Lyngsoe Systems

CASE: ASSET VISIBILITY IN ACUTE HEALTHCARE

TRACKING MOBILE MEDICAL DEVICES USING RFID AND GS1 STANDARDS

Royal Cornwall Hospitals NHS Trust was one of the first six hospitals in England to adopt the new GS1 Standards and combined this with the deployment of new radio frequency identification (RFID) technology to help track valuable assets.

The Trust has an inventory of more than 15,000 mobile medical devices and a dedicated team of clinical engineering staff who are responsible for carrying out regular maintenance and urgent repairs to the equipment fleet. Medical devices are categorised into different risk categories and it is vital that each device is regularly serviced to maintain optimal performance and ensure its safe use when treating patients.

The ability for all staff to be able to search and locate mobile medical devices in a timely manner within the hospital site is therefore an important factor and improving this would have a positive impact on operational efficiency and patient safety.

THE CHALLENGE

The clinical engineering team were spending a significant amount of their time searching the hospital for medical devices that required periodic maintenance (PPM). This impacted engineer efficiency with so much time required to find a specific medical device. The clinical engineering department began using asset management software called e-Quip but this did not provide them with any real-time location data. They concluded that to combine e-Quip with an asset tracking solution would help automatically capture the real-time location data of medical devices and it would improve engineer's efficiency.

Key devices that the team want to track included:
858 Patient Beds
32 Bladder Scanners
578 Infusion Pumps
545 Syringe Drivers
137 Patient Wheelchairs
152 Patient Hoists
12 Dynamic Mattresses
1000 Patient Monitoring Devices

THE SOLUTION

Following a successful procurement exercise the Lyngsoe X-Tracking™ solution was deployed and integrated with the Trust's asset management software.

Lyngsoe X-Tracking™ supports GS1 standards so it was ideal timing for RCHT as a NHS demonstrator site, to deploy a compliant GS1 solution and start tracking their fleet of medical devices.

Medical devices were all fitted with a passive RFID GS1 encoded asset label or tag and a small quantity also had a battery powered active Wi-Fi tag. An array of fixed and mobile RFID readers automatically captures and records location data as the devices move throughout the hospital and this data is immediately available to hospital staff via the X-Tracking™ software and a web-based search page.

Medical device with a GS1 RFID asset label and a Wi-Fi tag

A key safety feature of the solution was the ability to quickly identify mobile devices that are overdue their PPM. A red highlight background on the asset search page provides the user with an instant visual alert so that action can be taken to remove the device and avoid risk of harm to a patient.

BENEFITS

The immediate benefit was improved visibility of the medical device fleet and access to accurate data that reveals the current and historical locations of mobile devices. Location data automatically updated with the asset management software and a quick search tool in Lyngsoe X-Tracking™ allowing engineering and clinical staff to search and locate equipment.

Matthew Bird, Head of Clinical Technology, comments: "Lyngsoe X-Tracking™ solution plays a pivotal role in our ongoing drive towards cutting-edge medical device management, helping identify the current and historical location of our large fleet of mobile medical devices. Not only does it highlight equipment that requires servicing, but it has also improved enormously the efficacy and accuracy of our KPI tracking financial charging mechanisms and asset database".

ABOUT THE HOSPITAL

The Royal Cornwall Hospitals NHS Trust (RCHT) is the main provider of acute and specialist care services in Cornwall and the Isles of Scilly. It serves a population of around 430,000 people, a figure that can increase significantly with visitors during the holiday season each year.