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BARCODE EGUIDE, VOL 1

# The Impact on Healthcare





## Vol. 1: The Impact on Healthcare

Barcodes can be found nearly everywhere in healthcare today — from patient wristbands to medical equipment. But how has this technology, commonly associated with groceries and retail, become so ubiquitous in healthcare?

For starters, barcode technology has been a key component in reducing errors caused by paper documentation and manual data entry. Since its introduction into healthcare, the barcode has saved countless lives by helping ensure that patients get the right medication and treatment at the right time.

In fact, recent **studies** have shown that when barcodes are used in conjunction with an electronic medication administration record, transcription and medication errors are reduced by as much as 41 percent.

However, tracking patients and pharmaceuticals is just the beginning of the barcode's impact on the healthcare industry. In this guide, we'll explore the many ways that the barcode has impacted healthcare — from increased patient safety to streamlined inventory management.



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# How Barcodes Are Used in Healthcare Today

Over the past few decades, barcodes have benefited healthcare organizations in a variety of ways. According to [GS1](#), the organization responsible for developing and codifying new barcode standards, barcodes can be used in healthcare to “identify products and patients as part of every caregiving process.” These applications include:

## **PATIENT IDENTIFICATION**

Identification is key to ensuring that patients receive the care they need while in the hospital. It’s why most hospitals create barcode wristbands for patients when they are admitted. Throughout the duration of care, the patient’s barcode information is updated according to their specific needs. By scanning a barcode wristband when providing care, healthcare providers can eliminate confusion and ensure that mistakes aren’t made — such as giving patients food they may be allergic to.

By incorporating patient data into barcode wristbands, caregivers can obtain consistent, real-time access to specific patient protocols. This makes it easier for doctors and nurses to make informed decisions about ongoing treatment

plans and provide the right care to the right patient at the right time.

## **MEDICATION TRACKING**

In order to reduce management errors, the [U.S. Federal Drug Administration](#) has required most pharmaceuticals to have barcode labels. This barcode information typically features the medication’s National Drug Code (NDC). The NDC is a number that identifies a particular pharmaceutical, and includes manufacturer, expiration, and dosage information.

With inventory control and distribution systems, such as [Bar Coded Medication Administration \(BCMA\)](#), a nurse can scan a patient’s wristband and pharmaceutical label each time a drug is administered — and have that action instantly recorded in the patient’s electronic medical record (EMR).

Scanning patient barcodes can also trigger pharmaceutical refills and delivery directly to hospital rooms. Doctors and nurses scan their own ID badge, as well as the patient’s and drug’s barcode, when administering medication to update the system and prevent over or under-dosing.



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## INVENTORY MANAGEMENT

On a daily basis, healthcare organizations must manage millions of dollars in medical supplies, which makes inventory management an exhausting process. The inventory management process can be streamlined by tagging all inventory items with a unique barcode. This way, staff members can easily scan medical tools to maintain a reliable database and improve processing times.

To keep from running out of important items, healthcare organizations can also create systems in which barcodes trigger an automatic reorder when inventory runs low — automating what was once an important manual step.

## TRACKING SPECIMEN COLLECTION

Healthcare organizations must also manage a variety of samples and specimens, from blood and urine to other bodily fluids that carry important information about a patient's health — all of which can be tracked by placing a barcode label on each vial.

The misidentification of a patient or laboratory specimen is a problem for patients and caregivers alike. While most errors are found before they cause permanent harm to patients, a barcode system can help reduce the likelihood of such errors within a healthcare system. For example, barcodes can be used to ensure that the blood being given to a patient matches their blood type. As with medications, the FDA also has regulations about the use of barcodes in managing blood and blood components.





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### **STREAMLINING PROCESSES**

Barcode technology also plays an essential role in [streamlining processes in healthcare organizations](#). With barcodes and mobile scanning devices, healthcare providers can easily access a patient's electronic health record (EHR) to see where a patient is in terms of his or her medication cycle and other necessary treatments.

Barcodes can also reduce, or even eliminate, the need for manual data entry (more on that later) — giving doctors and nurses more time to spend on patient care, while also saving hospital time and resources.

### **ELIMINATING MANUAL DATA COLLECTION**

As noted by [Tech Radar](#), the use of handwritten documents by healthcare organizations “can lead to mistakes stemming from illegible handwriting and fading ink.” If medication dosages or types are incorrectly transcribed — or incorrectly interpreted — the results range from limited treatment efficacy to adverse patient reactions, requiring substantial staff and resource investments to correct.

As health systems make the transition to electronic medical records, barcodes can begin taking the place of manual data collection. This allows patient information to be quickly collected and electronically recorded, further reducing the potential for human error.



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## The Integration of Barcodes

The Integration of Barcodes in Healthcare  
Ultimately, the use of barcode technology can help healthcare organizations ensure that patients get the right treatments and medication at the right time without the risk of human error. Barcodes can also help healthcare organizations run more efficiently by streamlining processes, reducing time spent in manual data entry, and keeping track of pharmaceuticals and other inventory.

If you'd like to learn more about the impact of barcodes on the healthcare industry, stay tuned for the next installment in this series. In the next eGuide, we'll dive deeper into solutions that can help your healthcare organization take greater advantage of barcode technology.



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