



Fact Sheet

Automated RFID Prescription Drug Delivery System at SGH

Technology is reshaping the way the Outpatient Pharmacy is run at the Singapore General Hospital (SGH).

Healthcare experts from SGH are working together with a team of RFID, mechanical, electrical and computer engineers to jointly develop the first intelligent Automated RFID Prescription Drug Delivery System, which will enable the Hospital to significantly improve efficiency and service levels of our Outpatient Pharmacy.

The design and implementation of the Automated RFID Prescription Drug Delivery System is a collaborative partnership between SGH, Innotech Resources Pte Ltd, PSB Technologies Pte Ltd and EurekaPlus Pte Ltd. This integrated RFID system is the first of its kind to be used in any hospital pharmacy.

Current Process at the Outpatient Pharmacy

The current practice of packing prescription medications is laborious, time-consuming, and very labour intensive. Packing and assembling prescriptions at the outpatient pharmacy is largely manual, requiring pharmacy technicians to physically move around the drug storage areas to locate and pack patients' prescription medications sequentially. The packed medications are placed into baskets, checked and sorted according to queue sequence before forwarding to dispensing counters for dispensing to patients.

The packing process heavily relies on manual resources, making it susceptible to human errors such as packing of the wrong drug, strength, etc. The use of technology and automation such as RFID tracking and bar code scanning for accountability will help alleviate many of these issues.

Implementing the Automated RFID Prescription Drug Delivery System

The new system will fully automate the prescription fulfilment process. It tracks RFID-tagged receptacles containing prescription medications in real-time throughout the medication packing and assembly process, starting with the paper prescription and ending with the medication delivered to pharmacists at dispensing counters.

The implementation of the Automated RFID Prescription Drug Delivery System will improve:

- a) **Manpower utilisation and productivity:** Concurrent packing through automated and manual packers will improve efficiency and productivity. Pharmacy technicians can be re-deployed to other areas to further improve service levels at the Outpatient Pharmacy.

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b) **Potential reduction in packing and assembly error rate:** Use of concurrent automated picking and auto-assembly can enhance medication safety due to less reliance on human intervention.

c) **Improved operational efficiency:** The new system will reduce time spent walking around the Pharmacy to pack medications for the same prescription. This will also minimise waiting time for patients for their prescription.

About Singapore General Hospital

Singapore General Hospital, a member of Singapore Health Services, is the public sector's flagship hospital. Established in 1821, SGH is Singapore's largest acute tertiary hospital and national referral centre offering a comprehensive range of clinical specialties and clinical support services in the region with 1,400 acute beds and about 500 specialists. Annually, 70,000 patients are admitted to the hospital and 600,000 patients attend outpatient clinics.

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