Deliver low-cost, life-saving medical care to those who need it most

Western

All in.

At Western, researchers are partnering with communities across the world to design low-cost medical devices that improve access to care in underserved and remote areas in Canada and globally.

Western's Frugal Biomedical Innovations Program (FBIP) brings together engineers, clinicians and global partners to co-design and deliver life-saving solutions that improve health outcomes in underserved regions.

In many remote and low-resource settings, medical devices are either unavailable or unfit for local needs. Most arrive as donations from high-income countries, yet as many as 90 per cent are non-functional or never used because they were designed without input from the communities they were meant to serve. As a result, critical health needs go unmet.

At FBIP, we are working to change that. Our frugal biomedical solutions are intentionally simple, resilient and easy to use — for both patients and providers. Built to function in real-world conditions with limited power, supplies or trained personnel, they deliver essential care while keeping costs for operation and maintenance low.

This work challenges the assumption that quality must come at a high price. Each device is tested not only in the lab but also in the environments where it will be used, ensuring reliable performance under real-world conditions. At the same time, we collaborate with local partners to develop the capacity to manufacture, calibrate and maintain these devices close to home — supporting long-term impact and sustainability.

Students and trainees are at the heart of this effort. Through hands-on, interdisciplinary projects in Canada and abroad, they gain global experience, strong mentorship and a deep understanding of health equity, preparing them to become creative problem solvers and socially responsible innovators.

With your support, we can reach more people, deliver essential care and improve health and well-being in low-resource communities across Canada and around the world, while empowering the next generation of innovators in Canada and globally to lead lasting change.

WHAT FRUGAL INNOVATION LOOKS LIKE

Western researchers and students are reimagining simple, accessible technologies to meet urgent health needs worldwide.

1.

Wearable sensor for brain injury detection in pre-term infants: A low-cost, wearable device that monitors cerebral blood oxygenation in newborns that uses minimal power and can be operated by minimally trained personnel.

2.

Vaccine refrigerator made from a camping cooler: An affordable 12V camping cooler adapted to keep vaccines at safe temperatures in off-grid clinics, using solar panels, batteries and sensors to turn recreational gear into a life-saving tool.

3.

Frugal manufacturing of HIV cure therapies: Technologies to enable local manufacturing and delivery of a novel anti-HIV immune therapy for the goal of ending the HIV epidemic in Africa.

Are you all in? Get in touch.

Kristen Lesko
Schulich School of Medicine & Dentistry
klesko2@uwo.ca
519-661-2111 x86237
1-800-423-9631 (toll free)

Kristina Stankevich
Faculty of Engineering
kstanke3@uwo.ca
519-661-2111 x83743
1-800-423-9631 (toll free)