

## **Project Title**

To reduce home visit travel time for stable outlier patients

## **Project Lead and Members**

Project lead: Rachel Marie Towle, Advanced Practice Nurse

Project members: Chow Wai Shin, Lim Ei Shen, Deborah Tang

## **Organisation(s) Involved**

Singapore General Hospital

## **Aims**

SGH patients come from all over the island. The main challenge we face is the waiting and travelling time taken for stable patients living outside the SGH care boundaries. We did a time motion study and found that nurses took an average of 1.5 hours waiting and travelling to outlier areas (Diagram 1). The extra time spent on waiting and travelling could potentially be used to optimize care for more complex patients or perform more home visits. To better meet the needs of an ageing population and the increasing demand for transitional homecare, our team decided to embark on a Quality Improvement (QI) project to innovate and change the way we deliver care to our population.

## **Background**

See attachment

## **Methods**

See attachment

## **Results**

See attachment

## **Lessons Learnt**

- Every team member played an important role in co-designing this new public-private collaboration model of care.

- Team spirit and cooperation was appreciated and acknowledged by the team leader. When team members develop new innovation and saw the fruits of their work, they were motivated to do more.
- Having regular communication meetings and equipping staff with the knowledge and skills played a pivotal role in sustaining their interest and motivation.
- This QI journey has been an enriching learning experience for us. As the team built strong relationship and trust between hospital and community partners, staff felt empowered with decision making and autonomy.
- Future enhancement to this collaboration includes better sharing of information and feedback loop.

## Conclusion

See attachment

## Project Category

Care Redesign

## Keywords

Quality Improvement, Quality Improvement Tool, Singapore General Hospital, Care Redesign, Hospital-to-Home, Cause & Effect Diagram, Pareto Diagram, Tree Diagram, Prioritization Matrix, Travelling Time,

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# To reduce home visit travel time for stable patients living outside the SGH Care Boundaries by 30%

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## Background

The SGH Hospital to Home (H2H) program is a transitional care service. In FY18, there were a total of 5156 patients enrolled. As SGH serves an island-wide population, one of our biggest challenge in meeting the demands of the program is the travelling time taken for patients living outside the Care Boundaries (e.g. Woodlands, Yishun, etc). Using the Decision Making Matrix (Diagram 1), we voted on our project.

### Diagram 1: Decision Making Matrix

Problem/Area/Waste	Resource availability	Cost and time saving	Patient Safety	Total	Rank
Difficulty in contacting patient/caregiver post discharge	1	3	3	7	2
Too much time spent on waiting and travelling to outlier patients – distance limits the number of home visits/day	5	5	5	15	1
Time taken on non-clinical work – e.g. paperwork/documentation, stock check, cleaning homecare bag and equipment, etc	3	3	3	9	3

Criteria	Rating Scale	1 point	3 points	5 points
Resource availability	1 point	Require external funding from MOH for resources	Require funding from SGH for resources	Use existing funding and resources
Cost and time saving	1 point	No impact on cost and time saving	Potential impact on cost and time saving	Clear impact on cost and time saving
Patient Safety	1 point	No impact on patient safety	Some safety or unsure of capabilities	High safety on transitional care is able to support

## Mission Statement

To reduce H2H nurses travel time for stable patients living outside the SGH Care Boundaries by 30% within six months.

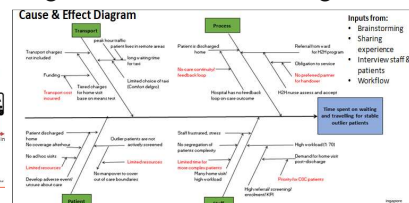
## Analysis

This project goes in line with MOH care transformation vision of going beyond hospital to community; beyond quality to value; beyond healthcare to health. We identified our important stakeholders (care providers and care recipients) and reviewed our current work process to identify areas of waste and opportunities for improvement. We identified the most pressing issue was the nurses' time in waiting and travelling to outlier areas. A time motion study showed that an average time taken to travel to outlier area was 1.5 hours (Diagram 2). The Cause & Effect Diagram (Diagram 3), was used to brainstorm on possible root causes and the Pareto Chart helped us to identify the vital few root causes. Four vital few root causes were identified and plotted into the Tree Diagram and Prioritization Matrix.

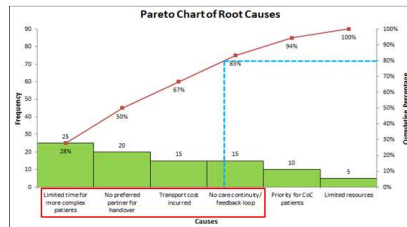
### Diagram 2: Time motion study



### Diagram 3: Cause & Effect Diagram



### Graph 4: Pareto Chart



## Interventions / Initiatives

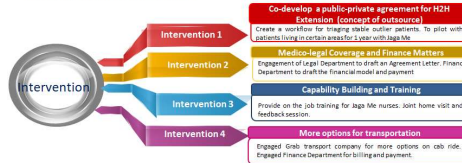
The Tree Diagram was used to develop possible solutions and the Prioritization Matrix was used to identify the final solution selection using SCAMPER as highlighted in the yellow box (Diagram 5). From the solutions identified, we could discern 2 main concepts; 1. H2H extension with a private service provider (concept of outsourcing) for stable outlier patients and 2. More transport options.

### Diagram 5: Prioritization Matrix

All stakeholders were engaged throughout the solution selection process and their feedback/ concerns were addressed. This project was implemented in February 2019 in 4 phases of the PDSA cycle (Diagram 6)

### Diagram 6: PDSA Cycles of Interventions

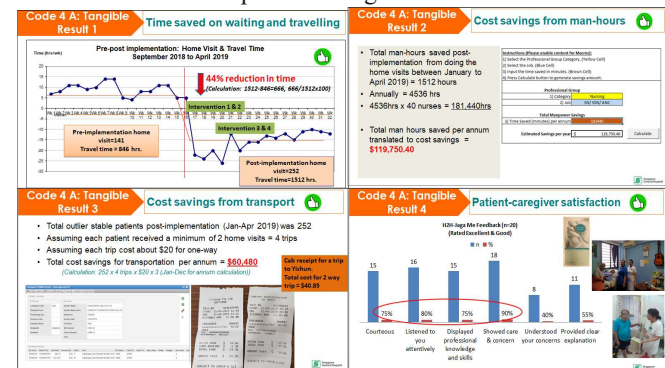
Implementation Plan (February 2019): Using the PDCA Cycle, the project was implemented in four stages:



## Results

Several tangible and intangible results were achieved:

- Result 1: There was a 44% reduction in the nurses travelling time.
- Result 2: Man-hours cost savings: \$119,750.40.
- Result 3: Transport cost savings: \$60,490.00
- Result 4: Increased patient/ caregiver were satisfied



## Sustainability Plans

Future plans for sustainability and scalability includes extending the service island-wide and extended afterhours and weekend support for all H2H patients.

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