
GLOBAL
HEALTH
SUPPLY CHAIN SUMMIT

Capacity Building in Immunization Supply Chain Personnel

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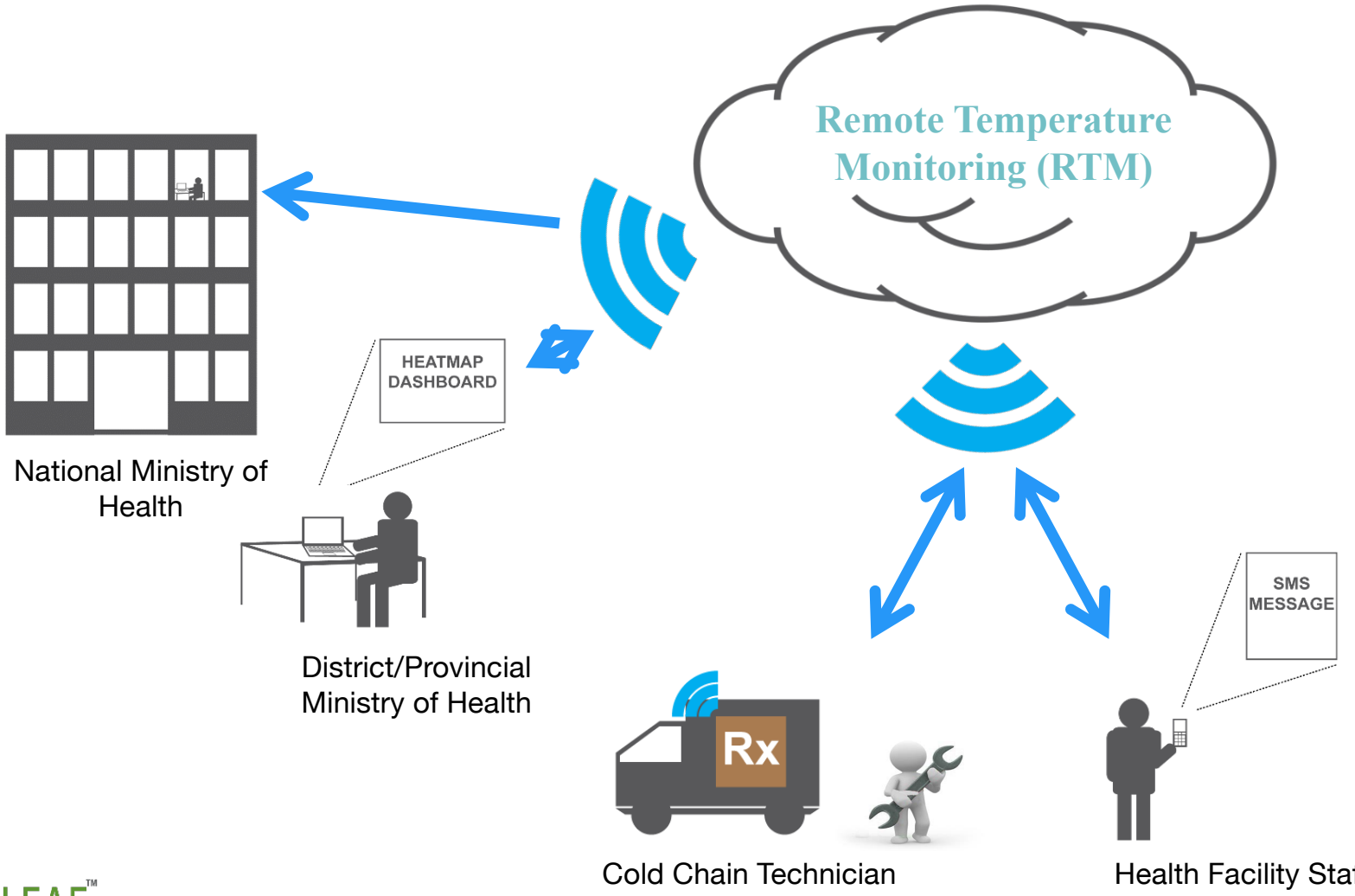
Who We Are

Nexleaf Analytics is a non-profit technology company based in Los Angeles, California founded in 2009.

- We build, scale, and support wireless devices and data analytics tools that improve global public health and the environment.
- To this date, we have **installed 7795 sensors** for social impact and have **trained 671** people in **8 countries** around the world.


