



# Selecting the right bar code scanner for mission critical healthcare applications



## The issue: improving patient safety and the quality of care

Today's hospitals are facing two major challenges: The rise in the frequency of medical errors that threaten patient safety and the quality of care and new government regulations designed to help eradicate those errors. The need to comply with two new government regulations are of particular concern. By 2011, hospitals must reconcile medication orders before administering medication to a patient. In addition, by 2013, they must also create and maintain an electronic record of every instance that medication is administered to any patient.

## The solution: bar code scanning at the point of care (POC) and more

Bar code scanning can address these issues by enabling the automated double and triple checks required to eliminate medication errors — without inserting any additional paperwork into everyday processes. For example, a scan of the bar code on patient wristbands, employee badges and medication closes the loop for patient safety and accountability by providing a three-way match to check the 'five-rights' of medication administration — in just seconds. The result is cost-effective compliance with new regulations.

In addition, the same technology can be utilized to streamline many other everyday processes — from admission to inventory management. For example, the ability to scan bar codes on controlled substances as they move throughout the hospital provides a highly accurate chain of custody — without adding paper trails that increase cycle times and decrease productivity.

## Implementing BPOC: considerations for selecting a bar code scanner in healthcare

All bar code scanners are not created equally — there are many different requirements to ensure the selection of a device that will meet the many demands of life in the mission critical world of healthcare, including:

### Disinfectant-ready scanner and charging cradle

Scanners shared between rooms and caregivers are exposed to a multitude of germs and can become easily soiled. As a result, the scanner must be able to withstand regular wipedowns with disinfectants

and chemical cleaners throughout the shift. These chemicals have the potential to corrode the plastic housing or compromise the scanner's performance. To ensure that the scanner you choose can withstand exposure to these liquids, select a device with a sealing rating of IP43 or higher, as well as housing materials intended to withstand everyday contact with the harsh cleaners required to reduce the spread of infection.

In addition, the charging cradle installed on a COW or WOW could also become contaminated and/or soiled. As a result, in addition to the scanner itself, the cradle must also be able to withstand constant disinfecting throughout the day.

### Cordless design

A cordless form factor is important for two reasons — for the safety of both the patient and the caregiver. With a cordless scanner, the healthcare provider is free to navigate around a bed or other equipment to reach the patient, without the safety implications of managing a cord. In addition, there is never a need to move the patient to the scanner, preventing potential discomfort and inconvenience while protecting the quality of the patient experience.

In addition, a cord is an additional component that could potentially become contaminated. As a result, to help reduce the risk of infection, cords must be sanitized every time the scanner leaves a patient room. Additional time is inserted into everyday processes, further burdening an already over-worked nursing staff.

### Cart-ready design for easy use with a medical computer or workstation on wheels (COW or WOW)

Deployment options should include:

- Easy mounting on any medical COW or WOW in a manner that provides easy access
- The ability to install in a manner that does not interfere with practitioners' work flow or take up valuable space on the work surface
- A charging solution that does not require a separate power supply for three reasons:
  - The additional cable can create cable management challenges in the tight confines of the cart

- Capital and operational expenditures associated with the purchase and maintenance of the scanning solution will be minimized
- The 'green score' of your scanning solution will be increased

### Flexible bar code symbology support

Do you need a linear 1D bar code scanner, or should you choose an imager capable of scanning 1D and 2D bar codes? While today's medication may be labeled with a 1D bar code, the use of 2D bar codes is becoming more prevalent. Beginning in 2010, pharmaceutical and device manufacturers have the option to begin utilizing 2D GS1 DataBar bar codes, with a global goal for all manufacturers to implement GS1 DataBar by 2014. In addition, 2D bar codes are very likely to be adopted by pharmaceutical manufacturers for several other reasons.

First, 2D bar codes are much smaller than their 1D counterparts, allowing manufacturers to create a label for more compact cost-effective dose-level packaging. The need and cost associated with increasing packaging size to accommodate larger 1D bar code labels on individual doses is eliminated, helping prevent price increases on already-costly drugs.

Next, 2D bar codes can hold much more information than 1D bar codes, allowing the incorporation of a richer set of data to help further prevent medication errors — from lot, expiration date and manufacturing plant to dose size, contraindications and side effects.

