

MEDICAL SMART CARTS: SECURING HEALTHCARE DATA, DEVICES AND SUPPLIES.

Medicine today is mobile. Within the hospital environment, medical smart carts are everywhere, providing on-the-go access to patient records, medications, supplies and medical devices. What's the best way to secure access to mobile assets like medical carts? RFID and NFC/BLE mobile credential solutions offer significant advantages over physical keys, password/PIN systems or biometric user authentication.



Security Considerations for Medical Smart Carts

Mobile medical carts are in wide use in healthcare, from "crash carts" in the ER to wheeled computer workstations for patient check-in. Mobile nursing stations give nurses and CNAs convenient access to supplies and electronic health records (EHRs) as they make patient rounds. The typical hospital has several types of medical carts in circulation, including:

- + Computer workstations and computer/printer carts
- + Procedure carts (ER, OR, nursing stations, crash carts)
- + Medication management carts/pharmacy dispensing cabinets
- + Medical supply cabinets
- + Roll stands and carts for medical devices



Many medical smart carts provide access to sensitive data and valuable or controlled supplies and medications. Security for medical carts is essential to ensure that only authorized clinicians and personnel can access patient records, medical devices and medical supplies. A strong user authentication and access control solution for medical carts provides some essential benefits for hospitals and clinicians.

- + Ensures compliance with HIPAA, GDPR and other international patient privacy regulations by limiting access to EHRs and other sensitive patient data.
- + Improves information security by preventing unauthorized file access and printing on mobile workstations.
- + Prevents unauthorized access to controlled substances and other medications.
- + Reduces losses associated with unauthorized use or overuse of consumable supplies.
- + Adds accountability by tracking who has accessed the cart and at what times.
- + Protects patient safety by limiting access to medical device controls.
- + Enables correct allocation of supply and medication usage for billing purposes.

User Authentication and Access Control Solutions for Medical Smart Carts

Traditionally, medical carts and supply cabinets were kept locked with a physical key that was perhaps kept at the nursing station or around the neck of the head nurse. But physical key systems are cumbersome to manage and not very secure. Keys can be copied or lost, and nurses or doctors with a legitimate need to access medical devices or supplies may lose precious time tracking down the right key to open a particular cart or cabinet.

Today's carts are more sophisticated, with many relying on password or PIN systems or, more recently, biometrics. While they are an improvement over physical keys, both have their disadvantages.

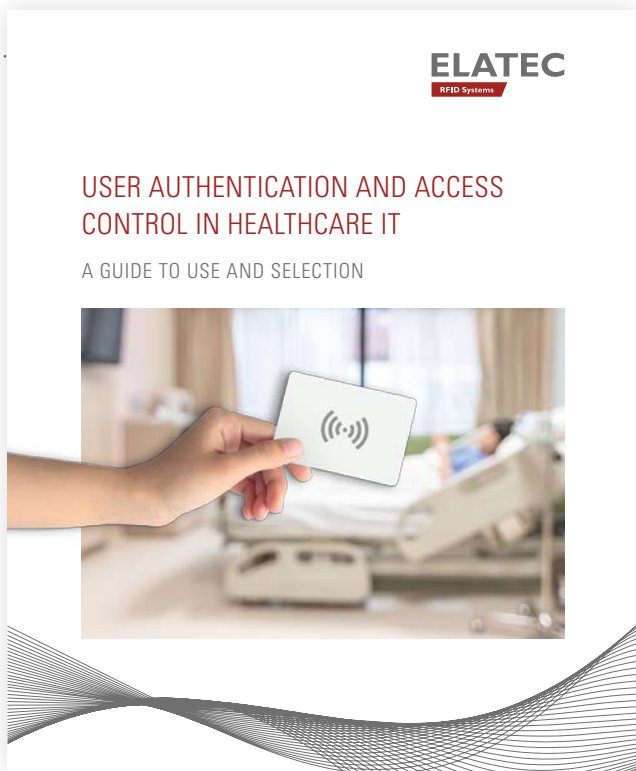
- + **Passwords and PINs are often shared or compromised, creating security risks for medical carts.** They are also frequently forgotten, causing management headaches for hospital IT staff.
- + **Biometrics that rely on touch (fingerprint or palm print) are not always practical in an environment where people must wear gloves and engage in frequent hand washing.** They also create another touchpoint, which can provide opportunities for the spread of hospital-acquired infections. Facial recognition requires cameras and complex software and may be unreliable for people wearing masks.



The easiest and simplest solution for medical cart security is radio-frequency identification (RFID). RFID can not only be used to unlock supply carts and cabinets but also for single sign-on (SSO) to mobile medical workstations, providing instant access to hospital networks, systems, files and networked medical devices. RFID offers several advantages for medical smart cart user authentication and access control.

- + RFID is a fast, contactless and hygienic method of user identification and access control. The reader can be discretely attached to the cart's exterior or hidden under the cover.
- + It leverages an asset nearly every clinician and staff person already carries: the hospital ID badge. They can use the same badge they use for identification and building access to unlock medical carts and supply cabinets.

- + Clinicians don't have to remember multiple passwords and PINs — they just wave the badge for instant access to everything they need.
- + ID badges are usually carried on the person at all times and are less likely to be shared than a password. Everyone who is authorized to access a cart will already have a card of their own.
- + ID cards are inexpensive to issue and easy for IT to manage. If a card is lost, it can be shut down in moments.
- + RFID provides reliable user identification for behavior tracking and accountability.
- + Access levels can be customized to the individual, with different people having access to different carts, cabinets and systems.
- + RFID can be combined with emerging smartphone-based NFC and BLE credentialing systems for a forward-thinking, future-proof medical access control solution.



Want to know more about RFID for medical smart carts? Download our white paper, *User Authentication and Access Control in Healthcare IT*.

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