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GATES *foundation*

GLOBAL HEALTH PROGRAM

OVERVIEW





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Dr. Tachi Yamada (president, Global Health Program, Bill & Melinda Gates Foundation) holds a boy who received a polio vaccine at the Nizamuddin railway station (New Delhi, India, 2009).

ON THE COVER: A mom with her children, under mosquito nets (Harar, Ethiopia, 2005).

THE GLOBAL HEALTH PROGRAM AIMS TO HARNESS ADVANCES IN SCIENCE AND TECHNOLOGY TO SAVE LIVES IN DEVELOPING COUNTRIES.

We are entering a new era of global health. The world is taking unprecedented action to fight deadly diseases and improve health in developing countries. With new funding, new attention, and new technologies, we are witnessing remarkable progress around the world.

For me, one of the most vivid images of progress comes from a trip to Zanzibar, Tanzania, where aggressive malaria-control efforts are under way. While there, I toured a pediatric ward that for years had been filled with children dying of malaria. But on this visit, I was amazed to see the ward empty—a small but powerful sign of hope in the fight against an age-old disease.

Success stories in health are becoming increasingly common throughout the developing world. In the coming years, we will have a tremendous opportunity to make even greater gains—by delivering health solutions already at our disposal and applying scientific innovation to discover new vaccines, drugs, and other tools.

Bill and Melinda Gates have made global health a priority for the foundation because they've seen firsthand the impact health advances can have in developing countries. Guided by their vision, we are committed to making a unique and lasting contribution to the health of the world's poorest people.

The Global Health Program has grown and evolved significantly in recent years. I hope this document provides a helpful overview of our goals, priorities, and strategy.



Tachi Yamada, M.D.
President, Global Health Program

THE STATE OF GLOBAL HEALTH:

Recent Progress and the Road Ahead



A woman and her child at the Matela Village Dispensary (Mwanza, Tanzania, 2009).

LIFE-SAVING PROGRESS IN HEALTH

The progress we're making today in global health was unthinkable a generation ago. During much of the last century, major health advances occurred primarily in wealthy countries. Diseases that have been defeated in wealthy nations, however, continue to sicken and kill people in the developing world.

In recent years, global health has begun to receive the attention it deserves. Thanks to major new investments from governments, private companies, charities, and concerned individuals, the health of those in the developing world is now receiving more funding and attention than at any other point in history.

New investments in global health are achieving extraordinary results:

- Programs to deliver childhood vaccines have pushed basic immunization rates to all-time highs.
- Polio cases have declined 99 percent in the past 20 years—and the world now has the opportunity to get rid of the disease completely.
- The number of people receiving treatment for HIV infection has increased tenfold in just five years.
- Since 2000, aggressive control has helped reduce malaria cases and related deaths by up to half in 25 countries.
- The number of children who die before age 5—a crucial indicator of a society's overall health—has fallen every year for the past few decades and is now less than 9 million worldwide, about half of what it was in 1960.

Research focused on the needs of countries in the developing world has also increased substantially after decades of neglect. For example, new vaccines against meningitis, cholera, and typhoid could soon become available for use. Other important new vaccines are entering late-stage clinical trials.

UNPRECEDENTED OPPORTUNITY TO DO MORE

In the coming years, the world will have an unprecedented opportunity to build on recent progress in global health. Effective vaccines, drugs, and other solutions are available to fight many of the developing world's most serious diseases. By delivering these remedies quickly to more people in need, we can save millions more lives.

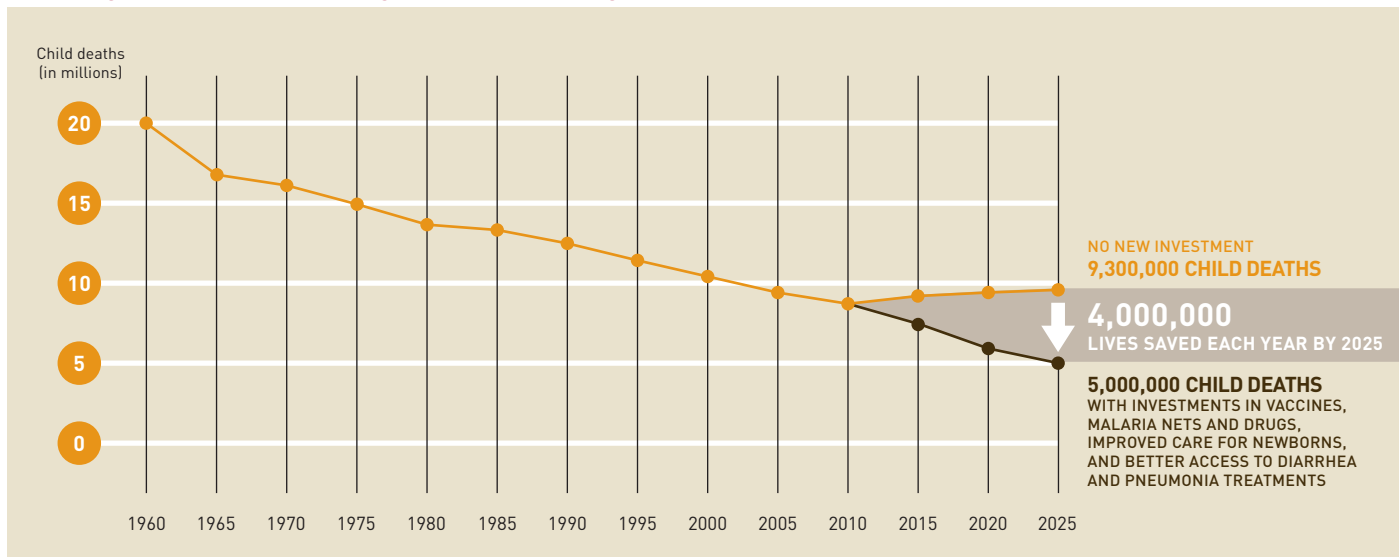
Health experts at Johns Hopkins University, for example, estimate it is possible to reduce the number of young children who die to 5 million annually by 2025. We can achieve this goal simply by expanding existing vaccines, effective malaria control, proper newborn care, and prompt treatment for severe pneumonia and diarrhea.

