THE 5 BENEFITS OF RTLS IN THE EMERGENCY DEPARTMENT

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With over half of hospitals' inpatient admissions coming from the Emergency Department (ED), improving patient satisfaction and accelerating patient flow through the ED can have a direct and significant impact on the hospital's bottom line.

As a result, more EDs are now using real-time locating systems (RTLS) to help effectively and efficiently manage a burgeoning patient population and to keep operations smooth in an urgent setting. RTLS are indoor positioning systems also known for their asset tracking capability, but their greatest contributions to EDs are in the areas of patient flow, workflow optimization, and throughput.

Here are the top 5 benefits to using RTLS in the ED:

1. IMPROVING PATIENT FLOW

The Department of Health and Human Services' Agency for Healthcare Research and Quality (AHRQ) reports that patient flow measures—including arrival to departure for admitted and discharged patients, decision to admit, door-to-diagnostic evaluation, and "left before being seen"—are joining the ranks of clinical quality measures of EDs. Once these measures are adopted by the Centers for Medicare and Medicaid Services (CMS), they will be directly tied to hospital reimbursement. EDs that have deployed RTLS have experienced that wait times have been shortened and patient throughput has accelerated without affecting clinical quality.

The main way RTLS improves patient flow is through real time location transparency. Applying a location transmitting tag to patients, beds, staff, and important equipment, ED administrators can access accurate, bed-level location information about patients and the overall workflow in real time. Having an accurate map of patient location and current status (such as "Not in ED," "Waiting to be Seen by MD," "Ready for Discharge") allows administrators to prevent delays by assigning nearby staff to a waiting patient, thus meeting the timing milestones EDs are evaluated on.

Staff themselves use RTLS to improve patient flow: instead of heading back to the greaseboard to see which patients have waited the longest, physicians can see in map form and by generated visual flags which patients are "Waiting to Be Seen by MD," their acuity status, and the time they've already spent waiting. The RTLS system can also flag upcoming milestones (getting the patient to a room; time until physician visit) so that staff are working proactively rather than playing catch-up.

2. OPTIMIZING THROUGHPUT

Real time patient flow visualization is the most immediate benefit of RTLS in the ED. But additional value can be drawn from the detailed data real-time locating systems gather, helping inform meaningful, long-term changes to the patient flow related processes, physical layout of the ED and overall workflow performance.

Analyzing when and where delays occur (some systems display these with a simple clock icon), for example, empowers an ED to proactively manage its overall staff placement and equipment locations, and to gauge whether the delays are a frequent or rare occurrence. Because variation is the watchword of health-care improvement efforts aimed at ED quality, knowing which delays are anomalies and which are persistent inefficiencies helps EDs avoid wasting money on one-off problems and deploy resources (like additional staff) more appropriately.

By allowing other departments to access the RTLS system of the ED, inter-department communication and collaboration can be seamlessly accelerated, thus speeding time-to-milestones that were once drawn out by poor communication.

Most importantly for sustainable impact, RTLS can help EDs evaluate and monitor the effectiveness of proposed and implemented changes or new performance initiatives. According to the AHRQ, this kind of "project-specific data collected during the Plan-Do-Study-Act (PDSA) process to test small-scale process improvements ... is one of the most effective levers for achieving and sustaining process improvements." Knowing which initiatives are succeeding and which are simply draining staff energy can help leaders make wise decisions about ED operations.

3. FASTER ROOM TURNOVER

With RTLS, even the most basic requirements in the ED, such as cleaning and preparing the patient room or bay between patients, can be sped up. Assigning specific staff to bed turnover and empowering them with immediate notification via RTLS, they are easily informed when a patient's badge is dropped off that their bed is vacant. After staff have prepped the bed for the next patient, they can press a button to inform the system that the bed is ready; the system changes the status of the room from "needs to be cleaned" to "open." These notifications not only help EDs fill empty beds faster, improving productivity and increasing revenue, but they also get waiting patients to beds faster, which is linked with greater patient satisfaction and higher quality care.

4. COMMUNICATION AND PATIENT SATISFACTION

Across the literature on patient satisfaction in the ED, one of the top two influencing factors is communication. According to a CMS-sponsored RAND Corporation report, three of the four composite measures RAND arrived at to assess patient experience in the ED had to do with communication. That emphasis on communication is likely to have a major impact on ED reimbursement (and thus on ED management), as the CMS commissioned the report with an eye to creating a patient satisfaction tool expressly for the ED.

How does RTLS affect patient satisfaction in the ED? Its most important function is to keep the patient's family better informed about the patient's whereabouts and status, which can have a major influence on patient experience and satisfaction. Some EDs equip computers in visitor areas to access limited views of the ED real time map, which hospital volunteers can show to interested family members. RTLS is able to share the progress of the patient in real time, avoiding trust-busting mistakes like sending family members to an empty room when the patient is undergoing testing elsewhere.

A well organized and timely ED patient care process, i.e. the right caregivers, the right equipment with the right patient, on-time and at the right location, as aided by RTLS, also provides the impression of efficiency, ultimately leading to patient satisfaction.

5. STAFFING APPROPRIATELY

EDs are notoriously tricky to staff due to the unpredictable variability in patient acuity. EDs with RTLS, though, can pull transaction data from the system to reveal historical patterns of dips and spikes in staffing needs, which can inform administrators about staffing levels and types.

On a real time basis, administrators can automatically assign nurses and clinicians to patients based on their proximity to patients. One level up, RTLS can help manage new patient placement by balancing area-specific acuity and workload—avoiding sending a high-risk patient to an area already overloaded with similar cases, for instance.

One less touted aspect of RTLS is keeping staff healthy, a less discussed imperative of ED management. RTLS can identify and notify staff of exposure to communicable diseases, notably influenza, based upon their recorded interactions with patients—a record that without RTLS is nearly impossible to track (clinicians pitch in and help each other all the time without entering their names on a patient's chart).

The role of RTLS in the ED continues to expand. From asset tracking to patient flow to work flow, the impact RTLS can have on the ED has far-reaching implications hospital-wide.