

DRIVING PROGRESS TOWARD 2015

Breakthrough innovations

that can save women and children now



WE SUPPORT



EVERY WOMAN
EVERY CHILD



A special message

Since world leaders adopted the Millennium Development Goals (MDGs) in 2000, the proportion of people living in extreme poverty has been halved, more than 2.1 billion people gained access to improved sources of drinking water, and we have made remarkable advances in the fight against HIV/AIDS, malaria, and tuberculosis.

Despite such extraordinary improvements, progress remains very uneven, and too many vulnerable women and children have yet to share in the gains. Diseases that can be cured or prevented are still taking lives: diarrhea, pneumonia, malaria, HIV/AIDS, and tuberculosis. Pregnancy and childbirth, which should be sources of joy, remain all too threatening.

As we look to accelerate our progress on the health MDGs, the need for

innovation has never been more paramount. Harnessing cost-effective and lifesaving technologies can have a vast impact on the health of women and children,

help us reach those in countries or situations of greatest need, and tackle key areas of the Global Strategy for Women's and Children's Health.

Through the Every Woman Every Child movement, policymakers, donors, multilateral organizations, the private sector, civil society, and health care professionals are coming together to step up efforts to save lives and forge solutions that not only increase access to medicines and medical products but also promote sustainability.

This publication outlines ten innovations that will have an immediate impact on the leading killers of women and children. From new medicines that prevent deadly infections in newborns, to new uses of supply chains to deliver medicines to the most remote areas, these are game-changing practices and advances.

Identifying these technologies, however, is not enough on its own to save lives. We also need political will and financial commitment. More than a decade of progress tells me that further dramatic improvements are within reach, and I look forward to continuing to work with all partners to finish the job and build the future we want.

Ban Ki-moon

Secretary-General of the United Nations





INNOVATIONS FOR 2015

The odds of survival for women and children in many developing countries are better than ever. Targeted global efforts to achieve MDGs 4 and 5 have driven steep declines in maternal and child mortality, allowing more parents to celebrate their children's birthdays each year. Achieving those goals is within our reach—but getting there by 2015 means stepping up our efforts to tackle the top killers of women and children worldwide.

This publication highlights ten breakthrough health innovations, from products to systems approaches, ready to be used in developing countries to help reach the MDGs. Paired with existing tools and others still in development, these low-cost innovations have the potential to save millions of lives by addressing the greatest health threats to women and children in developing countries. But this potential cannot be realized without the global health community banding together to provide access.

The good news is we can bring together the partnerships, resources, and political will needed to protect the most vulnerable.





PATH/Patrick Mckern

Nonpneumatic antishock garment →

Postpartum hemorrhage kills more mothers than any other cause—an estimated 71,800 annually. An antishock garment—originally conceived by NASA for use in space—can slow excessive bleeding after childbirth and stabilize the mother until she can be treated at an emergency care facility. The garment resembles a wetsuit that can be wrapped around the mother’s abdomen and lower body to direct blood to key organs. PATH has worked with collaborators from the University of California, San Francisco, Pathfinder International, and Blue Fuzion Group to establish high-quality manufacturing for the garment, reduce its price, increase production, and expand access in low-resource settings.



Ten health innovations to save lives now

← Simplified dosing of magnesium sulfate

Magnesium sulfate costs less than a dollar per dose and is the most effective drug to prevent and treat life-threatening convulsions among women with severe pre-eclampsia and eclampsia—pregnancy-related conditions that claim about 63,000 women’s lives each year. But barriers to its effective use in developing countries—including complex dosing regimens, a lack of product harmonization, and low provider familiarity of the drug—limit its potential impact. To improve effective use, several groups including Jhpiego, PATH, Merck for Mothers, and others are working with the World Health Organization and the UN Commission on Life-Saving Commodities for Women and Children to create more user-friendly treatment regimens and modes of administration in low-resource settings.



PATH/Evelyn Hochstein

← Sayana® Press

Access to contraceptives supports family planning and saves lives through healthy birth spacing and the prevention of unintended pregnancies. Yet modern contraceptives remain out of reach for millions of women. Sayana® Press is a new formulation and presentation of the injectable contraceptive Depo-Provera® manufactured by Pfizer. Packaged in the Uniject™ injection system, Sayana® Press is simple for health workers to learn and administer—and it cannot be reused, eliminating the risk of transmitting infection. This innovation has the potential to greatly expand access to a safe, effective, reversible, and discreet contraceptive method.



