

National Quality Improvement Conference

Innovative Programme For Tele-presence Robot In Inpatient Ward

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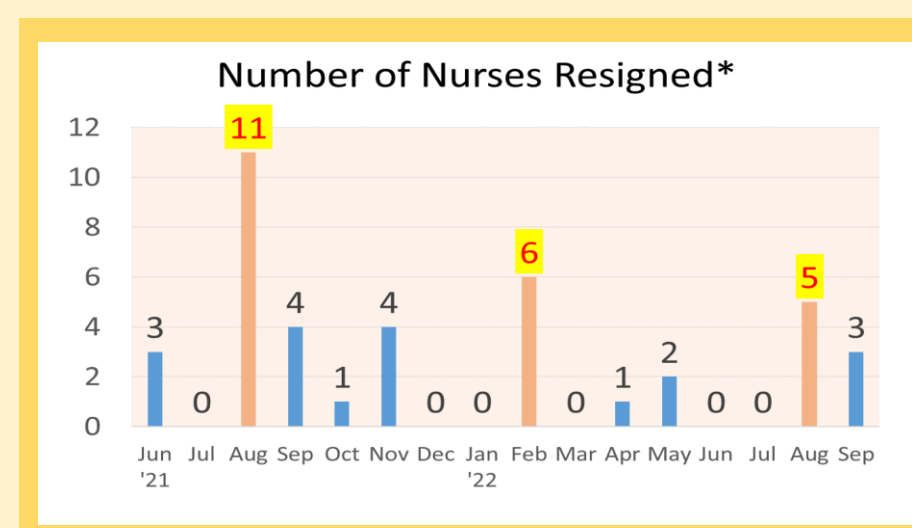
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Problem Statement

The World Health Organization (WHO) estimates a global shortage of 18 million health workers by 2030. In 2021, national attrition among foreign nurses was 14.8%, much higher than 7.4% among local nurses¹.

At Yishun Community Hospital (YCH), prevalence of high number of nurses' attrition (n=23) from Jun to Dec 2021.



Given our low birth rate and our shrinking local workforce, there are just not enough Singaporeans to meet all our healthcare manpower needs¹.

Reference: 1. Speech by Dr Koh Poh Koon, Senior Minister of State For Health, at MOH Committee of supply debate 2022.

Project Aim

To create an innovative programme for Tele-presence (temi) Robot in inpatient ward with target to achieve 20% reduction of nursing time and to complement nursing care.

- Aid in reminding patients to call for assistance for fall precautions and prevention (4 languages)
- Enhance efficiency of administrative process
- Improve quality and consistency of patients' care and experience
- Provide consistent patient / family engagement and education

Lessons Learnt

Challenges and Solutions:

1. There had been occasional connectivity issue that resulted in "disorientation" of the tele-presence robot. The project team that comprises of members from Information Systems and Technology, and with the vendor, received prompt support to resolve the issue.

2. Upon reflection, our nurses have 'dream' with a long wish list for robot to assist them in their daily tasks. This is a 'journey of a thousand miles begins with a single step' (quote from Dao De Jing). Our team came together, persevere and 'start-off' and remained motivated to overcome challenges along this journey of incorporation of robotics into healthcare settings.

