

Utilising Robotic Process Automation (RPA) for Staff Competency Tracking

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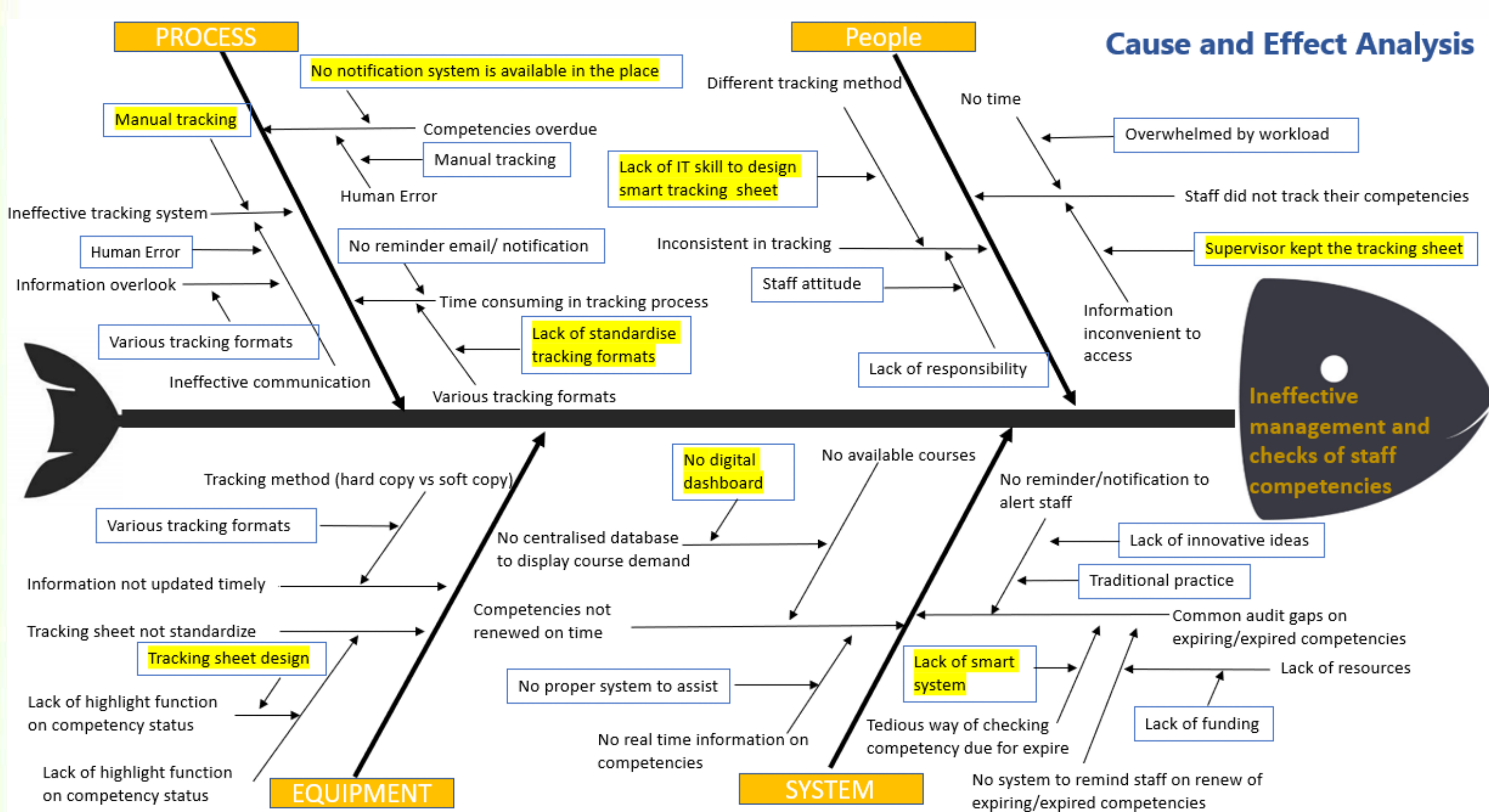
BACKGROUND

Clinical staff are required to maintain competency in their practice, which must be regularly assessed by their supervisors. Previously, supervisors manually tracked staff competencies, including Core+ training and ward-based competencies—a time-consuming and repetitive process. Despite their efforts, overdue competencies remained a common issue due to inconsistent tracking methods, the absence of an alert system, and the lack of a centralized database. A new solution is required to minimize manual work and optimize the current process.

AIMS

This project aims to digitise staff competency records and automate the tracking process using Robotic Process Automation (RPA) to enhance efficiency and streamline competency management for supervisors. The new system ensures staff maintain their clinical competency while also fostering a sense of responsibility by encouraging them to proactively engage with supervisors for timely renewals.

