

Operation Accelerate: Nexleaf's Commitment to Achieving Digital Transformation

Nexleaf's ColdTrace is a remote temperature monitoring (RTM) platform that protects vaccines by mobilizing real-time data from the cold chain. ColdTrace IoT devices, wireless sensors, and analytics tools help health workers detect problems, prioritize solutions, and preserve vaccine potency. ColdTrace is designed to facilitate the digital transformation of vaccine systems management and empower Ministries of Health (MoHs) with data for decision-making.

Active ColdTrace: Before & After

Tanzania



Kenya



Malawi



By February 2023, Nexleaf had partnered with MoHs and multilateral organizations to install **over 25,000 ColdTrace RTM devices, many in off-grid health facilities**. However, data from three key partners in Africa—Kenya, Malawi, and Tanzania—revealed that many of these devices were offline and failing to send data.



Nexleaf addressed offline devices by recruiting implementation experts to design and launch country-specific plans. This initiative, called Operation Accelerate, proved a major success. **In Tanzania alone, the number of refrigerators and freezers sending data increased from 1,353 to 3,822.** Through this work, we documented valuable lessons we're now implementing to ensure new ColdTrace deployments succeed from day one.

Root Cause Analysis

The Operation Accelerate team started by zeroing in on offline ColdTrace deployments. They learned the devices were offline for a variety of reasons:

Tech

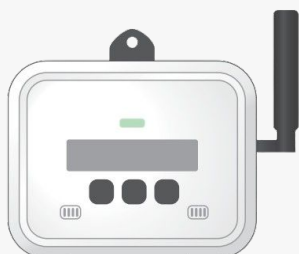
- Broken sensor cables & power adapters
- Lack of spare parts & replacements
- Limited places to mount RTM devices

Installation

- SIM card & SD card problems
- Inexperienced contractors
- Limited instructions at installation sites
- Inaccurate/absent device associations

Workforce

- Insufficient training for nurses, clinic staff, and technicians
- Lack of defined role for MoH & other stakeholders



We designed the latest version of our ColdTrace RTM device to improve the user experience for health workers on the ground. [Learn more about CTX here.](#)

Ministry of Health Ownership

After analyzing root causes and determining the most effective path to addressing them, Nexleaf team members approached immunization stakeholders at the MoH to advocate for **a more hands-on approach to RTM and cold chain equipment management**. MoH and immunization system leaders collaborated to determine a phased plan for RTM troubleshooting and identified health worker roles to attend the jointly-held trainings.

Health Worker Engagement

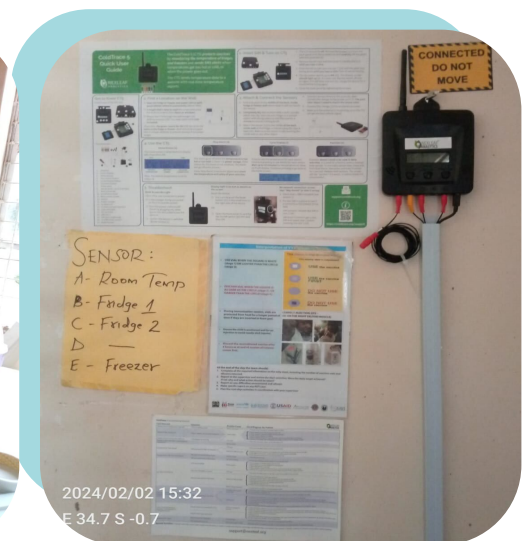
With an MoH plan in place, Nexleaf's **Impact Consultants conducted dynamic, hands-on training sessions** for key users, who in turn trained their peers in a cascade learning model. Facility-level health workers learned how to manage RTM alerts and troubleshoot devices, ensuring maximum responsiveness to protect vaccines. At clinics with faulty installations, newly-trained biomedical engineers and nurses conducted site evaluations and re-installed devices. These MoH staff members came equipped with mounting kits, spare parts, and informational posters.



BEFORE



DURING



AFTER

Holistic Innovations for Digital Transformation

In the months since Operation Accelerate, ColdTrace devices have remained active at high rates, equipping Kenya, Malawi, and Tanzania with **functional, state-of-the-art technology that offers continuous visibility** into their vaccine systems. Operation Accelerate continues in Pakistan, and Nexleaf will incorporate what we've learned into future ColdTrace implementations.

Moving from analog practices to integrated technological innovations is a formidable challenge. It's also a necessity, and a mandate for Ministries of Health around the world. In order to meet this moment and achieve digitally transformed, AI-ready health systems, **health workers must use data and technology tools to perform their jobs and keep systems functioning collaboratively**. As we build toward our vision of making every clinic a **Connected Clinic**, engaging the people at the heart of the health system is the most critical component of technology success.



Knowledge

Health workers are trained on data use practices related to maintaining equipment.

Action

Clear protocols exist for using data to unlock resources for repair and maintenance.

Rituals

Standardized data reviews are incorporated into existing weekly and monthly meetings.