PATH/Patrick McKern

↓ Chlorhexidine for umbilical cord care

Chlorhexidine, a low-cost antiseptic, prevents deadly infections that may enter an infant's body through a newly cut umbilical cord. Few other interventions have as much promise to rapidly reduce newborn deaths at an affordable price—less than \$1 per dose. This year, 7.1% chlorhexidine digluconate was added to the WHO Model List of Essential Medicines for Children, but regulatory and manufacturing hurdles remain. The Chlorhexidine Working Group, an international consortium led by PATH, is taking steps to improve access and help avert many of the hundreds of thousands of deaths caused by neonatal infection each year.



Laerdal Global Health

↑ Helping Babies Breathe

A baby's first breath is the most important. Helping Babies Breathe, an initiative of the American Academy of Pediatrics and others, is working to train 1 million birth attendants to ensure every baby takes its first breath no matter where they are born. The program, which reduced early newborn mortality by as much as 47 percent in Tanzania, uses innovative teaching tools—including Laerdal's NeoNatalie newborn simulator—to arm health workers with simple supplies and knowledge needed to safely deliver babies in any setting.



Helping Babies Breathe



PATH/Patrick McKern

NEWBORN



Tommy Lavergne, Rice University

← Bubble Continuous Positive Airway Pressure device

More than half of premature babies struggle to breathe, contributing to the fact that premature birth is the leading cause of newborn death. A bubble Continuous Positive Airway Pressure device can save lives by gently flowing pressurized air into babies' lungs, but the \$6,000 price tag is too expensive in low-income settings. Using an aquarium pump to deliver air and a water bottle to relieve pressure, Rice University researchers developed a \$400 version that significantly improved survival rates among newborns in Malawi.

Kit Yamoyo →

We know how to treat diarrhea. Zinc and oral rehydration solution (ORS) are proven, affordable treatments, yet diarrhea still kills nearly 600,000 children annually. In rural areas, it's often easier to find a bottle of Coca-Cola than these lifesaving



ColaLife

medicines. ColaLife developed Kit Yamoyo to bundle and deliver zinc and ORS to African children by piggy-backing on the beverage company's delivery system and local social marketing. The kit contains zinc, ORS, and soap, and the packaging serves multiple purposes: a measuring guide, a mixing and storage device, and a cup.



ColaLife



LionsGate Technologies

↑ Phone Oximeter™

It's difficult for frontline health workers to diagnose diseases like pneumonia, which kills more than 1 million children annually, and pre-eclampsia—the second-leading cause of maternal death. The Phone Oximeter™, a mobile health platform developed by the University of British Columbia and partner company LionsGate Technologies will help change that. Using a low-cost sensor powered by a mobile phone to measure blood oxygen levels and then displaying informed advice for diagnosis and treatment, this device can help save mothers and children.

It's time to deliver on our promises to the world's women and children

Bright ideas, such as the innovations featured here, are among the breakthrough solutions needed to end preventable maternal and child deaths. Other lifesaving technologies in development include a device to safely deliver babies during obstructed labor, new packaging of antiretroviral drugs to prevent HIV in newborns, and important nutrition supplements that support children's growth. With these and other health innovations, we have the power to save 4.6 million lives by 2015.

But these bright ideas won't save lives by themselves. They need to be delivered to the hands of health workers who know how to use them to save women, newborns, and children. That requires political will and financial commitment.

The solutions are within our reach. The next steps are up to us.

Let the world's leaders know that we can't wait any longer. Share your thoughts with #innovations2015 and learn more at www.path.org/innovations2015/.

ROTAVAC® →

Rotavirus is the top cause of deadly diarrhea in developing countries, and this year, an affordable new vaccine demonstrated its ability to protect children from the disease. ROTAVAC® was developed by a cross-sector partnership led by the Government of India and could save thousands of children each year at a cost of about \$1 a dose if licensed and made widely available.



PATH/Gabe Blenczycki



Backpack PLUS

← Backpack PLUS

Many people in developing countries may never visit a doctor or hospital. Their link to the health system is through community health workers, who work at the "last



Backpack PLUS

mile" of delivery. The Backpack PLUS project, a partnership among the United Nations Children's Fund, Save the Children, MDG Health Alliance, frog design, and others, developed a holistic toolkit to empower health workers and save lives. The prototype includes medicines, diagnostics, and health supplies that address life-threatening diseases like pneumonia and malaria, and it emphasizes the role of supply chains, training, and supervision to save lives.





**LEARN MORE ABOUT INNOVATIONS TO SAVE
WOMEN, NEWBORNS, AND CHILDREN**

www.path.org/innovations2015/



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