

Solutions that save lives

Health technologies give mothers and children the chance for a healthy future

Even in the most remote areas of the developing world, health technologies have the potential to save lives. PATH designs, adapts, develops, and advances affordable technologies that are simple, tailored for use in low-resource settings, and capable of addressing serious and all-too-common health problems affecting mothers, newborns, and children.

In a time of constrained resources, practical health technologies are crucial components of successful health systems. At PATH, we adapt and advance existing tools that ensure the vaccine a child receives is effective, the water a family drinks is clean, and the process of childbirth is as safe as possible for mothers and babies. We design new technologies to deliver lifesaving medicines and diagnose diseases that affect millions of people in developing countries. And through collaborations with public- and private-sector partners, we accelerate the development of safe, effective, and affordable vaccines that guard against some of the most devastating diseases of childhood.

Once new technologies become available, we work with governments, communities, and others to strengthen health systems and ensure health workers are ready to introduce new interventions, use them effectively, and sustain their use.

With our collaborators and donors—including the US Agency for International Development (USAID), the National Institutes of Health, and the Bill & Melinda Gates Foundation—we continually search for technologies with the potential to improve lives, particularly the lives of women and children. The chart on the next page highlights some of the health technologies we've helped develop and promote, along with others we believe hold promise to save lives in the future.

Lifesaving garment for new mothers

The antishock garment

Minutes count

when a new mother experiences

excessive bleeding after childbirth.

For mothers in the developing world, who often give birth at home

or in a rural health facility, time too often runs out before they can reach emergency obstetric care.



Postpartum hemorrhage is the leading cause of mortality for new mothers, causing irreparable damage to vital organs, shock, and death if not treated in time. Nine out of ten women who die from postpartum hemorrhage are in developing countries.

PATH has identified a simple tool to save women's lives—a reusable, wetsuit-like garment made of neoprene that can be wrapped tightly around a mother's lower body to force blood to key organs and keep her alive until she reaches a medical facility.

PATH is focusing on how to reduce the costs of production, transport, and delivery to make the garment affordable while maintaining a high level of quality. We are developing strategies to secure regulatory approvals and address shipping and access issues to get the garment to the places it is needed most.



PATH / Sri Wood

GROUNDBREAKING TECHNOLOGIES, LIFESAVING RESULTS

A look at critical health technologies advanced by PATH and our partners:

UNIJECT™ INJECTION SYSTEM WITH OXYTOCIN OR GENTAMICIN

Prefilled, nonreusable syringes are under development to deliver oxytocin to prevent postpartum hemorrhage, the leading cause of maternal death during childbirth, or gentamicin, an antibiotic that treats bacterial infections that kill more than 1 million babies a year.



ANTISHOCK GARMENT

When mothers experience postpartum hemorrhage, they need quick lifesaving support. The antishock garment acts as a compression system to control blood loss and reverse shock by applying pressure to the lower body after childbirth. We are exploring ways to design this technology at a lower cost so that more mothers can live to raise their children.

NEWBORN RESPIRATOR

PATH is developing a simple, safe, and inexpensive ventilator called a bubble continuous positive airway pressure (CPAP) kit that health workers in developing countries can use to save premature infants in respiratory distress.

VACCINES

With private-sector partners, we are working to create vaccines to guard against deadly conditions including pneumococcal diseases, influenza, meningitis, malaria, and rotavirus and other diarrheal diseases.

VACCINE STABILIZATION AND VACCINE VIAL MONITORS

We are working on formulation methods to protect vaccines that can be damaged by heat and cold. Meanwhile, vaccine vial monitors printed on vial labels change color when exposed to heat over time, warning health workers at a glance that vaccine might be spoiled.



SOLAR PASTEURIZATION OF BREAST MILK

PATH is exploring whether we can use solar energy as the heat source to inactivate HIV in breast milk and which environmental conditions ensure adequate temperatures for pasteurization.

SOLOSHOT™ SYRINGE

Reuse of contaminated needles is a major source of disease transmission in the developing world. PATH developed and implemented one of the first feasible approaches to nonreusable syringes—an autodisable model with a fixed needle that automatically locks after a single injection.

ULTRA RICE®

Ultra Rice technology incorporates micronutrients in rice flour, forming grains that look and taste like traditionally milled rice but pack more needed nutrition.



DIAGNOSTIC TESTS FOR NEGLECTED TROPICAL DISEASES

Chagas disease and onchocerciasis, or river blindness, are parasitic diseases affecting millions of people in Latin America and Africa. Diagnostic tests under development at PATH have the potential to provide results quickly and at low cost without the need for sophisticated labs or extensive training.

WATER PURIFICATION SYSTEMS

PATH is helping commercial enterprises to produce, distribute, sell, and maintain household water treatment and storage products, such as point-of-use water filters.



Funding for PATH's work in technology solutions

USAID is a supporter of our work on technologies through the HealthTech program, which identifies health needs, then adapts, designs, develops, and advances appropriate and affordable technology solutions. For more than 20 years, HealthTech has served as a catalyst for advancing innovative technologies, supporting many of the projects featured at left and often working in collaboration with the private sector. PATH's technology development is also supported by other governments and private foundations, including the Bill & Melinda Gates Foundation, as well as individual donors. Through PATH's Health Innovation Portfolio, these donors and USAID support early-stage development and feasibility analyses of technology solutions for unmet health needs.

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PHOTOS – Page 1: PATH/Patrick McKern
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PATH is an international nonprofit organization that creates sustainable, culturally relevant solutions, enabling communities worldwide to break longstanding cycles of poor health. By collaborating with diverse public- and private-sector partners, PATH helps provide appropriate health technologies and vital strategies that change the way people think and act. PATH's work improves global health and well-being.

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