### Scanning performance

In the hospital environment, medication may be handled many times before it finally arrives at the patient bedside, traveling from the warehouse to the receiving dock, from the dock to the pharmacy, from the pharmacy to the dispensing cabinet or medication (med) room, and finally from the dispensing cabinet or med room to the patient room. Throughout these travels, labels can easily become scratched, smudged or even torn. The scanning technology you choose should be able to scan damaged labels with a high degree of accuracy to protect the productivity and morale of your caregivers and the integrity of the medications they are intended to identify.

In addition, where a laser scanner can capture 1D bar codes, an imager will allow more flexibility to scan 1D or 2D bar codes, future-proofing your

technology investment as industry standards evolve toward 2D symbologies. However, many of today's imagers perform well below that of the average laser scanner, threatening productivity and causing frustration among users. To establish realistic expectations for scanner performance, investigate the scan engine specifications to ensure the device delivers 1D performance on 2D codes, including scanning speed and motion tolerance.

### Image capture

Scanners with an integrated high resolution camera can capture detailed photographs and documents with legible fine print that can streamline many processes inside the hospital. The capture of driver's licenses, medical insurance cards, HIPAA release forms and more in seconds can reduce admitting times. And the ability to capture digital photographs of wounds can enrich patient records, enable easier collaboration with other medical practitioners and reduce liability.

### Durability

Since the scanner will be used all day, drops are inevitable. The maximum drop specification for a typical bar code scanner is 6 ft./1.8m. Selecting a device with this maximum drop specification will help ensure dependable and continual operation, despite everyday drops and bumps.

### Ergonomics

In the mission critical environment of healthcare, scanners should be designed to fit naturally into the caregiver's workflow. Your scanners should be easy to use and hold. Users should not need to precisely align scanner and bar code or pause between scans — actions that waste crucial seconds in an acute care environment. In addition, since caregivers will be scanning all day long, the scanner should minimize hand fatigue and be comfortable in any size hand.

### Manageability

Since bar code scanners are highly mobile devices that will be on the move all day, day-to-day management can be a challenge. A device with a remote management solution — including the ability to centrally update software as well as monitor, identify and resolve issues — will minimize IT time and cost and keep IT free to focus on additional strategic technology initiatives.

### Support services

In your mission critical environment, there is zero tolerance for downtime — the scanner you choose must remain in the hands of your caregivers 24x7x365.

To ensure this level of uptime, look for robust support services with around-the-clock technical support, comprehensive coverage that includes even accidental damage and available options such as advance exchange for overnight replacement.

### Summary: selecting the right bar code scanner...for the right return on investment

There are many factors to consider in the selection of a bar code scanner for use in healthcare environments. The device must meet caregiver requirements, including: the easy disinfecting to prevent the spread of germs; ease of use; ergonomics to reduce hand fatigue; the durability to survive inevitable drops, bumps and spills; and a feature set that enables the dependable and easy

capture of all required data. Your IT department will look for ease of deployment and management as well as robust support services. And executive management will look for the right return on investment, measured by utilization, uptime and lifecycle.

With the right criteria, you can easily select a device that can meet the demands of the many different departments throughout your facility, ensuring the success of POC and other scanning solutions that will improve patient safety, the quality of care and the overall operational efficiency of your facility.

For more information on how you can improve the quality of care in your hospital, please visit us on the Web at [www.motorola.com/healthcaremobility](http://www.motorola.com/healthcaremobility) or access our global directory at [www.motorola.com/enterprisemobility/contactus](http://www.motorola.com/enterprisemobility/contactus)

## Motorola: the right choice for your point-of-care mobility solutions

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Our comprehensive product offering includes: rugged and enterprise class bar code scanners and mobile computers with extensive advanced data capture and wireless communications options; rugged two-way radios for always on voice communications; private wide area and local area wireless networks that enable mobility inside and outside the four walls; comprehensive RFID infrastructure, including fixed, mobile and handheld RFID readers; a partner channel delivering best-in class applications; software solutions that enable centralized and remote management of every aspect of your mobility solution; and a complete range of pre-and post-deployment services to help get and keep your mobility solution up and running at peak performance every day of the year.

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