But today's solutions are just a starting point. At the foundation, we are passionate about the potential for innovation to transform global health at every level. Innovation in basic science may lead to big breakthroughs, but equally important is innovation in how we deliver affordable and effective health tools to those who need them.



A scientist conducts research at the National TB Reference Laboratory (Lusaka, Zambia, 2009).

Reducing Annual Deaths Among Children Under Age 5



The annual number of children who die before age 5 has fallen to half of what it was in 1960. With continued efforts, we can reduce that number by half again by 2025.

Sources: 1960: UNICEF; 1965–1985: IHME, University of Washington; 1990–2008: UNICEF/WHO

OUR GLOBAL HEALTH STRATEGY

The foundation has invested more than \$13 billion (U.S.) in global health since 1994, which represents about 60 percent of our total giving to date. We invest in health because of the tremendous opportunity it offers to make a difference in the lives of millions of people.

At the same time, we're only one part of the global health picture. Our resources are small compared to the world's overall needs and compared to those of donor countries. We look for ways to have a unique and lasting impact.

OUR APPROACH

Science and technology offer incredible potential to improve health in developing countries. We support efforts to discover, develop, and deliver practical, affordable vaccines, medicines, and other health tools that will have the greatest long-term benefits for the greatest number of people.

Our number one global health priority is creating and delivering vaccines for infectious diseases. Millions of lives can be saved in developing countries by ensuring access to effective vaccines that already exist and by developing new vaccines for use.

Our global health strategy reflects our unique role as a private foundation. This means we can pursue high-risk, high-reward projects and promising new ideas. We also have the flexibility to quickly take advantage of emerging opportunities. At the same time, we can make long-term investments and stay focused even in the face of difficult setbacks.

We partner with organizations around the world to address our priority diseases and health conditions.

Accelerating Discovery and Development

We work to discover and develop urgently needed global health advances, including new vaccines and other prevention tools, new drugs and treatment strategies, and improved diagnostics. We support research and development activities from early-stage discovery to late-stage clinical trials.

Delivering Health Solutions

We support efforts to implement new and underused vaccines and other tools, demonstrate their real-world impact, and enable their widespread adoption. For example, we support the GAVI Alliance to expand childhood immunization. We also invest in programs in India and China to demonstrate effective approaches to HIV prevention among people at risk of infection.



Dr. Tokugha attends to an HIV-positive patient at the Y.R. Gaitonde Centre for AIDS Research and Education (YRG CARE) (Chennai, India, 2008).

Advocating for Resources and Policies

We work to encourage increased resources and improved public policies for global health. This includes collecting data and evidence on health needs and solutions, promoting awareness of effective approaches, and building political commitment to global health among donors and in developing countries.

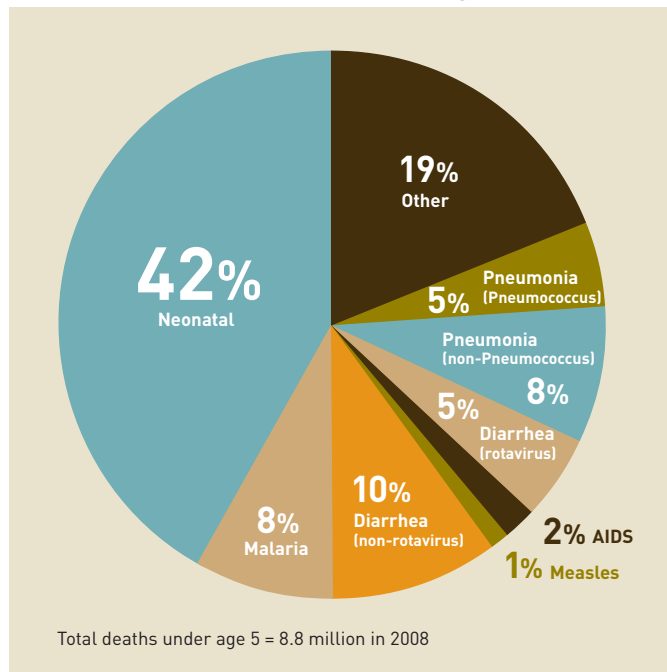
PRIORITY DISEASES AND CONDITIONS

Our global health strategy focuses on diseases and health conditions that account for a significant share of illness and death in developing countries. However, we take into account more than disease burden alone. We also attempt to address historically neglected or underfunded health problems and apply our resources in places where they could lead to major health advances.

With these considerations in mind, we focus on the following areas:

- **infectious diseases**—including diarrheal diseases, HIV/AIDS, malaria, neglected diseases, pneumonia, polio and other vaccine-preventable diseases, and tuberculosis
- **family health**—including the leading causes of illness and death for mothers and newborns during and immediately after childbirth; nutrition, especially during the first two years of life; and family planning

Causes of Death for Children Under Age 5



Child Health Epidemiology Reference Group of WHO and UNICEF.
Source: WHO and UNICEF



Cristela Rugama, with her baby Jarin Ruiz, waits with other mothers for the arrival of the life-saving vaccine that will protect their children against rotavirus (Pantasma, Nicaragua, 2009).

