

# Billings Clinic



## **CAREFLOW™ RTLS WI-FI ASSET TRACKING CASE STUDY**

Billings Clinic is a 10+ year Midmark CareFlow Real-Time Locating System (RTLS) customer, using an infrared (IR) sensory network in patient care areas for nurse call automation--an application that requires precise, room-level location accuracy. When the hospital looked to expand CareFlow RTLS for asset tracking, they wanted to leverage the existing system, yet expanding the sensory network across the entire hospital and eight ancillary buildings was a daunting proposition. To reduce costs, Billings Clinic turned to Wi-Fi locating from Midmark RTLS to track the general location of assets campus-wide.

### **LEVERAGING EXISTING WI-FI INFRASTRUCTURE TO LOCATE MOBILE EQUIPMENT ACROSS 56-ACRE CAMPUS**

"When we first considered expanding our RTLS to track mobile equipment," explains Tim Killmer, Billings Clinic information systems analyst, "we thought it would be hard to justify the cost of covering a large campus. However, we also knew staff were spending time searching for equipment—time that could have been spent on direct patient care or other value-added activities."<sup>1</sup>

As Killmer explains, "We wanted to know where our equipment was going. Sometimes, a piece of equipment would move from one building to another, ending up in a basement."

Killmer isn't alone in his sentiments. Healthcare institutions across the nation struggle with the needless time staff spend trying to locate equipment.

### **CAREFLOW RTLS INSTALLATION HIGHLIGHTS:**

- Asset Tracking
- Nurse Call Automation
- Wired IR Sensory Network + Wi-Fi Locating
- 304-bed hospital + trauma center
- 8 ancillary buildings
- 56-acre campus
- 1,400 assets

Compounding the issue are costs associated with underutilized assets, which often sit idle 60% of each day because they can't be found.<sup>2</sup>

### **EXISTING INFRASTRUCTURE JUSTIFIES BUSINESS CASE FOR ASSET TRACKING SOLUTION**

When Billings Clinic installed the Midmark RTLS Wired IR Sensory Network and CareFlow™ Nurse Call Automation solution in patient rooms, hallways and nursing desks of its four-story hospital, staff responded very well to the enhanced workflow.

"Our nurses were very happy with the automated cancelling of call alarms," Killmer says. Busy caregivers were able to focus on the immediate needs of the patient rather than pressing the call cancel button, saving valuable time while automatically documenting the response.

"Nurses liked how easy it was to find coworkers, and wanted the same to be said for finding mobile assets."

Later, Billings Clinic added the CareFlow Asset Tracking solution, building on its existing infrastructure. Killmer explains, "We leveraged our investment in the Nurse Call [Automation] implementation, then used the Wi-Fi network to cover the rest of the campus."<sup>2</sup>

By tagging assets with Wi-Fi Asset Tags, which also contain infrared (IR) technology, caregivers can precisely locate mobile equipment within patient care areas where the IR sensory network is installed. Ancillary areas without IR sensors rely on the existing Cisco® network, which conveys general asset location as determined by Wi-Fi access points.

According to Killmer, "In our patient care areas, they need precise locating that the IR sensors provide. For other areas, knowing the general location of an item is fine. Having that combination gives us exactly what we need, and the cost was more in line with what we could allocate."

### **CAREFLOW PAR MANAGEMENT ENSURES ASSET AVAILABILITY**

Billings Clinic is also using CareFlow to manage periodic automatic replenishment (PAR) levels on care units. By tracking the number of devices on each unit, CareFlow keeps staff informed before shortages occur.

"Our infusion center manager receives an automated alert when infusion pumps are low," says Killmer, "enabling her to proactively request more pumps, before patients arrive."

Most care units at Billings Clinic manage inventory in this way. Killmer adds, "If one unit needs equipment, they review the RTLS software to determine which unit has a surplus of equipment that they can borrow from."

Prior to implementing the CareFlow Asset Tracking solution, nurses were hesitant to give up pumps because

they felt they might run short when they needed them later. Now, the CareFlow PAR Management system helps care units see when they have extra equipment they can share with other units. As a bonus, pumps have not had to be rented to keep up with misperceived demand.

### **PREVENTIVE BED MAINTENANCE COMPLETED IN 1/3 THE TIME**

Before the asset management solution, the biomedical team would begin the preventive bed maintenance process on unoccupied beds, leaving the occupied beds for later. On rounds two and three of the PM initiative, they often found that the previously occupied beds had moved, yet they didn't know where.

"With Midmark RTLS in place, we know exactly where the beds are and whether or not they are in need of maintenance service," shares Killmer. "What used to take three months to complete now takes one month."<sup>2</sup>

### **PLANNING FOR THE FUTURE**

"More people are starting to see how we can use different applications on the same sensory network. We're looking at other ways to become more efficient," Killmer says.

As Billings Clinic explores leveraging their CareFlow infrastructure, they are building on a solid foundation of success. "We are helping achieve our health system's vision of providing the best clinical quality, patient safety, service and value."

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**Tim Killmer**  
Information Systems Analyst

1 Healthcare-Informatics.com, "RTLS for Asset Tracking: From Luxury to Necessity," March 28, 2018. <http://www.healthcare-informatics.com/article/rtls-asset-tracking-luxury-necessity>.

2 "Managing Assets with Versus:" Timothy D. Killmer, Information Systems Analyst IV, Billings Clinic, 2017 VUE Versus User Group Experience.