RFID: Real solutions for healthcare

Overview

- ***Ensures greater patient safety and accurate patient identification at the point of care***
- ***Provides asset tracking capabilities to reduce operational, inventory and labour costs***
- ***Enables patient tracking to enhance safety as well as increase productivity of care givers***
- ***Improves medications administration to reduce medication errors***
- ***Provides a simple tracking solution of medical supplies from the factory to storage shelves, enabling efficient inventory management***

RFID's promise to transform

Radio frequency identification (RFID) is already proving it can cut costs by enabling more efficient and timely tracking of goods in industrial and retail supply chains. Similarly, the healthcare community is now seeing tremendous benefits in shipping and receiving efficiency, as well as patient identification, error reduction at point of care, medications management, and realtime asset and employee tracking.

Today, RFID offers the ability to improve patient care by utilising the latest in medical applications, including:

- *Implanting RFID chips inside surgical instruments to ensure they're not left inside a sewn-up body*
- *Affixing RFID labels onto surgery patients to confirm their identity and the exact procedure to be performed*
- *Tracking the disposal of hazardous medical waste materials, such as needles*
- *'Tagging' patients with RFID chips containing complete medical histories.*

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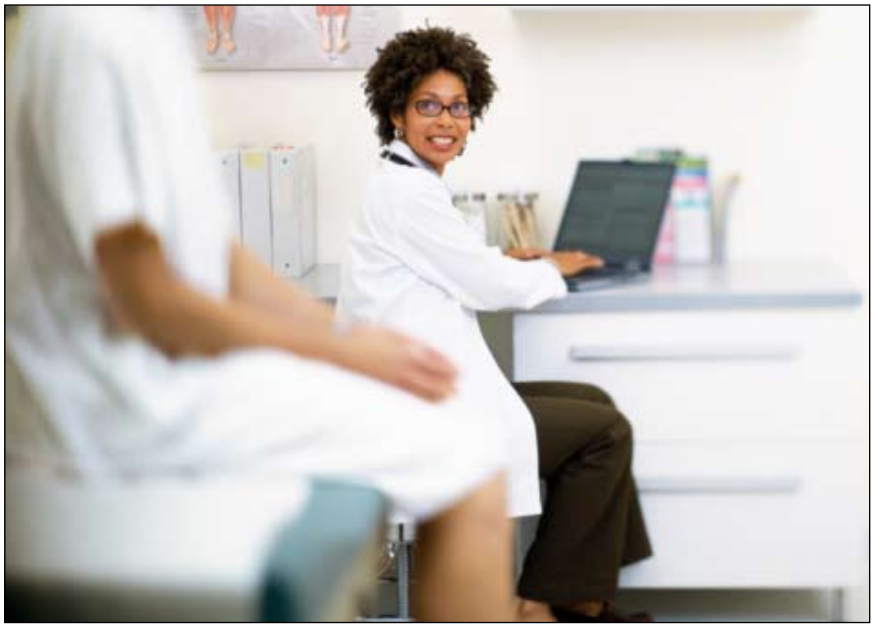

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Benefits of RFID over barcodes

RFID is the use of radio frequencies to read data electronically that is stored in small devices called tags. Anything that RFID tags can be placed on or in can be tracked, including drugs, hospital equipment, and, with prior approval, personnel or patients. The advantages of RFID over previous ID and tracking technologies, such as barcodes, include:

- *No line of sight requirement, so there is no need to directly expose labels to readers*
- *Multiple tags can be read rapidly and simultaneously, resulting in faster movement of goods in the supply chain and easier tracking of equipment in a hospital*
- *More timely information for decision making, as RFID is able to track events, people and medical equipment in realtime*
- *Ability to read and write, providing greater flexibility*
- *Ability to store a larger amount of data on smaller footprint.*
- *More robust form factors that can withstand chemicals, damage and other harsh treatment.*

Bolstered by key advantages over barcoding, RFID clearly has the potential to transform healthcare. While the benefits can be substantial in terms of enhancing patient safety, reducing operating costs and optimising assets, they do not come automatically. Companies need to have both the right solutions and the appropriate skills to take full advantage of this exciting technology.

IBM is implementing solutions now

Today IBM is providing the right RFID solutions, not just for supply chain management, but for the broader healthcare marketplace. Among those benefiting are the many small to medium-sized providers and clinics looking for an edge – from improved operational efficiency to enhanced patient safety – against larger competitors. RFID solutions that IBM is now implementing include:

Patient safety at point of care

Everyone has heard about tragic wrong-site, wrong-patient and wrong-procedure surgeries. Using an RFID tag attached to a patient, a physician can now verify the correct patient, procedure and site – prior to the start of any invasive procedure. In the operating room, a handheld reader is used to confirm the information on the tag, the patient's chart and ID wristband.

IBM is using RFID to help care givers scan patient ID badges to authenticate and access appropriate levels of information and clinical data. For instance, RFID tags containing full patient histories can provide emergency workers with a potentially life-saving 'head start' in making treatment decisions. Or alert a nurse to a patient's medication allergy at bedside. Or inform a doctor making rounds to recent test results.

Patient tracking

Increasingly, hospitals want to track patients in realtime, and IBM is providing those customised solutions. RFID tags can be attached to ID bracelets of all patients, or just patients requiring special attention, so their location can be tracked continuously. Physicians can use the RFID system to easily locate patients, increasing their productivity on rounds. RFID tags can also be placed on door locks to improve safety for the infirm, elderly and infants – or on bed rails, to reduce bed exit accidents. Additionally, tags are being used to reduce errors in patient ID authentication for admission, diagnostics, interviews and release.

