Enhancing Efficiencies in Laboratory Specimen Management

High volumes of specimen testing require high-performance lab management

An infection outbreak—local, national or global—dramatically increases laboratory staff’s workloads with huge volumes of specimens to test while under pressure to get results as fast as possible with no room for errors. Not only can specimen identification errors negatively impact patients by delaying, impeding or misdirecting treatment options1 (60% to 70% of which are determined by lab results2), but they can also slow efforts to reduce infection rates and end the infection outbreak. Additionally, lab errors can increase costs for the healthcare facility and damage the facility’s reputation. Barcode technology has become a proven solution for labs to boost specimen identification efficiency by automating data entry3 and reducing specimen identification error rates. A retrospective study revealed that barcode scanning and one-on-one specimen collection education resulted in a 90% reduction in specimen identification errors4.

Reduce Testing Identification Errors Amidst High Volume Demands

Barcode and RFID technologies, including scanners, label printers, handheld mobile computers and software, help labs serve a critical diagnostic role during an infection outbreak in several ways.

Capturing Specimen Data Efficiently and Accurately

Scanning specimen barcode or RFID labels ensures quick, reliable data capture that can aid diagnosis accuracy while maintaining the chain of custody that began at the patient bedside or a drive-through testing center. This practice also documents specimen receipt, initiation of testing and the technician who is handling the specimen—all of which are potentially valuable data in the event of questions surrounding specimen processing.

Enhancing Patient Safety

By eliminating the need for multiple data entries, barcode and RFID label printing and scanning reduce specimen misidentification errors. Also, these processes document the steps taken in specimen handling at any given time, so lab technicians can track specimens when necessary and ensure they are analyzed in a timely manner. Better specimen data-capture accuracy and tracking ability help lab technicians enhance patient safety.

Maximizing Workflow Efficiency, Minimizing Costs

Operational efficiency is a critical aspect of overall lab performance. Delayed identification of a single specimen can slow down the entire operation, causing multiple diagnosis delays. Barcode and RFID printing and scanning solutions designed for lab environments help prevent bottlenecks and maintain workflow efficiency by minimizing manual data entry.
Solutions for Specimen Management Accuracy and Efficiency

Zebra mobile computers, scanners, printers and specimen labels help accelerate the safety, accuracy and speed of laboratory specimen management.

**Handheld Mobile Computers**
Zebra TC52-HC mobile computers are designed specifically for healthcare use cases. With integrated, advanced scanning technology, Zebra TC52-HC devices rapidly capture 1D and 2D barcodes to scan specimen barcode labels and keep the identification process flowing seamlessly. They are highly durable with drop ratings suited to cement hospital floors, disinfectant-ready plastic and full-shift batteries, making them ideal for hectic lab environments.

**Link-OS Intelligent Printer Operating System**
Link-OS is Zebra's one-of-a-kind enterprise printer operating system. Enabling advanced connectivity capabilities, extensive device management and advanced privacy controls, no other printer OS delivers this level of intelligence and innovation.

**Workforce Connect**
Zebra designed its Workforce Connect solution to enable all healthcare professionals to make voice calls, send push-to-talk and secure text messages to connect with their peers—all with a single device.

**Specimen Barcode Labels**
Zebra specimen barcode labels are tested to stay affixed to the most challenging surfaces, such as small curved surfaces or bags, using flexible materials and special adhesives. They are designed to withstand specific temperatures in heating and cooling, and they resist xylene, alcohols, haematoxylin, and other solvents and stains. Boost specimen identification efficiency by automating data entry and reducing specimen identification error rates with Zebra specimen labels: IQ Colour, PolyPro 4000D, Z-Perform 2000D (not available in EMEA), Z-Select 2000D (only available in EMEA).

**Specimen RFID Labels**
Zebra offers end-to-end RFID solutions for healthcare facilities—including pre-tested RFID specimen labels made with the right materials and adhesives, along with the highest-performing thermal inlays and chips. Choose from the widest selection of in-stock items, ready to ship within 24 hours.

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To learn more about Zebra's laboratory management solutions, visit [www.zebra.com/healthcare](http://www.zebra.com/healthcare)