



Accelerating innovation to save lives of women and children

PATH aims for sustainable, evidence-based, cross-sector solutions at scale

Critical gains in maternal, newborn, and child health across the globe during the past two decades provide inspiration for achieving the new vision set out through the recently ratified Sustainable Development Goals. These goals, combined with the launch of the Global Strategy for Women's, Children's, and Adolescents' Health, embolden PATH to do even more to accelerate innovation to achieve the world we aspire to live in—a world where all women, newborns, children, and adolescents enjoy healthy and productive lives.

At PATH, we believe that innovation is the key to sustainable health impact. Innovation can come in many forms, including new approaches to behavior change and social mobilization as well as new products and services. Sustainability and scale are ensured when these innovations are effectively embedded in health systems, policies, local markets, and the very fabric of community and society.

In our portfolio of maternal, newborn, and child health and nutrition projects, PATH works to develop, optimize, and scale innovation. We work at the global, regional, national, and subnational levels to ensure that evidence is translated into appropriate, sustainable solutions. Because partnerships are key to achieving results, PATH partners

actively with governments, communities, international and national nongovernmental organizations, and the private sector.

PATH's Maternal, Newborn, and Child Health and Nutrition Program takes a holistic, health-systems-oriented, multi-sectoral approach to strengthening the continuum of care for women, children, families, and communities. Our project portfolio focuses on crucial supports to enable populations to both survive and thrive. Our work spans the value chain from discovery to delivery, and we use science and evidence to drive our approach and efforts to achieve impact.

DRIVING INNOVATION IN NUTRITION

Using research and implementation science, PATH is helping to define the next frontier of nutrition programming globally. With emphasis on mothers, newborns, and children, PATH's rigorous clinical and operations research is informing innovations to address undernutrition, including micronutrient deficiencies.

In South Africa, for example, PATH is leading efforts to scale up human milk banking so newborns and infants benefit from breast milk even when their mothers are

unable to breastfeed. Milk banks use donated extra milk from lactating mothers, pasteurize it to make it safe, and freeze it until needed, making optimal nutrition possible.

Another PATH initiative in South Africa is evaluating the impact of a “feeding buddy” approach to improve infant feeding practices as well as adherence to antiretroviral therapy and early infant testing among HIV-positive pregnant women. Specifically, this study is looking at ways women can overcome sociocultural barriers to exclusive breastfeeding by engaging peer support.

PATH is also evaluating use of Projecting Health, an innovative applied behavioral communication methodology that engages communities to develop their own videos with accurate and culturally appropriate messages about nutrition and other health priorities. The methodology has proven highly effective in improving knowledge and uptake of key practices related to infant feeding and newborn care.

In addition, more than 30 studies to date have shown that regular consumption of rice that is fortified using PATH’s Ultra Rice® technology can help to alleviate micronutrient deficiencies and prevent malnutrition in rice-consuming regions. Our Ultra Rice® work continues to expand its evidence base, develop markets, and broaden market introduction. This success has inspired new efforts to generate evidence on the impact of edible insects on nutritional outcomes in Ghana, as well as to validate insect micro-farming as a scalable and sustainable food system-based approach to reduce stunting and promote women’s empowerment. Insect farming features high feed conversion efficiency and has a substantially smaller environmental footprint—lower carbon emissions and reduced water and land use—than raising livestock.



PATH/Evelyn Hockstein

Global leadership in nutrition strategy and programming

Based on our broad expertise and experience in nutrition programming, PATH serves as the lead partner for a small consortium of nongovernmental organizations and universities that advise the UK Department for International Development (DFID), the Scaling Up Nutrition (SUN) secretariat, and many countries on their nutrition strategy and programming. PATH’s work includes:

- Expanding the evidence base on the causes of under- and over-nutrition.
- Enhancing skills and capacity around the world to scale up nutrition-specific and nutrition-sensitive programs.
- Providing best-in-class guidance to support innovative program design, implementation, and monitoring and evaluation.
- Sharing knowledge and lessons learned across DFID, the SUN movement, and at country level.