OUR GLOBAL HEALTH STRATEGY

BUILDING PARTNERSHIPS

Achieving lasting change in health requires bringing together diverse groups, each with a critical role to play, including governments, private companies, research institutes, and international and community organizations. Much of our work involves building and strengthening partnerships with organizations around the world.

Public-Private Partnerships

Many of our grants support partnerships between the public and private sectors to collaborate on critical health goals. For example, we support the efforts of the Global Alliance for Improved Nutrition (GAIN) to produce and deliver nutritious food. We also support a number of product-development partnerships that bring together the unique talents and resources of industry, academia, and the public sector to create affordable new health tools tailored to the needs of developing countries.

Global Collaborations

In some cases, our largest grantees directly fund a wide range of smaller partners around the world, including organizations in developing countries. For example, we have provided significant support to the Malaria Vaccine Initiative, which in turn supports malaria researchers throughout Europe and the United States and in seven African countries. This approach allows us to make grants quickly and efficiently and to leverage our partners' expertise, resources, and relationships.

Coordination with Other Funders

We look for opportunities to pool resources with other global health funders. We invest in international initiatives such as the GAVI Alliance and the Global Fund to Fight AIDS, Tuberculosis and Malaria because they are able to raise funding from multiple donors, minimize operational costs through centralized management, and conduct regular monitoring and evaluation to ensure funds are spent on effective programs.



A mother and son looking after her HIV-positive husband in the hospital (Ukhrul, Manipur, India, 2007).

We also work with other funders to establish creative new funding approaches. For example, along with the governments of Canada, Italy, Norway, Russia, and the United Kingdom, we support the Advance Market Commitment, an effort to create predictable markets for new vaccines against pneumococcal disease, a leading killer of young children in poor countries.

Detailed strategies guide our grantmaking and other activities in each of our global-health program areas. Following are brief summaries of each area.

TO LEARN MORE

www.gatesfoundation.org/ghstrategies

“Investing in global health is one of the smartest investments we can make. Saving and improving millions of lives will be one of the greatest things humanity has ever done.”

—Melinda French Gates

co-chair, Bill & Melinda Gates Foundation

GLOBAL HEALTH PROGRAM AREAS:

Diseases and Conditions

ENTERIC AND DIARRHEAL DISEASES

The global situation: While diarrhea-related deaths have decreased globally due to improvements in antibiotics, vaccines, oral-rehydration therapy, income, and water and sanitation, diarrheal diseases remain the second-leading cause of childhood death. Each year, diarrhea causes more than 1.7 million deaths in children under 5—nearly all of whom live in the lowest-income areas. Those who survive diarrheal infections often have other health problems and reduced cognitive development, potentially causing lifelong impairment.

Our strategy: We aim to save and improve millions of lives through the development and delivery of low-cost interventions that prevent diarrheal diseases (through hygiene, breastfeeding, and vaccines) and treat them (through oral-rehydration and zinc therapies). In the long term, we want to protect children in developing countries from diarrhea and effectively treat them at the same rate as children in developed countries.

Key elements of our strategy include:

- developing and introducing safe, effective, affordable vaccines to prevent major causes of diarrhea in developing countries, including rotavirus, cholera, typhoid, *Escherichia coli*, and *Shigella*
- improving understanding of diarrhea and its links to nutrition and poor immunity, to speed development of new vaccines and therapeutics
- assessing the role of diagnostics and the biology of infections, to guide the development of improved therapies
- promoting access to and delivery of existing therapies, such as oral-rehydration salts (ORS) and zinc, and developing improved therapies to counter diarrhea-related dehydration and promote better outcomes
- promoting effective practices, such as breastfeeding, improved nutrition, and improved sanitation and hygiene



Young baby receives the rotavirus vaccine at the Pantasma Health Center (Pantasma, Nicaragua, 2009).

TO LEARN MORE

www.gatesfoundation.org/diarrhea

GLOBAL HEALTH PROGRAM AREAS

FAMILY PLANNING

The global situation: In recent years the reproductive health of men and women in the developing world has improved tremendously, and family-planning services have been greatly expanded for those who want them. Family planning is a cost-effective way to save and improve the lives of women and children and empower families to determine the optimal timing and spacing of births.

Our strategy: We aim to improve health by increasing access to high-quality, voluntary family-planning services and contraceptives in developing countries. We work at a global level and in priority countries to increase access to family-planning services.

Key elements of our strategy include:

- advocating for increased resources and effective policies, including better procurement systems and increased supply of and access to contraceptives
- demonstrating the impact of family-planning programs that promote contraceptive awareness and use in poor urban areas of the developing world
- developing new contraceptive methods that are easy to use, cost-effective, and appropriate for women and men in poor countries



A pregnant woman receives guidance from Saru Auji, a female community health volunteer (Kalena, Doti District, Nepal, 2009).

TO LEARN MORE

www.gatesfoundation.org/familyplanning

HIV

The global situation: As the world makes significant progress in treating people living with HIV/AIDS, it is also critical that we accelerate progress in preventing new infections. For every two people who receive HIV treatment today, another five become newly infected with the virus.

There is tremendous opportunity to reduce HIV infections with existing tools. Making use of all currently available prevention strategies—such as condoms, education, and harm-reduction programs—could prevent more than half of the infections projected to occur over the next decade. The successful development of drugs, vaccines, and other new preventive measures could reduce infections even more.

Our strategy: Our HIV strategy aims to reduce new HIV infections significantly in developing countries by delivering proven prevention tools and strategies, as well as advancing research and development on new prevention technologies.

