

Improving Global Health Through Technology Solutions



UNICEF/HQ020266/Giacomo Pirozzi

In the developing world, the difference between sickness and health can be as simple as a sterile needle and syringe, a reliable refrigerator for storing vaccine, or a basic diagnostic test. Unfortunately, needles are not easily sterilized or disposed of, refrigerators are expensive and difficult for rural health workers to maintain, and laboratories that analyze urine and blood samples for disease may only exist in major cities, if at all.

PATH has been developing and introducing innovative and affordable health technologies for 25 years. Our interventions aim to improve child survival and maternal health in developing countries.

Working with more than 60 private and 40 public-sector partners, we have advanced more than 30 economically sustainable technologies in developing countries, including:

- ▶ vaccine vial monitors for oral polio,
- ▶ auto-disable syringes,
- ▶ Uniject™ pre-filled injection system, and
- ▶ point-of-care diagnostic tests for infectious diseases and nutritional deficiencies.

Currently, our Technology Solutions Strategic Program is developing technologies such as:

- ▶ microbicides—topical substances that may someday be used to help prevent sexual transmission of HIV;
- ▶ female barrier contraceptives that enable women to protect themselves against unwanted pregnancy as well as sexually transmitted infections, including HIV;
- ▶ vaccine preservation/stabilization techniques that eliminate the need for the cold chain;
- ▶ nevirapine delivery systems, which can help reduce mother-to-child transmission of HIV;
- ▶ waste disposal technologies for safely disposing of used syringes and needles.



J. Fox



J. Fox

Uniject is a trademark of BD.

Our Approach

A User-Driven Development Process

PATH focuses on advancing solutions that best meet the needs of end-users. Because users' concerns and preferences drive our approach, we involve them in all stages of the product development pipeline, including:

- ▶ needs assessment;
- ▶ product design and development;
- ▶ field assessment;
- ▶ technology transfer;
- ▶ quality assurance;
- ▶ development of policies, standards, and guidelines; and
- ▶ local introduction of new technologies.

By focusing on users' needs, PATH's Technology Solutions teams develop and introduce the safest, most effective, and most appropriate interventions for each setting. In some cases, this may mean working with existing technologies developed by other groups; in other cases, it requires developing new technologies. Some PATH interventions are simple products that can be manufactured by local companies, while others are highly sophisticated technologies that must be produced with state-of-the-art processes and materials.

By tailoring our approach to the needs, challenges, and resources in each setting, we ensure that we provide the most appropriate, cost-effective solutions that can achieve the greatest impact.



F. Camus-Bablon



J. Fox



D. Matsythen



J. Fox



C. Nelson

Principles for Adapting and Developing Technologies

In each of its projects, PATH's Technology Solutions program focuses on four core principles: appropriateness, availability, affordability, and acceptability.

Appropriateness

Health equipment and products used in developed countries are often too expensive or too dependent on labor or other resources to be used in low-resource settings. PATH strives to develop solutions that are appropriate for the settings we work in. Our focus on user needs throughout the design, testing, and adaptation of the intervention helps ensure a good fit. In addition, we train local staff so they can identify needs and solutions that are best suited to their conditions.

Availability

PATH ensures that our agreements with manufacturers include terms and conditions that require adequate supplies for developing-world markets. Another strategy for ensuring the availability of our products is transferring skills in manufacturing and quality management to local companies that make health products. PATH also assists government agencies in developing international procurement capabilities for essential drugs, including contraceptives and vaccines.

Affordability

Cost can be an insurmountable obstacle in low-resource settings. To minimize the cost of products and services, PATH works to establish innovative pricing solutions. For example, we have negotiated license agreements with manufacturers and suppliers to ensure lower costs for the public sector. Similarly, we help institutions establish cost-effective local capabilities for purchasing, manufacturing, testing, and distributing effective health products.

Acceptability

If a community perceives a health intervention as dangerous or unnecessary, the intervention will not be used. PATH's product-development process ensures that potential users—including beneficiaries, health care providers, and program managers—contribute to the design of the intervention, which in turn helps ensure its acceptability. PATH also provides culturally relevant training, education, and resources that further support the community's understanding and acceptance of the intervention.

Ensuring Sustainability for the Future

When transferring a technology to a commercial manufacturer, PATH works to protect public-sector needs such as product availability, access, and affordability. Working within PATH's *Guiding Principles for Private Sector Collaboration*, we carefully balance the public sector's needs with the marketplace requirements of our commercial collaborators. Our efforts help ensure that the products we develop will be safe, effective, affordable, and appropriate solutions for users throughout the world.

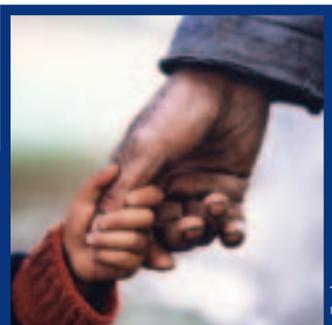
Partnerships = Success and Impact

With funding from several donors—including the United States Agency for International Development and the Bill & Melinda Gates Foundation—PATH carries out its work in partnership with international agencies and private-sector manufacturers. Involving commercial companies in product development and advancement greatly improves the chances of developing low-cost, widely available, and self-sustaining products.

About PATH

PATH is an international organization dedicated to developing, implementing, and evaluating innovative solutions to public health problems. Our mission is to improve health, especially the health of women and children. We share knowledge, skills, and technologies with governments and nongovernmental partners in low-resource settings around the world. Since 1977, PATH has managed more than 1,000 projects in 120 countries, directly benefiting people, communities, and countries with limited health resources.

For additional information about PATH, please visit our web site at www.path.org.



J. Zuckerman

Contact PATH's Technology Solutions Strategic Program

PATH
1455 NW Leary Way
Seattle, WA 98107
USA

Phone: 206-285-3500
Fax: 206-285-6619
Email: info@path.org