

# COLDTRACE

2016 Nominet Trust 100 Winner

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2016

## KEEPING VACCINES SAFE WITH SMART COLD CHAIN TECHNOLOGY

*By Nexleaf Analytics*

Project URL: <http://nexleaf.org/vaccines/#what-is-coldtrace>

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- Health
- Mobile
- Physical Computing

Delivering the right vaccines to areas of the world that need them the most is crucial for global health. Unfortunately, vaccine fridges in rural clinics often fail due to power outages or lack of resources, which means that vaccines can become inactive, leading to unprotected children and wasted investment. According to the World Health Organization (WHO), 56% of cold chain equipment in low and middle income countries is poorly functioning or non-functional.

ColdTrace is a system developed by Nithya Ramanathan, Martin Lukac and Ian Leong with support from the likes of the Bill & Melinda Gates Foundation, Google and The World Bank, which aims to solve the problem.

A temperature sensor probe is placed inside a vaccine refrigerator, and connects to a nearby ColdTrace device, usually mounted on the wall. The device uploads temperature and grid power availability to a server, which sends SMS messages to key personnel like nurses, managers and maintenance technicians when the fridge starts to fail.

The device can be made for just \$1 and covers a low-cost smartphone, which connects to the probe by its headphone cord. It's simple to mount and operate and has a battery life of up to three days, to ensure continuous operation in case of a power outage.

ColdTrace is currently monitoring vaccines for more than 38,000 babies each year, and is working towards expansion that would ensure that 6.1 million babies born each year are properly vaccinated. Four million vaccine doses are already taken care of in Africa and Asia.

What's more, ColdTrace data can be used to identify chronically failing fridges, fix fridges remotely and verify fixes. On a government level, ColdTrace can help ministries of health budget better for cold chain maintenance and plan procurement for new fridges based on field performance. Find out more at <http://nexleaf.org/vaccines/#what-is-coldtrace>

*Image courtesy of ColdTrace*

*Last updated: 31st of August, 2016*