Key elements of our strategy include:

- overcoming key scientific challenges to developing safe and effective HIV vaccines and advancing promising vaccines to clinical trials
- accelerating research on drugs and other interventions that can help prevent HIV, and enhancing the safety and effectiveness of male circumcision for HIV prevention
- demonstrating what works in HIV prevention by supporting programs that deliver services to groups at the greatest risk
- advocating for continued resources to fight HIV/AIDS, and helping ensure that resources are used as effectively and efficiently as possible

TO LEARN MORE

www.gatesfoundation.org/HIV

MALARIA

The global situation: Thanks to a global push to control malaria, the malaria burden since 2000 has declined by at least half in 25 countries around the world. Progress is also being made on the scientific front; new tools for controlling the disease, including a potential vaccine to prevent malaria in children, are now being tested.

Even with the array of tools and treatments available, there are 250 million cases of malaria and about 800,000 deaths annually, the latter mostly among young children in Africa. By investing in proven malaria-control programs and accelerating promising research, we can move closer to the long-term goal of eradicating the disease.

Our strategy: Our malaria strategy aims to maximize the impact of existing ways to reduce cases of malaria in the short term, such as long-lasting insecticide-treated bed nets and treatment with artemisinin-based combination drugs. With eradication as the ultimate objective, however, we also focus on intensive research and development to create new vaccines, drugs, and other tools.

Key elements of our strategy include:

- discovering and testing malaria vaccines that prevent infection and reduce the risk of serious disease and death
- developing more effective and affordable diagnostics and drugs, including drugs that can be used safely during pregnancy
- developing new ways to manage resistance and stop mosquitoes from transmitting malaria
- advocating for increased funding, as well as bold and effective public policies to control malaria in the developing world



Mother and child (Harar, Ethiopia, 2005).

TO LEARN MORE

www.gatesfoundation.org/malaria

MACEPA: Demonstrating Effective Malaria Control in Africa

Large-scale malaria control works. But a key challenge facing African governments is how to design and manage effective programs. Since 2005, the foundation has supported the Malaria Control and Evaluation Partnership in Africa (MACEPA) at PATH to work with Zambia and other partners to set the standard for comprehensive malaria control.

Zambia's 2008 Malaria Indicator Survey provides clear evidence that control efforts are directly improving health. The number of children infected with malaria in Zambia has declined by more than half, and the incidence of severe anemia in children—a key complication of malaria—has declined by more than 70 percent.

MACEPA and its partners are working to identify the most cost-effective combinations of malaria-control strategies, overcome bottlenecks in supplying such key tools as bed nets and insecticides, and share the lessons learned with neighboring countries.

GLOBAL HEALTH PROGRAM AREAS

MATERNAL, NEONATAL, AND CHILD HEALTH

The global situation: Maternal, neonatal, and child health are gaining prominence as a global health priority. There is clear evidence that providing mothers and their newborns proper care during and immediately after birth can significantly reduce deaths and improve the long-term health of both mother and child.

A key challenge is that the mothers and newborns in greatest need are often the world's poorest—and live in the most remote areas, where women typically give birth at home and have limited access to medical facilities. It is critical to develop and introduce practical, affordable interventions for improving maternal, newborn, and child health.

Our strategy: We aim to reduce the number of mothers and newborns who die during and immediately after birth by developing and introducing low-cost, easy-to-use tools, technologies, and treatments for the major causes of these deaths. Our strategy complements disease-specific efforts that also address maternal, newborn, and child health, including our pneumonia and diarrhea strategies.

Key elements of our strategy include:

- developing and field-testing new interventions that mothers and frontline workers can potentially use at home, including misoprostol for maternal hemorrhage, topical emollients, simplified antibiotic treatment, umbilical cord cleansing, and vitamin A for newborns
- creating and testing tools to help health workers who lack formal training identify and manage the major causes of maternal and newborn deaths, such as maternal hemorrhage, birth asphyxia, and newborn infections
- developing and implementing ways to overcome barriers to practices that can save the lives of women and their newborns
- raising the visibility of the health of mothers and their young children and building greater political support in donor and developing countries

TO LEARN MORE

www.gatesfoundation.org/mnch

NEGLECTED AND OTHER INFECTIOUS DISEASES

The global situation: Many tropical and infectious diseases, while virtually unheard of in wealthy countries, take a terrible toll in poor countries. These neglected diseases affect more than 1 billion people in the developing world, often causing severe disfigurement, debilitation, and even death.

The story is changing, however, as awareness of neglected diseases grows. Donors such as The Carter Center have helped provide millions of people with clean drinking water so that one neglected disease—Guinea worm—is on the brink of eradication. Organizations devoted to neglected diseases are starting to work together, and new research will hopefully help diagnose, treat, or prevent many other neglected diseases.

Our strategy: Our aim is to help reduce the burden of neglected diseases on the world's poorest people through effective control, elimination, or eradication. When possible, we support efforts to prevent these diseases. We also support efforts to develop new treatment options to reduce illness and disease transmission.

Key elements of our strategy include:

- developing and introducing new vaccines, other prevention approaches, screening methods, and drug treatments for neglected diseases
- looking at ways to simultaneously address multiple neglected diseases with similar causes
- advocating for continued attention and resources to fight neglected diseases

TO LEARN MORE

www.gatesfoundation.org/neglecteddiseases

NUTRITION

The global situation: More young children in developing countries are receiving proper nutrition than ever before, but much more needs to be done. It is especially critical that pregnant and lactating women and children under age 2 receive proper nutrition, since this period has the greatest impact on birth outcomes and children's long-term health and cognitive development. In addition, vitamins and minerals such as iron, vitamin A, and zinc are essential for the development of healthy children worldwide.

