MEDICAL DEVICES AND HEALTH TECHNOLOGIES

Innovations by the Numbers

October 2025

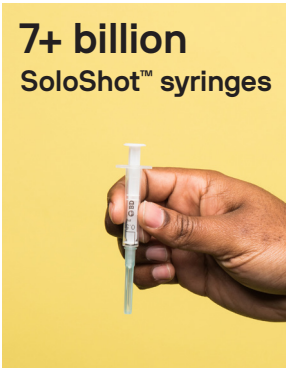
PATH

Translating innovative ideas into breakthrough medical devices and health technologies

PATH's Medical Devices and Health Technologies Program leads the vanguard in accelerating access to affordable, appropriate health solutions to protect and treat the communities that need them most.

Innovations introduced or scaled globally

7+ billion
SoloShot™ syringes



PATH designed the first commercially available autodisable syringe: a fixed needle that locks after a single injection to prevent reuse. AD syringes catalyzed a global policy shift in safe injection, and are used for immunizations in more than 100 countries. Since 1990, more than seven billion have been produced by BD, lowering the risk of bloodborne disease transmission.

40,000+
Ellavi uterine balloon tamponades

Sinapi Biomedical, South Africa and PATH developed a low-cost, preassembled medical device to manage postpartum hemorrhage and help save the lives of women during childbirth. The Ellavi received a CE Mark in 2019, and is now registered in over 25 countries, where more than 40,000 devices have been sold.

10+ billion
HEATmarker® vaccine vial monitors

To help health workers know in a glance if a temperature-sensitive vaccine can be used, PATH advanced a small sticker on a vaccine vial that changes color when exposed to heat over time. All vaccines purchased through the United Nations Children's Fund use vaccine vial monitors (VVMs). Since 1996, more than 10 billion VVMs have helped ensure that undamaged vaccines are used in child immunization campaigns.

500,000+
Caya® contoured diaphragms

PATH created and developed the first new diaphragm design in 50 years to address women's unmet need for a nonhormonal family planning method that they can control. Introduced in 2013 by KESSEL medintim GmbH, Caya is now available in more than 45 countries, with more than 500,000 units sold.

500,000+
freeze-safe carriers and cold boxes

PATH designed an open-source innovation for vaccine carriers and cold boxes that protects vaccine potency by preventing accidental freezing and reduces carrier preparation steps. We transferred the technology to multiple manufacturers to help bring the first freeze-preventive vaccine carriers approved by WHO to market. As of 2025, there are 15 freeze-preventive carriers and cold boxes approved by WHO, with more than 500,000 devices in use.

200+ million
BD Uniject™ injection systems

PATH developed a compact prefilled autodisable injection system that combines a needle, a syringe, and a single dose of vaccine or pharmaceutical. Millions of babies have received their hepatitis B birth dose, and more than 20 million units of self-injectable contraceptive DMPA-SC have been given via BD Uniject injection system.

12 million children protected from polio

via needle-free injection

For years, PATH has evaluated fractional dose delivery regimens and devices to help support polio eradication efforts—stretching vaccine supplies to protect more children. PATH worked with WHO and device developers to advance needle-free jet injectors to simplify delivery of fractional doses. We've generated data that found administration of fractional doses of inactivated poliovirus vaccine with the PharmaJet Tropis® is not only safe and effective, but also increases acceptability of vaccination, reduces immunization program costs, and expands coverage. Now 12 million children in Afghanistan, Nigeria, Pakistan, and Somalia have been vaccinated without needles with the Tropis jet injector.

Protecting children from rotavirus in Vietnam

Rotavin first heat stable oral rota vaccine

Miguel Alvarez

To protect more infants and young children from dying from severe rotavirus diarrhea, PATH and POLYVAC Vietnam developed a second-generation liquid rotavirus vaccine, Rotavin, that is easier to store, transport, and administer. PATH scientists formulated a heat-stable, ready-to-use oral vaccine, compatible with existing cold chain storage refrigeration at 2–8°C, instead of frozen storage at –20°C, and transferred it to POLYVAC.

Introduced in 10 countries

Aqua Research STREAM™ Disinfectant Generator

To help reduce health care–associated infections, PATH supported national scale-up of the Aqua Research STREAM Disinfectant Generator in Ghana and Uganda, enabling staff at approximately 500 health care facilities and hospitals to produce chlorine at the push of a button. Our activities and evidence have catalyzed STREAM pilots across eight additional countries in Africa.

Distributed for infants in 40+ countries

Nifty Feeding Cups

PATH and partners designed a cup for infants who are unable to breastfeed. Mothers can express breast milk into the cup and use it to effectively feed their infants. In 2016, PATH and Laerdal Global Health announced a collaborative effort to bring the Nifty Feeding Cup to market, and now it has been distributed to more than 40 countries.

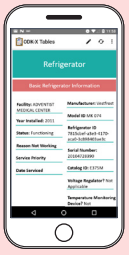
Deployed in 11 countries

MRI for infants

Magnetic resonance imaging (MRI) is a critical tool for diagnosing life-threatening neurological conditions in infants, yet access remains limited at the point of care in many low- and middle-income countries. As part of the UNITY Consortium's feasibility study, PATH led regulatory and logistical efforts to deploy Hyperfine Swoop® low-field portable MRI devices across 21 clinical sites in 11 countries across sub-Saharan Africa and Asia. PATH also implemented a usability study to assess how the novel technology could be integrated into local health systems.

Strengthening immunization information systems

CCIS in Uganda



The Cold Chain Information System (CCIS) is an open-source digital asset management tool developed by PATH and the University of Washington. It enables ministries of health to efficiently manage cold chain equipment through cloud-based data systems, ensuring vaccines are stored at the correct temperature. Now deployed across all 160 districts in Uganda, CCIS replaces slow, costly, and quickly out-of-date paper-based inventories, putting real-time data in the hands of staff who can act to maintain safe storage of vaccines at every level of the cold chain.

For more information, please contact innovation@path.org. All photos: PATH, where not otherwise indicated.

PATH

PATH is a global nonprofit dedicated to achieving health equity. With nearly 50 years of experience forging multisector partnerships, and with expertise in science, economics, technology, advocacy, and dozens of other specialties, PATH develops and scales up innovative solutions to the world's most pressing health challenges.

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