions
- raise awareness of overlooked causes of neonatal mortality such as prematurity, birth asphyxia, and stillbirths
- mobilize both public- and private-sector stakeholders to produce, distribute, and use essential children's medicines in appropriate formulations
- strengthen and align the global maternal health community through support for the Maternal Health Taskforce, which will bring together current players in maternal health, thought leaders in other related fields, and new champions to advance maternal health at the global and country levels
- strengthen national obstetrics and gynecology associations in low-resource countries to become champions of effective policies and programs and work in collaboration with associations of pediatricians, nurses, and nurse-midwives
- define the mutual benefits of maternal and neonatal health interventions for mothers and newborns

Extend efforts beyond the neonatal period to young children

It is our belief that effective interactions between frontline workers and families can extend beyond pregnancy and the days following childbirth, to have a marked impact on the lives of young children. Our strategy includes efforts to learn and measure, and is aimed at ensuring that the systems in place to support mothers and newborns can extend to children under 2. These include:

- promoting uptake of interventions needed during but also continued beyond the neonatal period, such as exclusive breastfeeding and handwashing
- using neonatal interactions to promote the uptake of childhood interventions such as immunizations
- improving the performance of frontline workers who provide both neonatal and child interactions, including managing childhood illnesses such as pneumonia, diarrhea, and malaria, as well as malnutrition

PROGRESS

Our partners have had some preliminary successes in demonstrating that a model of maternal and neonatal care delivered by frontline health workers in homes, communities, and first-level clinics is both possible and effective. For example:

- **Save the Children’s “Saving Newborn Lives” (SNL) program** is testing and evaluating a critical set of community-based neonatal healthcare tools and technologies. In Sylhet, Bangladesh, community health workers demonstrated effective management of serious neonatal illnesses using interventions such as clean cord care, thermal control, and sepsis management in the home, which led to a 34 percent reduction in neonatal mortality.¹³ In Shivgarh, Uttar Pradesh, India, community health workers promoted preventive neonatal care practices through targeted household visits and community mobilization, resulting in a 54 percent reduction in neonatal mortality.¹⁴ In Nepal, new evidence on community-based care of newborns, including sepsis management, helped inform policy for a phased introduction of a home-based neonatal care package into a nationwide system of female community health volunteers.¹⁵ The SNL program is now scaling up neonatal health programs in several focus countries in South Asia and Sub-Saharan Africa.
- **BRAC Bangladesh’s Manoshi Project** uses a unique model, linking slum residents with both traditional birth attendants in birthing centers and referral facilities for birth complications. These resources build on slum volunteers, female providers who visit households, traditional birth attendants, and referral advocates located in hospitals. The system has rapidly increased access to clean delivery (by 44 percent) and emergency obstetric care (by 26 percent) in urban slums in Dhaka. In its first two years, the project provided preventive and curative services to about 3 million inhabitants of Dhaka.
- In Uttar Pradesh, **PATH’s SureStart Project** is improving primary-care services use on a large scale by working with community groups and block/district structures to demand services, support community health workers, and obtain resources for local action.
- In Tanzania, **Management Sciences for Health (MSH)** works closely with stakeholders to roll out a unique, national-scale program for thousands of private-sector drug sellers—often the first people rural residents consult for help. Addressing shortages in qualified health care providers by training and accrediting private-sector drug dispensers to recognize common conditions and provide

quality products and services has improved treatment of common illnesses.¹⁶

- **Averting Maternal Death and Disability (AMDD)** Phase II, is examining and sharing innovative ways non-physician clinicians have been deployed to provide advanced maternal and neonatal care in Africa, and exploring strategies for drawing on and transferring the lessons between countries. In Malawi, Mozambique, and Tanzania, for example, nurses and surgical technicians are already performing 85 percent of emergency obstetric surgery in remote program areas, with no significant difference in surgical outcomes compared to physicians.

Our strategy also aims to build on previous efforts and the momentum resulting from the work of our partners, such as Family Care International’s Skilled Care Initiative, the Initiative for Maternal Mortality Program Assessment (Impact) global research initiative for evaluating safe maternal health intervention strategies, Women Deliver, and others.

CHALLENGES

There is broad consensus among researchers and practitioners on which interventions can reduce the majority of deaths in mothers and newborns, but increasing uptake and use of these tools is still held back by multiple implementation challenges at the national level. For example, even for an affordable intervention, it is possible to raise family awareness to more than 80 percent through mass communications and still have usage rates of only 25 percent unless frontline workers interact with families to ensure effective intervention uptake.¹⁷ While there is evidence indicating “what” needs to be done to reduce mortality, more understanding is needed on the “how.” We hope our current investments will help us not only innovate technologically but also better understand and test new ideas on how to overcome implementation barriers.

Another challenge is that, although the evidence base has been strengthened in recent years regarding the causes of maternal and neonatal mortality, still too little is known regarding the causes of stillbirths (estimated at 3 million per year) and the most effective maternal health interventions to prevent stillbirths and preterm births.^{18, 19} We are supporting efforts to better understand gaps in research and programs to address these problems, including a recent international conference to bring attention to this overlooked area of neonatal health.

WHAT WE'RE LEARNING

The global community is still not sufficiently galvanized to address maternal and neonatal mortality. We know we need to work harder to hold both national governments and the global donor community accountable for their failure to adequately support maternal and neonatal health, and to do so in an integrated manner.

Our work in this area has highlighted the need for strengthened impact measurement and process documentation. At present, we have insufficient data on the extent to which frontline workers are delivering needed interventions, or their impact. We will address this issue by funding approaches and systems to monitor and evaluate the uptake of our funded innovations, including data on numbers, quality, costs, and the socioeconomic distribution of those interacting with frontline workers in focus countries.

THE WAY FORWARD

Over the course of developing this strategy, we have worked with a range of advisors and partners to make strategic choices that maximize the impact of our efforts and resources. We have focused in an integrated fashion on the key conditions that are the primary causes of maternal and

neonatal death. We've also focused on solutions provided to mothers and newborns by frontline workers in homes, communities, and first-level clinics. Through this focus, we feel progress toward saving the lives of mothers and children in the developing world can be accelerated.

To ensure our strategy is targeted and effective, we look toward our government, donor, private-sector, research, nongovernmental, and community partners for honest feedback and input about our work. Through the Partnership for Maternal, Newborn, and Child Health,²⁰ which is coordinating the efforts of the global maternal, neonatal, and child health community, we look forward to collaboratively working with all partners to achieve maximum impact for mothers and children in the world's poorest places.

TO LEARN MORE

About the Global Health Program:
www.gatesfoundation.org/global-health

About Maternal, Neonatal, and Child Health:
www.gatesfoundation.org/mnch

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Guided by the belief that every life has equal value, the Bill & Melinda Gates Foundation works to help all people lead healthy, productive lives. In developing countries, it focuses on improving people's health and giving them the chance to lift themselves out of hunger and extreme poverty. In the United States, it seeks to ensure that all people—especially those with the fewest resources—have access to the opportunities they need to succeed in school and life. Based in Seattle, Washington, the foundation is led by CEO Jeff Raikes and Co-chair William H. Gates Sr., under the direction of Bill and Melinda Gates and Warren Buffett.

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