INTEGRATING SOLUTIONS DURING THE FIRST 1,000 DAYS OF LIFE

In South Africa and Mozambique, PATH works with local communities and the government health system to strengthen care during the first 1,000 days of life—from a woman’s pregnancy to her child’s second birthday. We ensure that women get regular prenatal care; births are safe; babies get the best health, nutrition, and early childhood development services; mothers are encouraged to breastfeed and offer their children the best nutritional options; and communities are engaged in supporting children and their caregivers.

With financial support from BHP Billiton Sustainable Communities, PATH’s Window of Opportunity project targets districts with high levels of maternal and infant mortality and morbidity. Interventions strengthen the planning and provision of existing services while introducing new approaches that change lives. Rigorous implementation science helps the project track the impact of key interventions.

Results are compelling. For example, the project has contributed to substantial reductions in maternal mortality, with one district achieving a 65 percent reduction. It has also contributed to substantial declines in neonatal mortality, reductions in household-level health and development risk during the first 1,000 days, and increases in exclusive breastfeeding and use of prenatal care. Moreover, the project has succeeded in changing the policy agenda around the importance of integrated care across the first 1,000 days of life.

ADVANCING LIFESAVING TECHNOLOGIES TO REDUCE MATERNAL AND NEWBORN DEATHS

Expanding access to high-quality, affordable medicines and other technologies is essential to reducing maternal and newborn deaths. PATH works to make medicines, diagnostics, and devices more accessible, particularly in poor, hard-to-reach communities.

To improve management of postpartum hemorrhage—one of the most important causes of maternal mortality—PATH is optimizing the design of an affordable uterine balloon tamponade and testing its introduction. This is a simple technology that is inserted in the uterus and inflated to apply pressure that stems bleeding.

To improve management of severe preeclampsia and eclampsia, PATH is advancing a rapid test to determine proteinuria status and working to increase access to magnesium sulfate, an effective treatment. We have identified a range of promising technology solutions and are testing more user-friendly options for treatment. These options include:

- Use of a dilution bottle for intravenous treatment.
- Use of mobile apps for dosing and dilution.
- Simplified regimens, including ready-to-use magnesium sulfate packs containing 20% or 50% drug concentrations.
- A reusable, electricity-free, low-cost infusion delivery system.
- A rectally administered form of this lifesaving drug.

To improve newborn and preterm infant health and save lives, PATH is developing and testing new neonatal resuscitators, mannequins and suction devices, low-cost bubble continuous positive airway pressure (CPAP) devices and oxygen blenders, and feeding technologies such as the NIFTY™ cup (see photo). In addition, PATH leads the Chlorhexidine Working Group (as part of the UN Commission on Lifesaving Technologies for Women and Children), which collaborates with more than 20 key global stakeholders to accelerate worldwide scale-up of chlorhexidine for umbilical cord care. In particular, PATH is implementing a regional supply strategy that includes establishing manufacturing of chlorhexidine for umbilical cord care in selected African countries so this critical product is affordable and readily available in all markets in low-resource settings. PATH has also created and disseminated purchasing guides for maternal and newborn health commodities, including birthing and cesarean section simulators, CPAP devices, fetal monitors, portable ultrasound equipment, rechargeable lighting, and newborn thermoregulation devices.



Strengthening newborn health in Ghana

In Ghana, PATH supports efforts of the Ministry of Health to improve access to and quality of essential newborn care. With funding from the Children's Investment Fund Foundation, the Making Every Baby Count Initiative (MEBCI) brings together PATH, Kybele Inc., Harvard Medical School, and Noguchi Research Institute in a comprehensive public health initiative to strengthen national leadership in three key areas:

- Managing and sustaining newborn health standard practices.
- Establishing a model newborn care center to institute and disseminate advanced obstetric and newborn care practices.
- Strengthening regional leadership and action focused on newborns.

MEBCI works with the Ghana Health Service at the national policy level using a stepwise implementation approach in four targeted regions (Brong Ahafo, Eastern, Volta and Ashanti).

