

## **Project Title**

Leveraging on Artificial Intelligence (AI) To Improve Patient Care

## **Project Lead and Members**

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## **Organisation(s) Involved**

KK Women's and Children's Hospital

## **Healthcare Family Group Involved in this Project**

Nursing

## **Project Period**

Start date: 2020

## **Aims**

- To help reduce nurses' time spent to retrieve registration forms from the registration counter
- To enhance children's experiences while waiting for surgery
- To enable nurses to deliver care safely and spend more quality time with surgical patients in Day Surgery

## **Background**

See poster appended / below

## **Methods**

See poster appended / below

## **Results**

See poster appended / below

## **Lessons Learnt**

See poster appended / below

## **Conclusion**

See poster appended / below

## **Additional Information**

Singapore Healthcare Management (SHM) Conference 2021 – Shortlisted Project  
(Patient Experience Category)

## **Project Category**

Technology, Digital Health, Telehealth, MedTech, Robotics, Care & Process Redesign,  
Quality Improvement, Workflow Redesign, Value Based Care, Patient Satisfaction,  
Productivity, Time Saving, Manhour Saving

## **Keywords**

Temi Robots, Inpatient Care, COVID-19, Contactless

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## INTRODUCTION

In 2020, 2 units of Temi Robot were deployed to KKH Day Surgery. These Temi Robots were “programmed” to perform 3 specific tasks in Day Surgery.



## AIM

- To help reduce nurses' time spent to retrieve registration forms from the registration counter.
- To enhance children's experiences while waiting for surgery
- To enable nurses to deliver care safely and spend more quality time with surgical patients in Day Surgery.

## METHODOLOGY

### Transporting of patients' Admission Forms from the Day Surgery Registration Counter to the nurses at the clinical area

**Before**

1. Registration Counter → 2. Clinical area

3. Clinical area → 4. Registration Counter → 5. Clinical area → 6. Registration Counter

Nurses had to make multiple trips to retrieve patients' Admission Forms from Registration Counter

**After**

1. Temi Robot → 2. Clinical area

The Temi Robot are now programmed to send Admission Forms from the Registration counter to the nurse at the Clinical Area

The Temi Robot is able to transport 900 documents per month

### Entertain children by playing their favourite songs/videos on demand while waiting to enter Operating Theatres for surgery

**Before**

Young children had been naturally anxious and fearful of new and strange environments with unfamiliar faces when coming for surgery

**After**

Temi Robots are able to play children's favourite songs/videos on demand.

- Allay children's anxiety and reduce fears
- Entertain children while waiting for surgery

Received positive feedback from parents that Temi Robots improved their children's experiences

### Perform contactless tele-consultations between the Acute Respiratory Infection (ARI) symptomatic patient and Anaesthetist / Surgeon

**Before**

Some patients turned up at the Day Surgery with Acute Respiratory Infection (ARIs) which required doctors to perform ARI assessment

**After**

The Temi Robot is able to perform tele-consultations between the patient and Anaesthetist/ Surgeon

- No risk of healthcare workers being exposed to ARI/ Covid -19 infections

The use of TEMI Robot provides safe distancing during patient assessment

## RESULT

The use of Temi Robot had **saved 30 man hours per month** for transporting Admission Forms to nurses.

With Hours saved, nurses can focus on providing quality care to patients. Temi Robots had also:

- Improved overall experience of children waiting for surgery.
- Minimized healthcare staff's exposure to potential COVID-19 patients.

## CONCLUSION

AI performs tasks that are typically done by humans, and it has countless applications in Healthcare.

The deployment of Temi Robots to our KKH Day Surgery has a positive impact on patient care in the peri-operative environment.