Potential Solutions



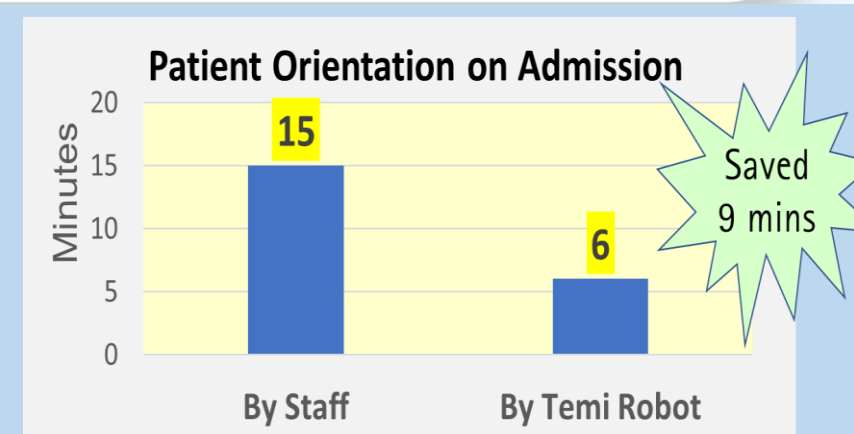
The PDSA Methodology was adopted and Gantt chart was applied for Tele-presence project Journey.

Team members worked collaboratively with ground staff to gather feedback for enhancement. Ideas were carefully thought through and implemented to achieve desired and sustainable outcomes.

Outcomes & Impacts

1. Time Saved

- 60% reduction of nursing time from 15mins done by nurse to 6 mins done by temi-robot (orientation to each patient admitted)

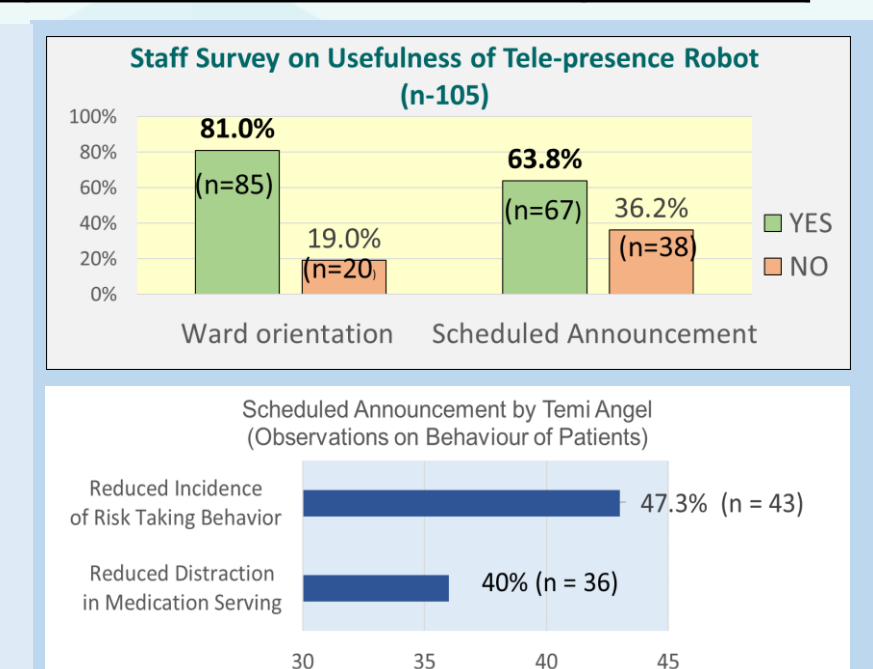


2.

Orientation on Admission	Time Taken	Time & Cost Saving	No. of Patients
Time taken by Nurse (SSN/SN)	15mins	2970 mins (49.5 hours)	198
Man-hours (Nurse)	15x0.24cts	2970x3.53=\$10478.83	
Time taken by tele-presence robot	6mins	1188 mins (19.8 hours)	198
Man-hours (tele-presence robot)	6x0.24cts	1188x1.41=\$1676.61	
<input checked="" type="checkbox"/> Cost Savings		\$8802.22	

3. Staff Satisfaction

- 81% of staff indicated usefulness of tele-presence robot for ward orientation
- 63% of staff felt the scheduled announcement was useful
- Consistency of information to patient by all grades of nursing staff



4. Patient / Family Feedback (Verbatim)

" I am familiar with the ward layout as this is not the first time my mother is admitted to YCH. However, in comparison temi Angel is better as it provides very clear illustration in the video".