ROOT CAUSES



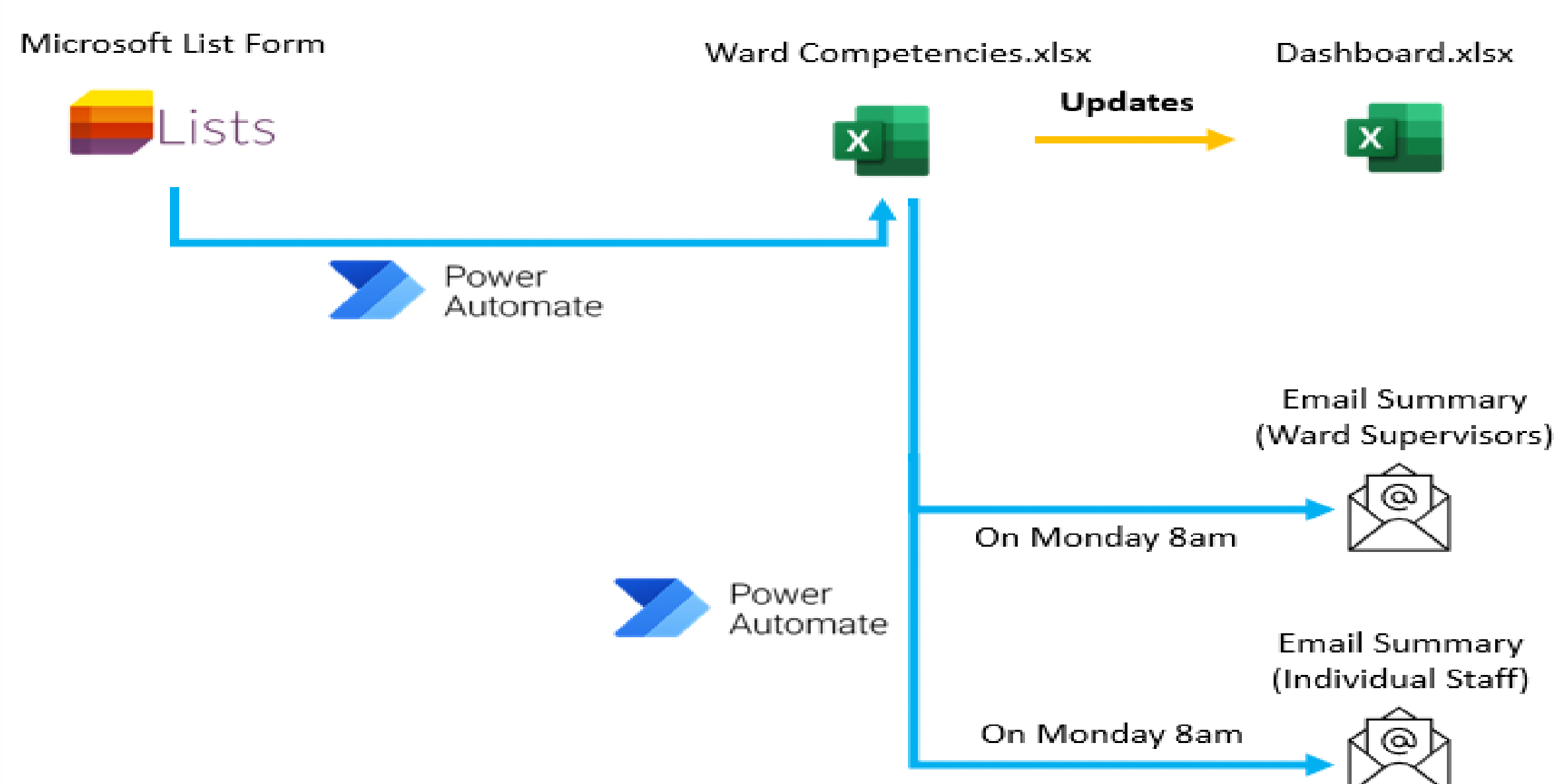
RPA SOLUTION

1. RPA Process for Staff Competency Tracking



- 1 2 : PSA/Ward Supervisor submits a competency entry Form via MS Lists after competency completed.
- 3 4 : Competency data save in Microsoft Teams File Ward Competencies.xlsx and Dashboard updates in real-time.

2. Digital Alert/Notification System



RESULTS

The RPA solution of staff competency tracking has been fully implemented in IMH, including 49 wards, 3 special services, 7 outpatient clinics and 3 community nursing teams.

1. Measurement of Improvement

1) Reduce time spent in competency tracking process

Pre-implementation data:

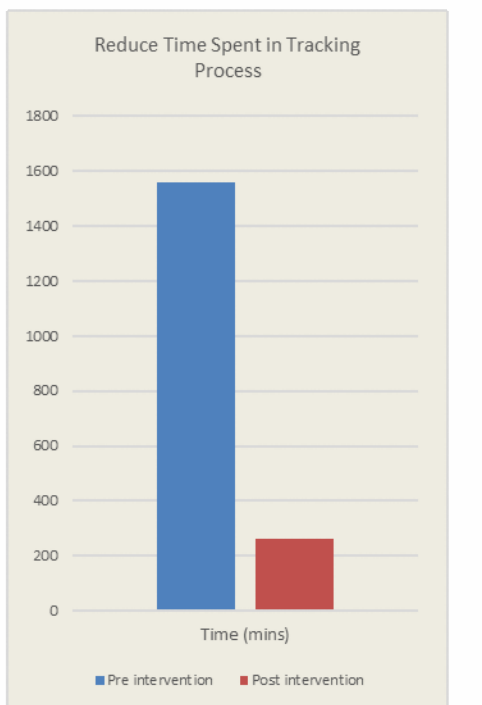
- Total time spent on updating and tracking staff competency (weekly) and record on tracking sheet per year= 52 weeks x 30 mins= 1560 mins/year