MEBCI has already spearheaded the reactivation of Ghana's National Subcommittee on Newborn Care, a critical platform to discuss and coordinate policy implementation. In addition, the initiative has supported development of a newborn health curriculum that is now the model for Ghana. The five-day training package includes the Helping Babies Breathe curriculum developed by the American Academy of Pediatrics (AAP), AAP's Essential Care for Every Baby program, and information on newborn infection prevention. Trainings are carefully planned and systematically implemented and monitored, and supportive supervision is conducted with tools jointly developed by the Ghana Health Service and Harvard. Additionally, in partnership with Kybele Inc., MEBCI is establishing a model newborn care center to institute and disseminate advanced obstetric and newborn care practices.

HARNESSING HEALTH SYSTEMS AND COMMUNITY NETWORKS FOR SOCIAL DEVELOPMENT

Despite global progress in increasing infant and child survival, 200 million children around the world do not achieve appropriate age development milestones due to lack of adequate nutrition, care, and stimulation. Over the past three years, PATH, in collaboration with government agencies and partners in Mozambique, Kenya, and South Africa, has pioneered approaches and models to integrate early childhood development (ECD) interventions within broader health and social action services at community and health facility levels.



PATH/Doune Porter

In Mozambique, with support from the Conrad N. Hilton Foundation and BHP Billiton Community Trust, PATH has designed and implemented an innovative program now covering four districts of Maputo province. The program has built institutional and technical capacity of community-based organizations, community health workers, care providers at health facilities, and district and provincial health and social action staff in the areas of child health, nutrition, and stimulation. The program has successfully targeted families of vulnerable children up to three years of age with ECD services for the first time.

PATH has also extensively adapted and field-tested the Integrated Management of Childhood Illness (IMCI) Care for Child Development module, which has served as a model for equipping clinical and community providers with skills and tools for counseling caregivers on responsive parenting and stimulation. Initial evaluations of this innovative approach indicate that it is operationally feasible within a rural government health system. On the basis of these results, the model is being introduced at scale, and by 2017, integrated ECD counseling, developmental assessment, and referrals will be available through the health system in program areas with a

combined population of approximately 2 million. Rigorous evaluation of the impact on behavioral and developmental outcomes is planned for 2016 and 2017.

INFORMING POLICIES AND ADVOCATING FOR RESOURCES TO FOSTER INNOVATION AND IMPROVE HEALTH

PATH works with partners to inform policies that accelerate the development, introduction, and scale-up of lifesaving innovations to protect the health of women and children and to save lives—faster—across the continuum of reproductive, maternal, newborn, child, and adolescent health. We advocate for policies and resources that improve maternal and child health services and delivery, advance malaria elimination and ultimate eradication, and expand access to immunization. We promote government leadership in global health, influence global priorities through public and private partnerships and dialogue, and advance maternal and newborn health advocacy agendas in many countries in sub-Saharan Africa and Asia. Using evidence-based advocacy, we promote policy solutions that are innovative, country-driven, affordable, and based on best practices.

Success stories in policy advocacy

- In Kenya and Uganda, PATH worked with national stakeholders to bolster the prevention of malaria in pregnancy and align malaria treatment guidelines and strategies with international standards.
- In Zambia, newborns have a better chance for survival and a healthier future because of the adoption of a new national strategy for newborn care that PATH and our local partners actively supported.
- Malawi updated its Essential Medicines List in 2015 to include globally recommended lifesaving commodities for mothers and newborns, a policy win for health that was driven by advocates supported by PATH.

FOR MORE INFORMATION

For more information about PATH's work in maternal, newborn, and child health and nutrition, see <http://sites.path.org/mchn>.

Cover photo: PATH/Gabe Bienczycki



www.path.org

PATH is the leader in global health innovation. An international nonprofit organization, we save lives and improve health, especially among women and children. We accelerate innovation across five platforms—vaccines, drugs, diagnostics, devices, and system and service innovations—that harness our entrepreneurial insight, scientific and public health expertise, and passion for health equity. By mobilizing partners around the world, we take innovation to scale, working alongside countries primarily in Africa and Asia to tackle their greatest health needs. Together, we deliver measurable results that disrupt the cycle of poor health. Learn more at www.path.org.

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