Improving patient safety and operational efficiency in healthcare with Zebra scanners

GLOBAL HEALTHCARE CHALLENGES: THE PREVALENCE OF MEDICAL ERRORS AND EMERGING GOVERNMENT REGULATIONS

Healthcare organizations all around the world are faced with two major issues: the vast number of medical errors that threaten patient safety and emerging government regulations to prevent those errors.

Medical errors have reach epidemic proportions. Researchers from Harvard School of Public Health discovered that every year, approximately 42.7 million people are harmed by an adverse event due to medical care while hospitalized.[1] And a study from Johns Hopkins Medicine suggests that medical errors are now the third leading cause of death in the U.S.[2]

To address this burden of preventable errors, government bodies around the world have either enacted or are considering regulations that will require documentation to help prevent medical errors. As a result, hospitals must determine how to enable and prove compliance with these regulations without requiring an already overburdened healthcare staff to complete additional paperwork — adding expenses that would further increase skyrocketing healthcare costs.

The solution: next generation data capture for the mission-critical world of healthcare

Zebra's handheld imager healthcare portfolio enables hospitals to automate data capture and improve data accuracy, helping to prevent medical errors and improve patient safety. These scanners can capture virtually any barcode, on any medium, in any condition with first-time, every time predictability — as well as capture images, documents and signatures. The result is the ability to error-proof and streamline procedures from admitting, the emergency room and the pharmacy to storage supply areas and patient rooms. And the ability to easily compile required documentation enables cost-effective compliance with government regulations and helps improve operational efficiency throughout the hospital, including:

Medication administration. The ability to scan barcodes on the patient wristband and medication provides a split second verification that the right patient is about to be given the right medication, the right way at the right time. No extra paperwork is required, while medication errors can be spotted before medication is administered. Caregivers can also scan the barcode on their identity badges for an automatic audit trail.

Blood verification and administration. A scan of the barcode on the blood bag and the patient's wristband automates the crosscheck process, providing a safety net to prevent one of the most deadly medical errors — the administration of the wrong blood type.

Pharmacy procedures. Barcode scanning can prevent errors at the start of the medication supply chain — the pharmacy. The ability to scan the barcode on medication and compare it to the medication order ensures that the right medication is prepared and issued for the right patient.

Enriched patient identification information. With 2D imaging, a caregiver can capture a photo of a patient's face and other identifying marks (such as scars, birthmarks or tattoos) to prevent mistaken identity — especially helpful to ensure that unconscious patients receive the right medication, tests and procedures.

Faster admission. Multiple data capture options error-proof and streamline the admitting process. With 2D imaging, caregivers can capture signatures in the emergency room, right at the point-of-care. The ability to capture the 2D barcodes found on some driver's licenses and other identification cards enables the auto population of key fields on admission forms. A variety of documents can be captured in seconds and permanently appended to the patient's electronic record — including healthcare proxies, living wills and insurance cards — eliminating the time and cost associated with photocopying documents and managing paper files.

Automatic chain of custody for controlled substances. As sensitive items such as narcotics move throughout the hospital, a quick scan of the employee badge and the item provides visibility into the complete chain of custody — ensuring availability, improving accountability and deterring theft.

Better inventory visibility. When barcode scanning replaces manual paper-based inventory procedures, hospitals can cost-effectively take rapid and accurate inventories on a daily basis

— from the contents of the supply cabinets to the pharmacy shelves. The result is the visibility required to improve the speed and accuracy of the ordering and replenishment process, ensuring that the caregivers always have the right supplies and medications on hand to treat patients.

Specimen collection. The ability to scan a patient wristband and print out a barcode label right at patient bedside for a specimen container (requires an optional mobile printer) ensures that specimens are collected from the right patient. As a result, the right patient receives the right test results — and the right treatment.

Operating room inventory. A scanner is ideal in operating rooms, allowing nurses to scan inventory prior to and after procedures. The hospital now has real-time inventory information to ensure timely ordering. The last known location of surgical instruments and equipment is captured for easy tracking. And caregivers can instantly spot any missing items to ensure that items are not inadvertently left inside the patient.

Charge capture. The ability to scan consumables as they are utilized in the emergency room, operating room, recovery room and patient room enables the instant and accurate capture of all items utilized for a specific patient. As a result, all appropriate charges are captured on patient invoices, protecting the financial health of the hospital.

Dietary management. When food service workers deliver meals, a quick scan of the barcode label on the food order and the patient wristband ensures that the right patient is about to receive the right meal at the right time. As a result, dietary errors are eliminated. For example, patients that are fasting in preparation for a procedure cannot accidentally receive a meal. And specially prepared allergen-free meals — for example for patients with a gluten, dairy or nut allergy — are always delivered to the right room.

Wound management. Images of existing wounds can be captured, enabling documentation of bedsores that were already present as well as the progressive healing of a wound.

