Innovations in Healthcare Technology

Managing Hospital-Wide Mobile Assets Centrally with Real Time Location System (RTLS)

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❖ Introduction

By centrally managing hospital-wide mobile assets with RTLS, the hospital aims to:

- Optimise assets by driving higher utilization with reduced asset numbers.
- Deploy assets efficiently to handle fluctuating operational needs.
- Enable nurses to spend more time on patient care duties by relieving them of having to spend time searching for, or sighting assets.

❖ Method

Asset Tracking

Central Asset Management (CAM) tags the assets with active RFID (Radio-Frequency identification) tags to track and identify the whereabouts of these assets.

Centralised Ownership Model

Hospital-wide mobile assets such as wheelchairs, patient transfer trolleys, hospital beds, infusion and syringe pumps, are owned and centrally managed by CAM.

Automated Corrective Maintenance Process

A press button on the RTLS allows users to indicate that Corrective Maintenance is required; it will trigger asset location information for porters to pick-up and deliver -the asset to the workshop.

Dynamic Asset Deployment

CAM is able to deploy the assets to the desired hospital locations based on minimum and maximum par level configurations.

❖ Results

Equipment	Reduction
Infusion pumps	168
Syringe pumps	300
Patient transfer trolleys	38
Wheelchairs	293

Total reduction of about $ 900k

Preventive Maintenance Time Saved

Maintenance Engineers	**896** hrs/ yr
Nursing	**938** hrs/ yr

- A **30% reduction** in asset numbers (wheelchairs, patient transfer trolleys and pumps).
- Nurses' and Maintenance Engineers' time saved as **less effort is spent** in locating/maintaining these equipment.
- With CAM managing these assets centrally, there is **no need to return the items** to asset owners during patient transfer, resulting in **efficient deployment of equipment and personnel.** The model of operations has enabled the hospital to provide **seamless patient care**, by not having to change equipment for the patient throughout his patient journey in SKH.

❖ Conclusion

SKH is the first hospital in Singapore to setup CAM that leverages RTLS to help manage a pool of shared assets such as patient transfer trolleys, beds, wheelchairs and infusion and syringe pumps; and ensure timely availability to end-users at all times. With a centralised asset management model using RTLS, CAM is able to deploy assets optimally and efficiently, according to patient needs. This has led to better patient care through the re-channelling of staff time and effort to more critical needs, such as clinical care.