

National Quality Improvement Conference

Reducing Incidences of overdue Preventive Maintenance via Asset Tracking and Management

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Problem Statement

The main causes for overdue Preventive Maintenance (PM) of equipment are either that the equipment is in use when it's due for maintenance or that it cannot be located for weeks or months, causing it to not be properly maintained as scheduled.

The performance and safety of the devices might be affected, and this might lead to various negative consequences such as improper readings on equipment due to lack of calibration or minor electrical shocks due to the presence of leakage currents.

This may pose undue risks to patient and staff safety, as the equipment may not be properly calibrated or maintained for clinical use.

Project Aim

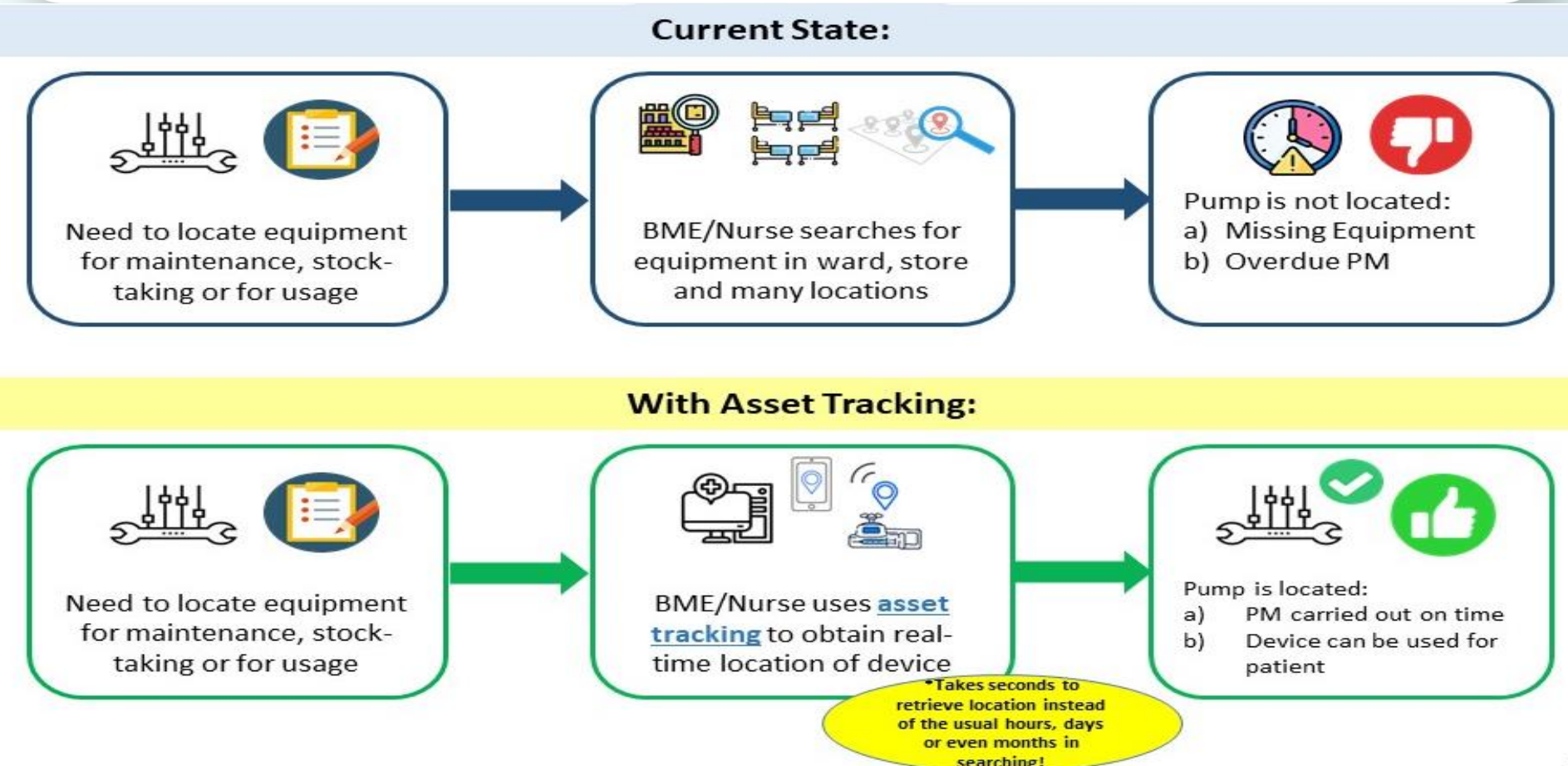
1. Optimise Asset utilisation
2. Ease of locating equipment in the wards, clinics and operation for timely maintenance
3. Enhance staff efficiency by reducing the amount of non-value added tasks such as manual stock-taking and searching of equipment
4. Avoid unexpected downtime of equipment as PM has been done on time, reducing emergency repair costs.

Lessons Learnt

Since the implementation of the Asset Tracking System in Saint Clare Ward, all of its equipment can be easily found and there are no incidences of Overdue PM. We estimated that with the implementation of a hospital-wide asset tracking and management system, approximately 0.52 FTE can be saved. Staff saves 15-30 minutes in manual searching, tracking and managing an equipment in the hospital.

As all the equipment are maintained regularly, there are lesser incidences of unexpected breakdown of the equipment.

Potential Solutions



Different technologies have their advantages and disadvantages. In example, an infra-red tag would only be suitable for short range tracking and is highly susceptible to interferences. We carried out a thorough technology evaluation and opted for a Bluetooth/Wi-Fi based Asset Tracking and Management system which is stable, cost-effective, easy to implement and can be used for mid to long ranges. While it was challenging, we managed to learn more about the different types of Asset Tracking technologies and adjusted our implementation plan accordingly to the technology requirements.

Outcomes & Impacts

- Zero incidence of overdue PM since Oct 2022 till date.
- Searching for equipment unnecessarily, both by the Nurses and Maintenance Crew was eliminated.
- Cost avoidance of \$200 per equipment for emergency repair.

