



FROM DATA TO IMPACT

Implementation summary

Country	Swaziland
Laboratories	28
Diseases	MTB, MDR TB
Devices & Assays	GeneXpert, MTB and MDR TB
Funding Partner	Global Fund
Local Heroes:	<p>Lead: Themba Dlamini, Program Manager, NTP</p> <p>Dr. Welile Sikhondze, Technical Advisor and Research Coordinator, NTP</p> <p>Sindisiwe Dlamini, Chief Laboratory Technologist, SHLS</p> <p>Team Members:</p> <p>Doctor Busizwe Sibandze Drug Resistance Survey Laboratory Manager, NTP</p> <p>Tumiso Matumba Information Technology, National ICT Officer, NTP</p> <p>Thando Mabuza, Assistant ICT Officer, NTP</p> <p>Derrick Khumalo Principal Technologist & SHLS/NTP Laboratory Coordinator</p> <p>Sylvester Moyo Laboratory Information System Manager, CHAI</p> <p>Tufuma Zanamwe Laboratory Information System Manager, ICAP</p> <p>Pinky Kubheka Regional Laboratory Advisor, ICAP</p> <p>Justice Makuni Software Developer, HMIS</p>

THE CHALLENGE:

MODERN DIAGNOSTICS AND TRAINED STAFF HAMPERED BY DISTANCE AND COMMUNICATION ISSUES

The Swaziland NTP understood that despite having a fleet of new GeneXpert diagnostic devices and a skilled staff, they would not realize the full potential of these new devices without a robust device management platform. To maximize the use of GeneXperts, and eventually other diagnostics, the NTP needed to:

- understand utilization;
- figure out which errors were happening and why;
- implement rapid response to diagnoses;
- deploy targeted training resources efficiently; and,
- manage a fleet of expensive devices over the long term.

A robust device management connectivity platform could help realize the new technology's promise. In addition to the immediate issues of improving time to treatment and system optimization, the Swaziland NTP wanted to take advantage of the platform to:

Manage inventory:

- Optimizing procurement and utilization
- Reducing wastage

Manage devices:

- Remotely, identify and fix device errors rapidly
- Maintain devices and keep warranties up to date, and reduce costs over time

Collect and analyze data, to:

- understand disease trends and patterns
- use custom fields to optimize laboratory processes and patient care
- ensure data privacy and control
- automate time-consuming reports



Doctor Busizwe Sibandze installs GxAlert at the Raleigh Fitkin Memorial Hospital laboratory with supervision from Tumiso Matumba and SystemOne's Max Strong.





SOLUTION

The local NTP team helped SystemOne set a new record for the number of laboratories interfaced in the roll-out training: 15 facilities in total were connected by the in-country team (9 within a single day).

During the Advanced Administration training, the NTP team presented the benefits, use and components of the GxAlert platform to members of the M&E team whom were unable to attend the Basic Administration training. The team then configured all baseline notifications for the GxAlert platform for:

- New Rifampicin Resistant Cases
- Drug Resistance Survey Cases
- Low-Stock at Facilities
- Device Offline
- Automated Weekly Drug Resistance Survey Cases Report.

A Data Collection Plan workshop enabled the NTP to set the initial baseline notifications using the current lab request form as a template. And, a Data Control Plan began taking shape with a core team of NTP personnel.

WORKING WITH A TALENTED LOCAL NTP TEAM MINIMIZED INITIAL CHALLENGES

Nearly every technology deployment involves difficulties: from contracting and funding delays, to shipping equipment and working with import and customs authorities. The delays can last weeks, months or years.

In Swaziland, uncontrollable delays specific to shipping the routers required for connectivity nearly caused a shift in schedule. The routers arrived the same day as the SystemOne Implementation Team, who ensured that the shipping delays did not impact any of the setup and configuration timelines.

Other challenges that SystemOne and the NTP team resolved included:

- Additional steps for LIS configuration which requires higher level of IT skill than standard users.
- A number of facilities had viruses infecting the GeneXpert computers.
- Poor GSM signal strength challenges in remote facilities.

SUCCESSES & MOVING FORWARD

- SystemOne and the NTP had set a target of 5 laboratory installations as part of the in-country visit. The team managed to successfully install GxAlert at 15 facilities over a 3-day period. (Nearly 50% of the national rollout).
- The technology collected 48,523 results, digitally, during the in-country period.
- With the skilled NTP staff, the SystemOne team managed to connect even laboratories that had a Laboratory Information System which presented some interface challenges.
- Installation and Administration training with representatives of the NTP IT and M&E Group included attendees from SHLS and CHAI-Swaziland, and helped give the NTP a road-map for moving forward with GxAlert.
- GxAlert has been useful in the monitoring of sample flow and patient enrollment in the drug resistance survey underway.

SystemOne continues to support the Swaziland implementation, and will be working with the NTP team to aggregate and analyze GxAlert data. This will lead to specific recommendations for how to optimize cartridge procurement and inventory, where to focus additional training efforts, how to best manage devices specific to warranty and maintenance, and how to use the data from connected devices to help improve health outcomes.

In conclusion: GxAlert implementation was successful with at least 50% devices installed with a 3 day period. In addition, the GxAlert notification system has played a key role in the monitoring of sample flow and patient enrollment in the current TB drug resistance survey.