Deaths from tuberculosis (TB) have declined over the last two decades, but the disease still was responsible for 1.4 million deaths in 2011—mostly in developing countries. Increased speed in testing and treatment can help further reduce the number of TB deaths. However, testing for TB and reporting results is a lengthy process in many low- and middle-income countries partly due to a reliance on paper records, overburdened labs, and slow data transit systems.

**Challenges of Conventional Health Information Systems**

- Data can take weeks or even months to arrive at central locations for compilation and reporting
- Quality of data received, especially from paper-based data tools, is often lacking, and follow-up is time consuming
- Delayed, poor quality data leads to:
  - Substandard program data analysis
  - Program management decisions that are not timely or focused on priority needs
  - A slower health system response that leads to poor health outcomes

Abt Associates’ GxAlert Initiative can greatly improve the TB test reporting times and information sharing from GeneXpert and other rapid TB diagnostic machines, hundreds of which are being deployed around the world. GxAlert is housed in a USB drive modem and can be set up on rapid testing machines in 15 minutes.

**What is the Innovation of GxAlert?**

By networking rapid diagnostic machines, such as the GeneXpert, to the Internet-based GxAlert system, government and private health systems gain a low-cost, low-maintenance system to:

- Increase the potential of eHealth near patient and point-of-care diagnostics to support a faster, more cost-efficient health system response
- Protect your financial investment by spotting individual machine errors early or correcting improper lab usage issues with training
- Prevent cartridge stock-outs and track usage for accurate ordering
- Send targeted action messages (“alerts”) by SMS/text and/or email to health system decision makers:
  - Local, district and regional health officers
  - Facility and laboratory managers
  - Drug warehouse and supply managers
  - National program managers

**Basic System and Equipment Requirements to Support GxAlert**

At least a 3G modem, wifi, or Ethernet for an Internet connection is all that's required (poor or intermittent connectivity will still work).

After the initial configuration of GxAlert onto the machine, the data reporting happens automatically in the background. The lab technician does not need to do anything for GxAlert other than continue his or her normal work.
**GxAlert and the National Tuberculosis and Leprosy Control Program**

The National Tuberculosis and Leprosy Control Program in Nigeria has completed a pilot installation of GxAlert to network and monitor results from GeneXpert rapid diagnostic machines in regional TB labs. The innovative combination of Abt’s GxAlert and the GeneXpert by Cepheid allows Nigeria’s Ministry of Health to, for example, quickly allocate necessary drugs where they are needed most for early and consistent treatment of multi-drug resistant TB patients.

**How GxAlert Works**

![Diagram of GxAlert system](image)

**Step 1:** Connect the diagnostic device.

**Step 2:** Automatically receive results from all connected devices.

**Step 3:** Deliver the data in real-time to where it’s needed.

**Contact**

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**Abt Associates** is a mission-driven global leader in international systems strengthening, policy development and program implementation in health, social policy and economic development. Ranked as one of the top 40 development innovators by Devex in 2012 and one of the top 25 global research firms in 2011, the employee-owned company currently has offices and active projects in 56 countries globally.