Our strategy: Our nutrition strategy aims to prevent malnutrition in children during the first two years of their lives and reduce vitamin and mineral deficiencies.

Key elements of our strategy include:

- closing critical knowledge gaps to address malnutrition during pregnancy and the first two years of life
- developing effective approaches to promoting proper breastfeeding and other proper infant-feeding practices, and improving nutrition during pregnancy
- supporting public-private partnerships to develop and deliver low-cost staple foods and condiments—such as flour, rice, salt, and soy sauce—with enhanced essential vitamins and minerals
- developing new tests and methodologies to track and evaluate our program impact
- advocating for greater resources and effective policies for nutrition programs and working with donors, international NGOs, UN agencies, and developing country leaders to promote a unified nutrition action plan

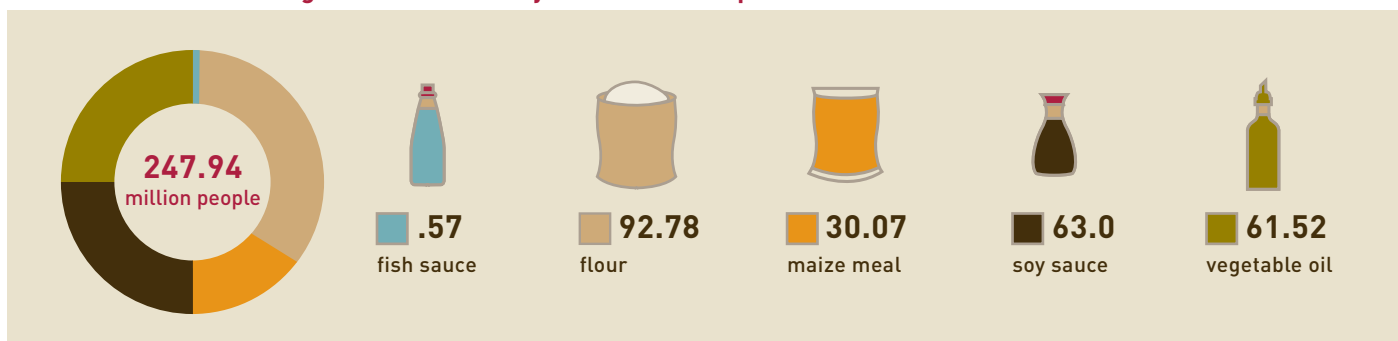


A woman weighs her child at the Manhiça Health Research Center (Manhiça, Mozambique, 2003).

TO LEARN MORE

www.gatesfoundation.org/nutrition

Investments in GAIN Programs Reach Nearly 250 Million People in 17 Countries.



Vitamins and minerals are added to local staple foods and condiments to improve nutrition.

Source: GAIN

GLOBAL HEALTH PROGRAM AREAS

PNEUMONIA

The global situation: Recent scientific advances have created enormous opportunities to reduce the impact of pneumonia, which is the leading cause of child deaths in the developing world. There are now proven vaccines available to mitigate the major causes of pneumonia, including pneumococcus, Haemophilus influenzae type b, and measles.

Additional innovation is needed, however. Current vaccines have various shortcomings—most can only reduce the occurrence of some forms of pneumonia, and some vaccines are relatively expensive.

Our strategy: We aim to reduce the number of children in the developing world who become sick or die from pneumonia and respiratory infections that can cause pneumonia, such as influenza and measles. Our approach emphasizes the prevention of pneumonia through affordable vaccines that prevent the major causes of the disease. In addition, we aim to close gaps in the world's scientific understanding of pneumonia, to inform the development of new diagnostic and treatment options.

Key elements of our strategy include:

- expanding access to existing vaccines through partnerships such as the GAVI Alliance
- developing new vaccines that protect against a broader range of disease types and are more affordable than current vaccines
- improving scientific understanding of the origins and causes of pneumonia, to guide the development of vaccines as well as new tools to diagnose and treat the disease



Patient care at Centro de Saúde de Boane (Boane District Health Center) (Boane, Mozambique, 2007).

- working for greater attention and resources to fight pneumonia, and encouraging private industry to research and develop new vaccines

In addition to these priorities, we also make targeted investments to help developing countries address the threat of pandemic influenza.

TO LEARN MORE

www.gatesfoundation.org/pneumonia

MVP: Advancing a New Meningitis Vaccine for Africa

The annual cycle of deadly meningitis outbreaks in Sub-Saharan Africa, which typically occur between December and June, could soon be broken. With foundation support, the Meningitis Vaccine Project (MVP) at PATH and the World Health Organization (WHO) is completing development of a new vaccine targeting group A meningococcal meningitis, which causes most epidemics in Africa.

MVP's unique partnership model helped make the vaccine's development possible. The technology underlying the vaccine features contributions from the U.S. Food and Drug Administration, SynCo BioPartners in the Netherlands, and Serum Institute of India.

To ensure that the vaccine can be used where it is needed most, MVP sought advice early on from African public health leaders, who emphasized the need for a low-cost vaccine—less than \$0.50 (U.S.) per dose. Through collaboration with partners, MVP has helped limit the initial price to just \$0.40 per dose.

POLIO

The global situation: The world has made dramatic progress toward eradicating polio, a disease that once paralyzed and killed children in nearly every country. Since 1988, when the world made a commitment to eradicate the disease, the number of polio cases has dropped by 99 percent.

The last remaining cases of polio are by far the most challenging to address. Persistence and the pursuit of creative new approaches will be crucial for eradication efforts to succeed.

