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Over the years, healthcare has become more complex, more highly regulated and more expensive to run. Medical practices need to find new methods to improve service quality, cut costs and become more viable. The right use of RFID technology has helped health clinics run their businesses more efficiently and meet or exceed patient expectations.

This document, brought to you by Mojix, an established expert in RFID applications in various domains including ambulatory care clinics and outpatient services gives an overview of how RFID technology can be used to make these clinics and ambulatory care more efficient, customer friendly and profitable.
Retail Clinics Get Super Efficient

In December 2015, the Harvard Business Review published an article on the use of RFID in clinics and hospitals. While discussing how the technology makes clinics far more efficient and increases patient satisfaction (some clinics are even eliminating waiting rooms), the article speaks of a survey carried out to discover if patients would accept RFID tags in their wristbands. Most patients were surprised that this was not already being done! “Aren’t you already doing this?” was a common question.

The implementation team discovered that patients were expecting progressive clinics to use such technology to ensure that they got the required care quickly and efficiently.

As the numbers of retail clinics grow, practitioners are finding that they are able to unlock greater value by offering a viable alternative to emergency departments. Retail clinics that offer coordinated care, standard protocols and high quality service can reduce as many as 27% visits to emergency departments. Using RFID enabled processes is one effective way of ensuring this.

Medical Practices and RFID

Over the years, healthcare has become more complex, more highly regulated and more expensive to run. Medical practices need to find new methods to improve service quality, cut costs and become more viable.

Many patients are naturally wary about visiting a retail clinic. They worry about long waiting periods and lackluster service they have probably encountered elsewhere. Using modern technology to help keep wait periods down to acceptable limits and ensuring efficient and smooth patient flow, retail clinics can ensure that patients have a pleasant experience and families return to the same clinic when they next need medical attention.

A critical measure of productivity for any outpatient practice is patient throughput. Clinics
need to be efficient in seeing a large number of patients, handling them smoothly while minimizing waiting time and adhering to appointment schedules.

In recent years, medical practices have realized that they can run more efficiently to increase revenue and customer satisfaction if they improve their workflow and introduce automation and self-service wherever possible. Medical practice administration has therefore become an important component of their operations. One requirement of running an efficient outpatient service is knowing in real-time where patients, physicians, nurses and equipment are and providing this information to a capable software solution that can automate a number of functions and make them more efficient. This is when RFID technology begins to impact medical practices.

Using RFID to Improve Patient Flow and Experience

A key advantage of RFID technology in retail clinics is its ability to make users aware of the location and flow of patients through a practice. Continuous, real time awareness of where patients are helps in ensuring they are serviced efficiently and do not waste their time simply sitting around in waiting rooms.

The most common use of RFID in medical practices is monitoring patient flow. In many retail clinics, patients log into the clinic portal from their homes and take an appointment as well as key in their basic data at their convenience. As a patient enters the clinic, they are given a wristband with an embedded RFID tag that is programmed with basic patient information. The software solution now knows that the patient has been registered and is able to place them into the workflow of the clinic.

Once individual patient locations can be determined accurately, it’s easy to build a solution that can monitor wait periods and determine if a patient is unattended. By simply raising an alert if the wait or unattended patient time exceeds a threshold limit, clinics can improve the throughput of patients and improve overall satisfaction enormously.

Many retail clinics that implemented RFID to improve patient flow also found that by being able to monitor patient location accurately, they could reduce the time between appointments and block different time periods for different types of patients. For new patients, they could allot a larger time period for a more detailed discussion whereas for a patient coming for a review or to discuss a test report, a shorter time frame would be sufficient. While this should have been possible even without RFID, it is only by using a real-time patient location system that it could be efficiently implemented.

Besides simply staying aware of where the patient is and who is attending to them, electronic data stored in the RFID tag also helps ensure that errors of procedures are eliminated, patient safety is improved and medications are given correctly.

Staff Management

There are two major application areas as far as staff management is concerned. One improves staff productivity and patient satisfaction and the other improves staff
safety and emergency response. Hospitals even use RFID to check clinical staff for implementation of hand hygiene precautions. Overall, by staying aware of staff locations and where they fit in the day’s workflow, the clinic is able to improve productivity and patient satisfaction.

**Asset Management**

Medical equipment is expensive and in heavy demand in busy practices. Using RFID to manage equipment ensures its location and status is known in real-time and its use can be maximized. Some uses of asset management include the following:

- Real time inventory
- Asset location tracking to improve service speed
- Track inventory utilization to rationalize future procurement
- Control theft and misplaced inventory

**Automated Data Collection & Management**

The US military is working with getting visibility inside all of its containers using RFID. Data analytics is an extremely important part of retail clinic operations. Using RFID technology, retail clinics are able to get better insights into their data. The overall efficiency of nurse practitioners and physician assistants improves and the patient satisfaction score is measurably higher. As a result, the relationship between patients and clinics improves and when the need arises next, clinics are confident that patients will return.

With automated data capture, documentation time has reduced, accuracy has increased and medical practices are able to easily integrate their range of services. Billing has become more accurate and reimbursements and claim success rates have improved.

**There is a Clear Business Case**

There is a clear business case for retail clinics to increase the use of RFID technology in their operations. All over the world, there are thousands of examples of how use of RFID has helped in the better management of inventories and in improving equipment utilization. Using RFID, retail clinics are able to move their patients along in a much more efficient fashion. Patients love this because there is not a minute wasted; they are attended to rapidly and can get on with other things in their lives.

With RFID speeding up and automating documentation, even staff members love the technology. Initially there were fears that RFID could also be used to monitor staff movements and could be used to assess their performance. However in most clinics, staff has been reassured that the solution will only be used to improve the quality of patient care and patient throughput and not the time staff members take to visit restrooms.

As medical equipment gets more complex and costs mount, RFID will help is exploiting equipment better, preventing theft and in ensuring better maintenance of equipment. It has been calculated that better asset and inventory management alone can result in
saving two weeks of time annually for clinical staff. This extra time can all be devoted to better patient care.

The above advantages lead to direct and indirect benefits for retail clinics. While direct benefits are easily understood, indirect benefits accrue from reduced liability and reduced requirements to repeat treatment. All of these, coupled with reducing RFID tag prices, improving detection ranges and better software solutions, lead to a strong business case for incorporating RFID into retail clinics.

About Mojix

Mojix is a leading connected business solutions company that provides wide-area RFID systems and IoT software solutions that allow organizations to capture actionable data on their assets, extending enterprise connectivity to include otherwise passive, unconnected assets. Mojix specializes in fixed infrastructure sensor networks that collect, store, analyze and interconnect data from multiple sources including RFID, GPS and other sensor devices. Key products include:

**STAR Wide-Area RFID Systems - collect accurate data from the edge**

Mojix STAR wide-area RFID systems provide the most comprehensive and reliable collection of real-time presence and location details of all your tagged assets and inventory. Mojix system solutions take a sensor agnostic approach optimized for unique use cases, allowing you to collect item-level data from all your connected assets.

**ViZix IoT Software Solutions - convert data to insight**

Collect, store, analyze, understand and act on data streams, in real time, from any kind of sensor including RFID, GPS, smart phones, Bluetooth, ZigBee and Wi-Fi devices.

ViZix transforms sensor data into rich interactive maps and reports, unleashing business insight. ViZix delivers real-time actionable events at the edge, changing how the world does business.

To speak with a Mojix representative, call 1-877-886-6549 or send an email to info@mojix.com. Working with experts like Mojix will help you select and implement a solution efficiently and get your organization the fastest possible return on the investment you make.
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