Accurate patient and specimen identification can improve outcomes

Effective collection management starts with bedside technology

Medical errors are a leading cause of adverse healthcare outcomes in healthcare facilities, with an estimated 10% of patients harmed during a hospital stay. As the global healthcare industry faces challenges from marked increases in aging populations to staff shortages and rising costs, preventable medical errors are something healthcare organisations cannot afford.

Misidentification of specimens is a common medical error that often leads to unnecessary sample redraws, retesting and additional treatments[1] at an estimated cost of $200 million to $400 million USD per year.[2] Specimen collection errors not only put patient care at risk and increase costs, but also represent a drain on resources that can be prevented.

Fortunately, many hospitals are adopting technology solutions which can enhance efficient use of resources and help improve patient safety while controlling costs.

Bedside technology aids matching accuracy

Employing technology at the patient bedside forms the basis of an effective specimen management process. Bedside specimen labelling can increase the effectiveness of a three-point check that confirms links between the specimen collection order, the patient and the labelled container. Further, a verification process that uses automatic identification systems such as barcoding aligns with widely accepted GS1 global healthcare standards.[3]

Clinician education coupled with bedside specimen collection can reduce identification errors up to **90%**.[4]

[1] Paul N. Valenstein, MD; Stephen S. Raab, MD; Molly K. Walsh, PhD, "Identification Errors Involving Clinical Laboratories: A College of American Pathologists Q-Probes Study of Patient and Specimen Identification Errors at 120 Institutions," Archives of Pathology and Laboratory Medicine: Vol. 130, No. 8, pp. 1106–1113.
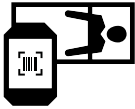
[2] "Benefiting from Bedside Specimen Labelling," white paper, Zebra Technologies, 2016

[3] 3gs1.org/healthcare/standards

[4] "Specimen labelling errors: A retrospective study, Online Journal of Nursing Informatics (OJNI), 19 (2), June 2015. http://www.himss.org/ojni

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Help ensure accurate specimen-patient matching with bedside specimen labelling

Limited clinical resources might make establishing a bedside specimen labelling process seem daunting. However, barcode labelling and scanning technology can give hospitals several advantages.

Creating a Safer Patient Environment

Bedside specimen labelling and matching can serve as an integral step in a three-point check of the specimen collection order, the patient wristband and the labelled container. An effective process that relies on mobile or desktop printers to generate specimen barcode labels at the patient bedside can help reduce preventable specimen collection errors and the misdiagnoses, delays and potential adverse patient outcomes. In addition, accurate matching can help prevent the need for redraws and retesting, which subject the patient to unnecessary pain and increase the overall cost of care.

Helping Reduce Operational Costs

The collection and management of specimens is a multifaceted process that includes a number of disciplines and handoffs. Incorrect specimen identification at the bedside can introduce errors that perpetuate throughout the whole process, translating into unnecessary redraws and retesting, misdiagnosis or inappropriate medical treatment. A bedside specimen management process that utilises barcode specimen label printers, a barcode scanner or handheld mobile computer can help prevent errors from being introduced and help manage operating costs.

Maximising Clinicians' Patient Care Time

By giving clinicians an efficient way to verify critical specimen and patient data at the patient bedside, health organisations can minimise their low-value activity in favour of meaningful patient care time. In an emerging global healthcare environment largely defined by growing patient populations and fewer clinicians to provide care, organisations can't afford wasted clinician effort.

Zebra® has your bedside specimen collection solutions

A specimen collection process requires the use of technology at the front line of care—the bedside—to be effective. Zebra's specimen collection management solutions can help clinical staff implement an efficient, effective three-point specimen-patient matching process.

Technology that aids efficient matching

Mobile Printers

Your busy staff needs printing reliability, ease of use and design features that withstand the harsh clinical environment. Zebra® ZQ600 Healthcare Series mobile printers deliver all three, with:

- Fast 802.11ac and Bluetooth 4.1 wireless connections
- Battery technology that ensures power throughout the entire shift
- Disinfectant-ready plastics that tolerate continual cleaning

Desktop Printers

Clinicians who work in constrained areas can easily print specimen labels using the compact Zebra® ZD410 healthcare model desktop printer. The ZD410 uses thermal transfer printing—beneficial as this process does not create additional personal health information that would require secure disposal. This model is designed for the healthcare environment, with:

- Disinfectant-ready plastic
- An IEC 60601-1-compliant power supply

Barcode Scanners

Clinicians working at the patient's bedside need to capture specimen barcode data from any medium, in any condition, the first time. Engineered for reliability in clinical environments, Zebra® healthcare scanners offer accurate specimen data collection.

Handheld Mobile Computers

Clinicians need secure, instantaneous access to patient information and reliable scanning to match patients to their specimens with confidence. Zebra® handheld mobile computers and enterprise tablets handle the demands of the healthcare environment with:

- Drop ratings that withstand impacts with concrete hospital floors
- Easy-to-clean disinfectant-ready plastic
- Removable batteries built to last a full shift

Software, supplies and services

DataCapture DNA Software

Hospitals can deploy and maintain devices for maximum operating performance throughout the enterprise with DataCapture DNA, a portfolio of scanner productivity, visibility, management and application development tools. DataCapture DNA enables greater worker efficiency through seamless application integration and maximum device performance.

Link-OS Intelligent Printer 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.

Print DNA Software

Print DNA is a suite of powerful productivity, management, development and visibility tools for Link-OS printers. These tools offer a common, customisable printer user experience that enables fast, accurate printing; remote enterprise-level printer management tools; and easy printer integration into existing infrastructures.

Zebra® OneCare Visibility Services

OneCare ensures that Zebra® devices achieve maximum uptime and peak performance. Multiple service levels are available to meet each hospital's unique requirements and protect operational investments.

Patient Wristbands

Zebra® offers options in wristbands that improve safety, meet globally recognised GS1 standards and address different patients' comfort and durability needs. Z-Band® thermal direct-print wristbands can be secured to patients immediately, with no assembly. Laser-printable self-laminating LaserBand wristbands enable quick production without the need for a dedicated wristband printer and feature a patented self-laminating seal.

To learn more about Zebra's bedside specimen collection solutions,
visit **www.zebra.com/healthcare**

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