Asset tracking

IBM RFID asset tracking solutions are helping hospitals better manage highly mobile medical equipment, such as IV pumps and wheelchairs. Asset tracking uses RFID tags to transmit location data to workstation software, which displays the data on a floor plan of the hospital. Trained nurses can use the software to locate the items during their daily routines. Not only does the hospital reduce inventory and labour costs, but nurses save hours a day that they can devote to patient care.

Medication management

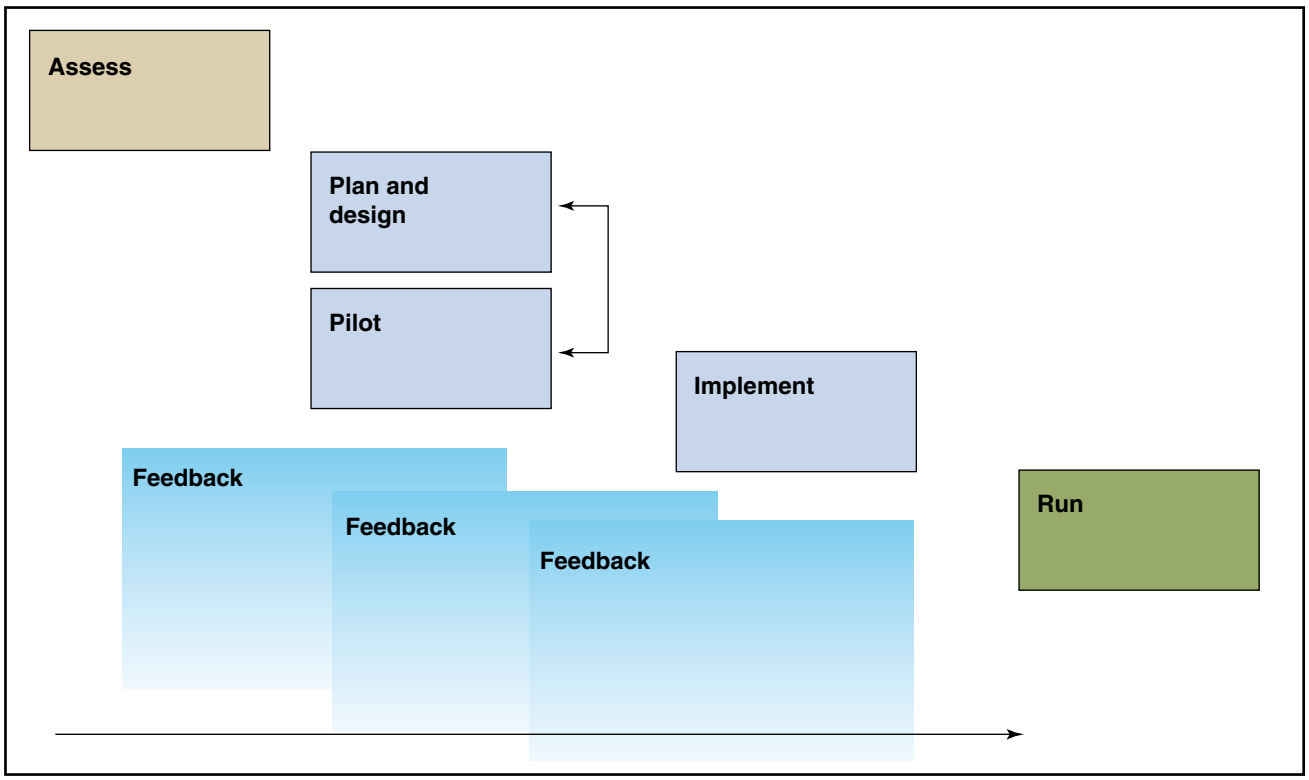
An RFID-enabled medication management solution allows a clinician to scan a patient's wristband to validate identification and review current orders from a physician. Likewise, tagged medications can be scanned to verify that patient, medication, dose and timing are consistent and accurate. In another application, RFID-enabled prescription bottles have the potential of signalling when the container is opened and can provide care givers with a record that indicates when medicines are taken properly. In each instance, IBM is developing a solution to assist care givers and ensure patient safety.

Clinical supplies management

As in retail, RFID in healthcare provides a simple, low-cost solution that allows tracking of supplies from the factory to storage shelves. By enhancing supply chain efficiencies, hospitals and clinics achieve improvements in availability of supplies, less duplication and loss of equipment, and savings in inventory costs.

End-to-end, start to finish

Through our deep commitment and breadth of capabilities, IBM can help guide you through your RFID transformation – from business case and deployment strategies, to solution build and pilot programmes, to enterprise rollout and integration.



IBM provides an end-to-end solution for implementing RFID in healthcare

The IBM advantage

IBM is now leading the way in the development and integration of custom RFID solutions to provide dramatic benefits for healthcare providers, caregivers and patients – as well as insurers, pharmaceuticals and medical manufacturers. At the same time, IBM is developing exciting solutions to integrate disparate IT systems for doctors and hospitals, and capitalise on the benefits of RFID.

IBM's RFID solutions enable users to essentially collect, integrate and manage data collected from tags, readers and even wireless Wi-Fi networks. Importantly, IBM systems are massively scalable, enabling hospitals and clinics to handle an unpredictably large stream of data, all transmitted without the normal, slowing factor of human input. These systems can be deployed in stages and are capable of scaling for full business utilisation. RFID's automation of many business processes will make your organisation more responsive, flexible and cost efficient.

A leader in RFID solutions for more than 10 years, IBM offers the required business consulting, infrastructure consulting, integration services and scalable middleware, backed by proven industry-accepted standards. IBM also has strategic alliances with leading hardware and software vendors who are well versed in how RFID can help transform your hospital or clinic into a flexible, efficient healthcare environment.

For more information

To learn more about IBM RFID solutions in healthcare, please contact:

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