Remote Temperature Monitoring (RTM)
HEATMAP DASHBOARD
National Ministry of Health
District/Provincial Ministry of Health
Rx
SMS MESSAGE
Cold Chain Technician
Health Facility Staff

Remote Temperature Monitoring: Data for Strengthening Cold Chain Management

Remote Temperature Monitoring (RTM)

NATIONAL MOH

- National Procurement and Maintenance Strategy

DISTRICT/PROVINCE MOH

- Maintenance Planning and Information Flow

TECHNICIAN

- Remote Fridge Repairs and Informed Facility Visits

FACILITY STAFF

- Temperature Alarms and Preventive Care

Technology Uptake: Challenges and lessons learned from new technology implementation

- Remote temperature monitoring provides data on cold chain uptime and power availability.
- Technology alone does not improve the cold chain. Specific actions/interventions are required by the health workers. *Training is the link between the data and intervention*.

Initial Training Challenges

- Sessions were planned as part of the larger LMIS roll out.
- Initial trainings commenced with a trial & error approach.
- Large trainee groups with a single trainer.
- Trainees were overwhelmed with too much information.
- No trainee assessment done.

Impact of the Challenges

Very short introductions were given on the new technology due to the project implementation design.

This led to problems such as:

- Issues in understanding the purpose of the project
- Difficulty in planning the ultimate handover
- Struggle to design a replicable curriculum and training materials
- Chronic operational issues owing to difficulty in understanding the technology and it's workings

Lessons Learned: Training needs pre-assessment

- Establish clear objectives for the skillset that will be required by the end of the training session.
- An incremental and comprehensive knowledge transfer model should be used for training. With holistic knowledge of the program, trainees will understand the purpose of the training and be more invested. The training should include information on the following:
  - Importance of the program and its place in larger Ministry of Health plans
  - Specifics of this program: phases, roll out plans, exit strategy
  - Technology overview: RTM; why is it needed?; why this specific device?
  - Features and functionalities of the RTM
  - The utility of the technology to the trainee: development of SOPs with introduction of RTM
  - Expected trainee interaction with the technology: installation, care and maintenance of the RTM devices

Lessons Learned: Designing the training program

- Iterations to simplify the training material to ensure a proper flow of the information after each round of training.
- Using examples of everyday technology to make new technology relatable (i.e. using a smartphone as an example to explain the home screen).
- Providing adequate facilities for trainings and planning sessions with number of attendees not exceeding 25-30 people are key to effective training sessions.
- Allocate sufficient time for RTM training to maintain a consistent pace.
- Trainee assessment and profiling: ascertaining language preference, educational profile, cultural sensitivity, exposure to and experience with other technologies.
- Training material: calibrate it to reading levels, translate into the local language.

Lessons Learned: Overcoming barrier of existing cultural mindset

- Acknowledging the apprehensions of trainees
- Paradigm based challenges:
  - Level of technology savviness impacted participants' comfort with technology. Participants less familiar with modern devices associate "difficulty" with any new technology and this concern needs to be heard and properly addressed.
  - There also exists a digital divide more salient amongst trainees depending on their proximity to urban cities. Managers who are based out of bigger and more urban cities showed more openness towards learning new concepts.
  - Any new system is always rolled out as an addition to the existing processes till the new system can prove to be robust. This however poses issues of fears regarding job security and concerns of added workload.
  - Fear of being monitored and censured.

Sense of Ownership

- The Ministry of Health should be involved in the training, installation and implementation of the technology.
- They can address any fears trainees have of job security and answer questions.
- The technology and innovation provide data that will help the MOH personnel with their everyday role and tasks.

Lesson Learned: Training program design

- Aside from the training lecture, include a **physical demonstration** of the technology in smaller batches of about 6-7 people to ensure the concepts register effectively.
- Conduct **refresher trainings**. Video trainings in cases of staff transition.
- Link the use-cases of data to every day tasks and decision-making.
- Encourage them to **share positive stories** and their achievements with the technology. During refresher trainings it was a good exercise and eased their frustrations when the device did not work or issues they have been experiencing.

Training program design (cont.)

- Community building using social media tools to encourage discussions around problem solving through WhatsApp groups, sharing videos of device demonstrations etc. are effective ways of helping the trainees post-training.
- Workarounds and tips in overcoming specific challenges with the new technology get filtered back and get incorporated in trainings, so everyone can benefit from them.

Program Evaluation

- If administering post training assessments through written tests then:
  - Either translate the tests into the local language or have local language facilitators present who can verbally translate the test at the time of administering it.
  - Answering the tests in local language should be an option.
  - It's best to keep the questions very simple as trick questions can be confusing.
  - Using the results from these assessments help plan for further trainings for certain trainees.
  - The test score improvement from pre to post training captured the effectiveness of the training sessions to a certain degree.

Thank You

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