Post-implementation data:

- Updating staff competency using Microsoft List Form (On average two competencies per week) = 52 weeks x 5 mins =260 mins/year

Time saving:

- Time saved per location: 1560-260=1300 mins/year
- Total time saved across hospital /year =1300 mins x 62(49 wards+ 3 special services+7 Clinics+3 community nursing teams) = 80600 mins/ year (1343 hours)



2) Reduction in the number of expired competencies:

In 2024, approximately 130 ward-based competencies needed to be assessed annually in the two POC wards (Ward 62A and Ward 65A).

Pre-implementation data:

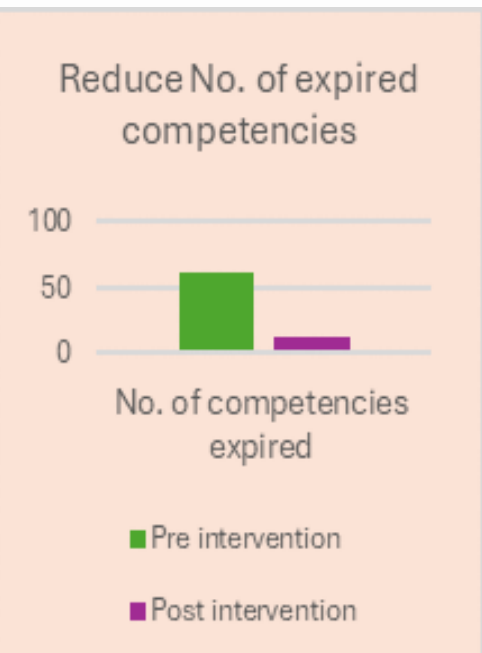
- 61 competencies were expired

Post-implementation data:

- 12 competencies were expired

Reduction of expired competencies:

- 61-12= 49
- Reduction in percentage: 49/61x100%= 80.3%



2. Survey Results

- A total of 60 staff responded to the survey, providing an 81%(49/60) response rate
- Over 80% of anonymous respondents agreed that the implementation of the RPA system improved the efficiency of competency tracking and reporting
- Almost 90% of the responders expressed satisfaction with the RPA-powered nursing competency tracking system

EFFECTS OF CHANGES

- Significantly reduced the manual tracking burden, effectively streamlining the time-consuming process of competency management for nursing staff
- Enhanced efficiency, reduced workload, and improved job satisfaction among supervisors, streamlining overall workflow
- Supervisors could dedicate more time to patient care and staff management, which improved service quality and, ultimately, better patient outcomes
- Ongoing monitoring and evaluation of the RPA system ensured continuous refinement and optimisation
- Comprehensive training programs and knowledge-sharing initiatives facilitated seamless adoption among nursing staff
- Fostering a culture of innovation and adaptability within the organisation has supported the continuous evolution and expansion of automated processes, driving sustained improvements in patient care delivery

END USER EXPERIENCE

The automated competency tracking system has greatly benefited nursing supervisors by eliminating the need for manual weekly checks. The email notifications for expiring and expired competencies, along with a standardised entry form, have improved efficiency, data accuracy, and patient safety while reducing administrative burdens.

To ensure a smooth transition, the project team collaborated closely with ground staff, gathering feedback during the pilot phase to refine the digital form and enhance RPA-generated email alerts. An RPA champion acted as a liaison, addressing concerns promptly.

Before implementation, virtual briefings and a Teams chat group facilitated staff training and real-time problem-solving. Focus group sessions revealed that even less IT-savvy staff preferred the new system, appreciating its reminders and dashboard. Supervisors also observed increased proactiveness among staff in managing their competencies.

LESSONS LEARNT

One of the key takeaways from this project was the importance of providing comprehensive support to ground staff, given the significant process changes. Rather than implementing the project hospital-wide all at once, we realised that a phased rollout—introducing the solution block by block each week—would have been more effective. This approach would have allowed the team to allocate more resources and better support staff during the transition.

Another learning point is for the project team to dedicate more time to the proof-of-concept (POC) phase to identify and address potential issues early, rather than resolving them during full-scale implementation. During the project's implementation, the team identified several areas for future enhancements:

- Enabling a single-entry form submission for multiple staff with the same competency and completion date
- Introducing an option to revert actions in cases of inaccurate submissions
- Expanding the list to include a broader range of competencies
- Introducing a QR code for data entry