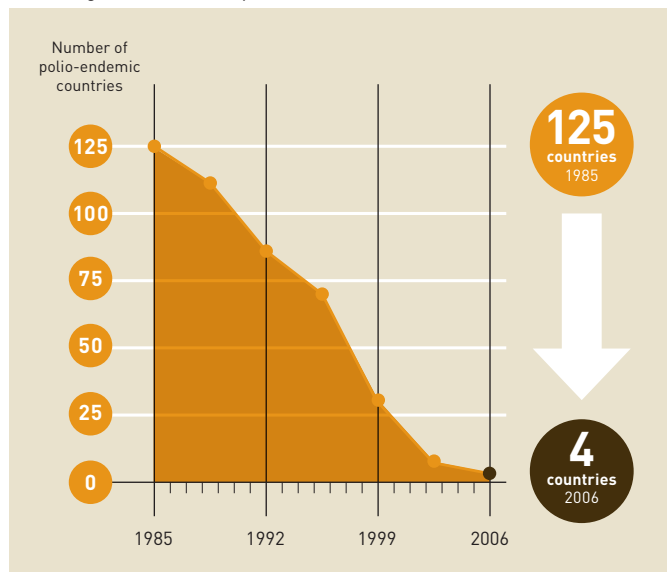
Our strategy: We aim to contribute to global polio eradication by working with partners in the Global Polio Eradication Initiative (GPEI).^{*} We are exploring all possible means of increasing the chances of stopping poliovirus transmission as quickly as possible.

Key elements of our strategy include:

- supporting polio vaccination campaigns in countries that remain at risk, and preventing and responding to outbreaks
- advocating for resources and commitment from donor and polio-affected countries
- ensuring that polio programs can serve as a platform for delivering other vaccines and improving overall health systems
- introducing improved surveillance systems that enable quick and accurate polio detection, which can prevent outbreaks or allow them to be addressed as soon as possible

Polio Eradication Progress

Reducing the number of polio-endemic countries.



Global progress toward polio eradication has been remarkable. However, the few countries where polio still circulates face significant obstacles in their efforts to eliminate the disease.

Source: WHO

- investing in new tools such as improved vaccines and antiviral drugs to achieve and maintain eradication

TO LEARN MORE

www.gatesfoundation.org/polio

TOBACCO

The global situation: Tobacco-associated illness and death is one of the most serious global health problems. Fortunately, there are multiple cost-effective ways to reduce tobacco consumption and prevent onset of tobacco use in nonsmokers. Many of these interventions are widely implemented in the developed world but not yet commonly used in developing countries.

Our strategy: We fund projects that implement proven policy interventions such as increased taxation and smoke-free bans aimed at reducing the burden of tobacco use in India, China, and Southeast Asia. We have also funded projects in Sub-Saharan Africa focused on preventing tobacco use there.

Key elements of our strategy include:

- deploying the most effective tobacco-control measures for Africa, where tobacco use is growing rapidly
- supporting intensive efforts in India and China to substantially reduce widespread tobacco use
- collecting and distributing evidence related to tobacco-control strategies—such as the economic impact of tobacco taxation—to guide policymaking

TO LEARN MORE

www.gatesfoundation.org/tobacco

^{*} The spearheading partners of the GPEI include Rotary International, WHO, United Nations Children's Fund, and U.S. Centers for Disease Control and Prevention.

GLOBAL HEALTH PROGRAM AREAS

TUBERCULOSIS

The global situation: Although TB deaths are declining, the disease continues to pose one of the world’s most urgent health challenges. While TB is curable and preventable, nearly one-third of the world is currently infected with the TB bacterium, and the active form of the disease kills 1.8 million people annually. Standard TB vaccines, diagnostic tests, and drugs have serious shortcomings, making TB difficult and costly to control.

A promising pipeline of new drugs and diagnostics—and eventually a new vaccine—could vastly improve our ability to respond to TB. The introduction of these new tools will be essential to fight the growing threat of multi-drug resistant TB (MDR-TB).

Our strategy: We aim to greatly improve global TB control by developing and introducing new and improved ways to prevent, diagnose, and treat the disease. We support the priorities of the Global Plan to Stop TB, a blueprint for significantly reducing TB by 2015.

Key elements of our strategy include:

- developing TB vaccines that are more effective than the current vaccine
- developing more accurate diagnostics and effective and faster-acting drug regimens to fight TB and MDR-TB
- demonstrating the impact of new TB tools in national control programs, including simplified TB drug regimens and drug-resistance testing
- supporting scientific research to improve our understanding of the basic biology of TB and MDR-TB
- advocating for funding and commitment to implement the Global Plan to Stop TB and for increased involvement by private industry in fighting the disease

TO LEARN MORE

www.gatesfoundation.org/tuberculosis



Both photos: Doctors viewing chest X-rays for TB at the HIV Outpatient Department (OPD) at the Sir J. J. Group of Hospitals (Mumbai, India, 2008).

GLOBAL HEALTH PROGRAM AREAS: Crosscutting Programs

Global Health Discovery, Delivery, and Policy and Advocacy are three crosscutting programs that help us successfully address all of our priority diseases and conditions.

GLOBAL HEALTH DISCOVERY

The global situation: Despite a decade of progress, substantial gaps exist in our scientific knowledge of how best to improve the health of people in developing countries. Inadequate investment has resulted in shortcomings in the prevention, treatment, and measurement of diseases and health conditions that primarily affect the world's poor. We need the expertise of scientists from many disciplines, sectors, and geographies to help transform the discovery and application of urgently needed health solutions.