Bed management. When a barcode is associated with a patient room, a quick scan can indicate when a patient arrives or departs. That real-time visibility helps improve the efficiency of bed management, minimizing the wait times for incoming patients and improving bed utilization.

The Zebra Handheld Imager Healthcare Portfolio

Whether you need to add enterprise-class scanning to carts, workstations-on-wheels (WOWs), desktop or laptop computers, tablets or smartphones, or are looking to install a scanner in patient rooms, there is a Zebra healthcare imager designed to meet your needs and your budget.

DS8108-HC
Premium corded 1D/2D scanner offers unparalleled scanning performance on even the most problematic healthcare barcodes:

1D/2D printed or electronic barcodes

PRZM Intelligent Imaging and 800 MHz microprocessor instantly capture dense, tiny, curved, poorly printed, shiny, crinkled, faded, distorted, dirty or damaged barcodes

First-of-its kind housing for maximum protection against the spread of infection

Unique Direct Decode Indicator provides visual feedback for successful scans

Withstands constant disinfecting — and supports the widest range of harsh disinfectants

Day and night mode with vibrate

Integrated lamp

Headache-free managing and configuring with complimentary 123Scan

DS8178-HC
Premium cordless 1D/2D scanner offers all the features of the corded DS8108-HC, while delivering a truly superior wireless experience:

Continuous 24-hour scanning with Zebra's exclusive PowerPrecision+ smart battery

Exclusive battery charge gauge — see at a glance whether a battery needs replacing before the start of a shift

Apple Certified — use with iPads and iPhones as well as WOWs

Zebra's Wi-Fi Friendly Mode ensures that the DS8178-HC won't interfere with your wireless network

Visionary visibility into scanning and battery performance metrics to easily identify and replace aging batteries, reducing the time, effort and cost required to manage the battery pool

Paging button to easily locate scanner

DS4308-HC
Mid-range 1D/2D scanner delivers value and feature-rich versatility

1D/2D printed or electronic barcodes

PRZM Intelligent Imaging for first time rapid capture of virtually any barcode in any condition — including the tiny dense codes on curved surfaces, such as vials or syringes

Large working range — up to 30 in./76.2 cm (Code 39 20 mil)

Large 'sweet spot' for can't miss point-and-shoot scanning

Withstands constant disinfecting

Day and night modes

Headache-free managing and configuring with complimentary 123Scan

CS4070-HC
Small and versatile 1D/2D scanner that can be carried at all times and tucked in a pocket

1D/2D printed or electronic barcodes

PRZM Intelligent Imaging for first time rapid capture of virtually any barcode in any condition — including the tiny dense codes on curved surfaces, such as vials or syringes

Easy pairing — one press of the dedicated pairing button instantly connects the CS4070-HC to Bluetooth-enabled in-room computers, workstations-on-wheels (WOWs), tablets and more

Power for a 12-hour shift

Withstands constant disinfecting

Day and night modes

KEY BENEFITS

- Error proofs the medication supply chain from pharmacy to patient

- Ensures proper patient identification with the ability to capture photos of faces and other identifying marks

- Error-proofs specimen management, ensuring that the right patient receives the right diagnosis and the right treatment

- Enables cost-effective real-time inventory visibility throughout the hospital, ensuring timely ordering of mission critical supplies

- Streamlines admission with the ability to capture and append electronic versions of documents to patient files — from insurance cards and driver's licenses to healthcare proxies

- Scanning consumables at patient bedside ensures the capture of all charges, protecting the hospital's financial health

- Ability to scan the barcode on a meal tray and the patient wristband ensures that the right patients receive the right meal

- The scan of a barcode to indicate when a patient arrives and departs a room provides real-time visibility into bed status, minimizing patient wait times and improving bed utilization

FOR MORE INFORMATION ON HOW YOU CAN IMPROVE PATIENT SAFETY AND OVERALL OPERATIONAL EFFICIENCY IN YOUR HEALTHCARE ENVIRONMENT WITH ZEBRA'S HEALTHCARE HANDHELD BARCODE PORTFOLIO, PLEASE VISIT WWW.ZEBRA.COM/HEALTHCARE OR ACCESS OUR GLOBAL CONTACT DIRECTORY AT WWW.ZEBRA.COM/CONTACT

1. The Global Burden of Unsafe Medical Care: Analytic Modelling of Observational Studies; BMJ Quality and Safety; Dr. Ashish K Jha; September 18, 2013. http://qualitysafety.bmj.com/content/22/10/809.abstract
2. Study Suggests Medical Errors Now Third Leading Cause of Death in the U.S.; Johns Hopkins Medicine, Press Release; May 3, 2016; http://www.hopkinsmedicine.org/news/media/releases/study_suggests_medical_errors_now_third_leading_cause_of_death_in_the_us

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