Our strategy: We aim to save lives by creating and improving preventative, diagnostic, and therapeutic interventions for infectious diseases and conditions affecting maternal, neonatal, and child health.

Key elements of our strategy include:

- creating a pipeline of robust health solutions, including:
 - more effective vaccines and appropriate technologies for vaccine delivery

- new-generation drug candidates for infectious diseases—drugs that have greater potency, improved pharmacokinetics, and less toxicity than those currently available
- new approaches to prevention, including alternative means of controlling the transmission of vector-borne diseases and creating staple crops that improve nutrition
- developing platform technologies, such as a new class of easy-to-use, low-cost, and otherwise appropriate point-of-care (POC) diagnostics for diseases in resource-poor settings
- identifying and closing knowledge gaps around the role of genes, transcripts, and disease pathology critical to creating better health solutions
- stimulating innovation and investing in transformative ideas through our Grand Challenges in Global Health and Grand Challenges Explorations initiatives

TO LEARN MORE

www.gatesfoundation.org/healthscienceandtechnology

Grand Challenges in Global Health

Grand Challenges in Global Health (GCGH) is the primary vehicle we use to stimulate innovation and transform the way we approach problems in global health. In 2005, in partnership with the Foundation for the National Institutes of Health, the Wellcome Trust, and the Canadian Institutes for Health Research, we funded 45 innovative projects to meet seven identified health goals. Many of the projects are

well on their way to overcoming some of the most pressing scientific and technological barriers we face in our efforts to improve the health of the world's poor. Recognizing that great ideas can come from anywhere and anyone, in 2008 we expanded the GCGH initiative to include Grand Challenges Explorations (GCE), which has provided 340 \$100,000 (U.S.) grants to scientists in 31 countries.

Seven Long-term Goals to Improve Health in the Developing World



Goal 1:
Improve vaccines



Goal 2:
Create new vaccines



Goal 3:
Control insect vectors



Goal 4:
Improve nutrition



Goal 5:
Limit drug resistance



Goal 6:
Cure infection



Goal 7:
Measure health status

GLOBAL HEALTH PROGRAM AREAS

GLOBAL HEALTH DELIVERY

The global situation: Millions of mothers and children suffer from preventable health conditions simply because they do not have access to vaccines, drugs, and other basic interventions. While people in the developed world take these things for granted, it takes years, sometimes decades, for new health solutions to reach people in developing countries. There are many reasons for this, including inadequate funding, products that aren't appropriately designed, delays in policy and regulatory decisions, and poorly functioning health systems. Each of these barriers can prevent a lifesaving product from reaching the mother or child who needs it.

Our strategy: We tackle the most important bottlenecks to the delivery of vaccines and other health solutions, such as drugs and diagnostic tests, to people in developing countries. We begin by ensuring that products are designed appropriately for the environment in which they will be used. We work with global health institutions, such as the WHO and the GAVI Alliance, to ensure that they have sufficient capacity and resources to support countries' efforts to introduce these products. We also make catalytic investments to improve the functioning of immunization programs and components of the primary care system that are most important for maternal and child health.

Key elements of our strategy include:

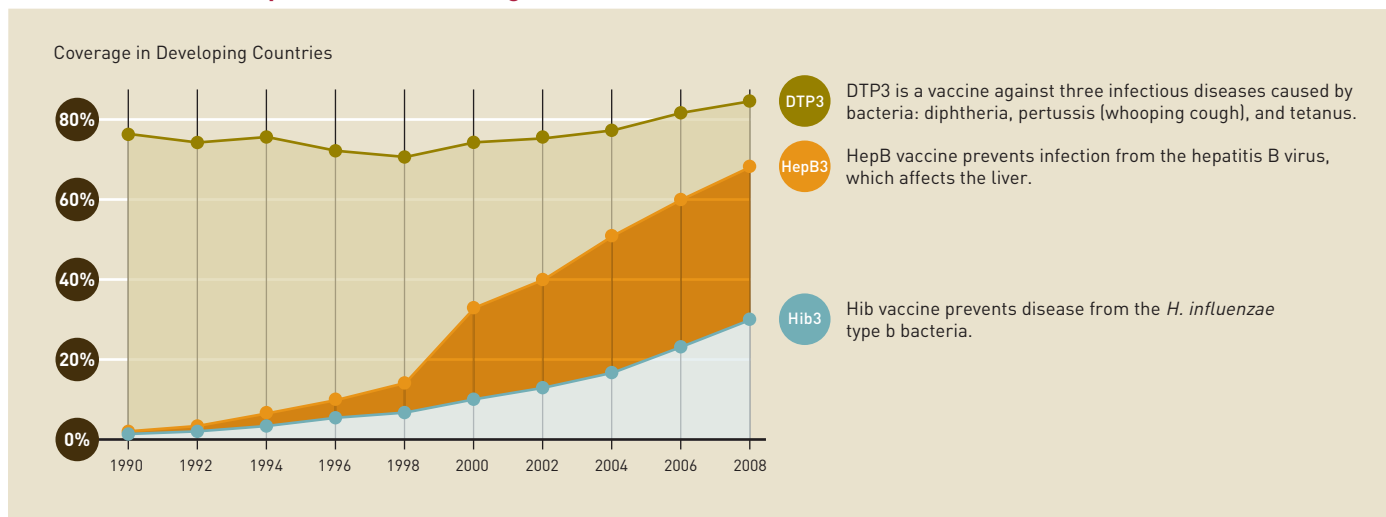
- ensuring the funding, programs, and policies are in place to introduce vaccines to prevent pneumonia and severe diarrhea, which account for more than one-third of childhood deaths in the developing world
- working with the Global Polio Eradication Initiative to eliminate polio as a threat to human health
- supporting developing-country governments in their efforts to improve maternal and child health

The financial needs in this area far exceed the resources of the foundation or any other single entity. We rely upon national governments, donors, funding institutions, and the private sector to invest in the basic systems and capacities necessary to deliver health services to people in developing countries. We must also carefully prioritize our own investments, ensuring that we address the highest-impact efforts without duplicating or supplanting the efforts of others.

TO LEARN MORE

www.gatesfoundation.org/vaccines

The GAVI Alliance Helps Save Lives Through Vaccination.



The GAVI Alliance, founded in 2000, provides financial support to the poorest countries in the world to help them introduce new vaccines. As a result, millions of children now have access to life-saving vaccines against diseases such as measles and rotavirus.

Source: WHO vaccine-preventable diseases; monitoring system 2009 global summary.

GAVI: Introducing Underused Children's Vaccines

The GAVI Alliance was launched in 2000 with support from the foundation and other donors to expand access to childhood vaccines. It is a public-private partnership of governments, UNICEF, the World Health Organization (WHO), the World Bank, the Bill & Melinda Gates Foundation, civil-society organizations, vaccine manufacturers, and public health and research organizations. Its unique approach involves ensuring long-term, predictable funding for vaccines. GAVI helps countries negotiate multi-year purchase agreements with vaccine manufacturers. This provides companies with necessary assurances that countries will purchase their products at a fair price and enables countries to plan ahead and optimize their resources.

GAVI has achieved dramatic results to date. Since 2000, GAVI-supported vaccines have reached more than 200 million children and averted an estimated 5.4 million deaths, according to the WHO.

GAVI's initial focus has been on underused vaccines for hepatitis B, *H. influenzae* type b, and yellow fever. GAVI is expanding its efforts in order to introduce new vaccines against pneumococcal disease and rotavirus disease—the major infectious-disease killers of children under the age of 5. This is the first time in history that vaccines will be available in the developing world at nearly the same time as in industrialized countries. With additional new vaccines expected to become available in the coming years, GAVI will continue to play an essential role in reducing child mortality and improving health in the world's poorest countries.

GLOBAL HEALTH POLICY AND ADVOCACY

The global situation: Thanks to the remarkable impact of health programs in developing countries, there is increasing recognition that improving global health is not only the right investment but a smart investment as well. To continue improving the health of the world's poor and saving lives, the world must sustain and increase investments over the long term. It is also important that we target resources to programs that can have the greatest long-term impact for the most people.

Our strategy: Our policy and advocacy strategy aims to improve global health by strengthening resources, political commitment, and public policies.

Key elements of our strategy include:

- encouraging donor governments to maintain their global health funding commitments and convincing developing countries to invest more of their own resources in health
- creating innovative partnerships to finance global health and encouraging greater involvement by private industry
- collecting and analyzing data on global health needs, funding levels, and evidence of impacts to help guide health policy decisions
- increasing awareness and understanding of the results that global health investments have already achieved



Rani, a Vimochana peer educator, uses a flip book to spread awareness of HIV (Vijayawada, Andhra Pradesh, India, 2007).

COMMITMENT TO LEARNING

We are a young foundation working to address major long-standing challenges. We routinely seek external input and counsel to ensure that our strategies effectively address current needs, and we are committed to measuring our results and learning from successful efforts as well as mistakes.

SEEKING EXTERNAL INPUT AND COUNSEL

We use a range of approaches to obtain outside counsel on our program strategies, grants, and other activities. We solicit external review for the vast majority of our individual grants, and grants made through large initiatives, such as Grand Challenges in Global Health, employ formal advisory bodies that review and make recommendations on grant proposals.

Another key mechanism for seeking external input is the Global Health Program Advisory Panel, which meets several times each year. Although panel members do not advise on specific grants, they help shape our major strategic decisions.

MEASURING RESULTS

Monitoring and evaluating results is an important part of our work. We regularly commission studies of the strengths and weaknesses of the programs we support. We have made significant investments in independent monitoring and evaluation of global health, including grants to support the Institute for Health Metrics and Evaluation and the Health Metrics Network.

Evaluations of our grant-supported programs have been published in various peer-reviewed journals. Our grants also often support the publication and dissemination of grantees' results.

ALTERING COURSE

One of our core strengths as a private foundation is the freedom to take risks and think big. That means embracing the possibility of unanticipated results and learning from them.

For example, when research on HIV prevention methods and new TB drugs—including some of the largest investments we have made—proved more challenging than we had initially anticipated, we decided to broaden the scope of scientific approaches we support. By contrast, our initial investments in malaria control had a very positive impact, which led us to adopt an aggressive strategy to scale up effective approaches rapidly.

SAVING AND IMPROVING LIVES, TOGETHER

The global health community has already done a lot for the health of the world's poorest people. However, we must continue focusing our energy and resources if we are to accomplish the goal of giving every individual the opportunity to live a healthy and productive life. Government, donor, private-sector, research, nongovernmental, and community partners all play a role. Investments in global health are saving lives. We have the skills, knowledge, and resources to do even more.

TO LEARN MORE

www.gatesfoundation.org/global-health



A technician preparing a vaccine for an infant at Dowa District Hospital (Dowa, Malawi, 2010).

“WE INVEST IN GLOBAL HEALTH
BECAUSE WE KNOW THAT WHEN
HEALTH IMPROVES, LIFE IMPROVES
BY EVERY MEASURE.”

—Bill Gates
Co-chair, Bill & Melinda Gates Foundation

