

**Project Title**

Patient-Centred Space Design for the Elderly - A Project by Centre for Geriatric Medicine, TTSH

**Organisation(s) Involved**

Tan Tock Seng Hospital

**Project Period**

Start date: 01-2011

Completed date: 07-2014

**Project Category**

Care Redesign, Process Improvement, Process Redesign, Quality Improvement

**Keywords**

Care & Process Redesign, Quality Improvement, Patient-Centered Care, Tan Tock Seng Hospital, Centre for Geriatric Medicine, Infrastructure, Space, Renovation, Facilities Improvement, Outpatient Care, Coordinated Care, Institute of Geriatrics and Active Ageing, Age-friendly Environment, Safe Environment, Joint-disciplinary Care, Value Stream Mapping, Lean Methodologies, 3P (Production, Process, Preparation), Patient Satisfaction Score

**Name and Email of Project Contact Person(s)**

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## **BIO MEDICAL FACILITIES IMPROVEMENT PROJECT**

*(How improvement in the care, improvement of equipment and facilities improve the standards of care).*

This is a project or program that sought to improve customer service and quality of care by special maintenance, systems and procedures for usage or improvement in biomedical equipment and/or facilities improvement in general. Did the project improve the hospital's ability to deliver better service for the comfort of its clientele? Did it help employees service patient needs better? Was there less downtime? Was there less cost or maintenance and repair?

### **Project Title:**

Patient-Centred Space Design for the Elderly - *A Project by Centre for Geriatric Medicine, Tan Tock Seng Hospital*

### **Date Project Started:**

Started in January 2011

Launched on 25 July 2014

### **Department Name:**

1. Department of Geriatric Medicine
2. Department of Operations (Community)

### **Key Staff Involved in the Project:**

1. A/Prof Chin Jing Jih  
Chairman, Division of Integrative and Community Care
2. Dr Tan Thai Lian  
Head, Department of Geriatric Medicine
3. Dr Rani Ramason  
Senior Consultant, Department of Geriatric Medicine
4. Michael Leow  
Director, Department of Operations (Community)
5. Carolyn Lai  
Clinic Manager, Centre for Geriatric Medicine

6. Melanie Kam

Manager, Department of Operations (Community)

7. Yeoh Yin Cheng

Senior Executive, Department of Operations (Community)

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1. Please give some background to the project or program including how it originated. Give details of how the project related quality of care to the type of equipment and their proper maintenance? Outline any specific goals or targets you had in mind prior to the project being put together. **MAX 350 WORDS.**

### **Background**

Singapore's population is rapidly ageing. Between 2010 and 2030, Singapore will witness a profound age shift, with the elderly population aged 65 and above growing at 5% year-on-year. By 2030, the number of elderly is expected to reach 900,000.

Being the first and one of the largest outpatient Geriatric specialist clinic in Singapore, the Centre for Geriatric Medicine embarked on a journey in 2011 to design a new purpose-built geriatric-friendly outpatient clinic.

In 2011, the Centre saw patients with a median age of 80 years old, half of whom were not ambulant. These patients also had poor vision and hearing. They generally felt uncomfortable, lack control and are anxious in a high-traffic, clinical environment. 25% also suffered from dementia and are at risk of wandering.

### **Objectives**

With the patients' profile, needs and future demographics in mind, the new Centre for Geriatric Medicine was conceived to:

- Enhance outpatient services
- Better coordinate care for patients throughout their care continuum through partnership with patients and caregivers
- Develop expertise in Medical, Nursing, Allied Health, and Pharmacy services
- Grow research and innovation capabilities.

In growing research and innovation capabilities, the Centre partnered the Institute of Geriatrics and Active Ageing (IGA), serving as a test bed for new technologies pioneered by the IGA.

Word count: 205 / 350

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2. Please describe how the project was beneficial from the patient's perspective and experience, and how it improved patient care, patient safety or service. Preferably please present quantifiable information such as "before and after" measurements if any. **MAX 250 WORDS.**

A hub and spoke model was utilized in the old Clinic, resulting in unnecessary travelling time and challenges locating services. The clinic also adopted the standard clinic layout and furnishings. These were not ideal for Geriatric patients. Hence, the Centre was redesigned and conceived with 3 key principles.

**a) Delivery of Joint Disciplinary Care**

Key services e.g. Geriatric Rehabilitation Gymnasium, were co-located within the Centre to reduce travelling time between service locations for patients.

An on-site Pharmacy provides medication counseling, dispensing and a one-stop payment service. Wait time for collection of medication was reduced by 33%.

**b) Age-Friendly and Safe Environment**

The capacity of the sick bay was increased by 150%, doubling as a consultation area for bed-bound patients. Patients can be wheeled in for consultation or treatment, unlike in the old clinic where they were pushed to multiple rooms.

The Memory Clinic is situated away from human traffic and entry / exits points to reduce anxiety for patients with dementia, thereby reducing risks of wandering, enhancing better patient safety and care.

Redesigned chairs had reduced seat height; arm rests improved patient safety and encourage independence.

Signages adopted primary colours, were made 30% larger and 7 cm lower to aid way-finding for elderly with low-vision and/or on wheelchairs.

**c) Patient Empowerment**

A mock-up home fitted with elder-friendly modifications and a Patient Education Area provides practical tips for independent living.

An indoor Sensory Garden stimulates the senses of patients while providing a soothing environment for social interaction.

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3. Please explain how the project reduced costs of equipment purchase and maintenance? And/or explain what other benefits were derived? **MAX 200 WORDS.**

Constant review and feedback through simulations and mock-ups in the planning phase helped to prevent rework, promote patient care and avoid unnecessary financial expenses.

This is evident through the key features in the Centre. Some examples:

- In anticipation of the rising ageing population, handrails, larger doorways and wheelchair bays were installed. All toilets are 100% handicap-friendly toilets.
- Grey bands were used on glass-walls to provide better visibility to patients.
- The doctor's desk in consultation rooms was modified to guide the placement of wheelchairs. It was enlarged by 7% to encourage doctor-patient interaction and provides additional space for measurement of blood pressure and clerking of case-notes. This reduces clutter at the working area. Curves were used to minimise the risk of injury to patients.
- Multi-disciplinary teams are clustered by sub-specialty within the Centre. Clinicians from the same care team co-locate their consultation rooms to reduce the travelling distance for patients. This facilitates teachings and case discussions, enhancing care coordination. Resources required for consultation and treatment are sited within the examination area for smoother assessment.
- Every touch point is an opportunity for patient care – waiting areas are decorated with old items, acting as reminiscence therapy.

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4. Please demonstrate if and how the project produced sustainable results?

**MAX 150 WORDS.**

The efforts to create an age-friendly and safe environment did not stop with the launch of the Centre. Since then, an additional 5 new clinics have adopted some of the age-friendly features i.e. redesigned chairs first pioneered in the Centre.

Additionally, an Elderly and Disabled Friendly workgroup was formed to share the learnings from the Centre and to constantly review and improve the hospital's environment, facilities and services so as to better serve elderly and disabled patients.

Locally and internationally, the best practices and learnings of the Centre were shared. Since its launch in 2014, the Centre has hosted 5 Ministry-level visits, 19 healthcare-related industry visits and 7 visits from non-healthcare organisations.

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5. Please give some background of the project team that originated, studied and developed the project or program. **MAX 200 WORDS.**

A Visioning Exercise was held with senior leaders of Geriatric Medicine and partners (Geriatric nurses, Allied Health Professionals and Operations staff) in 2011 to develop a 5-year roadmap for the new Centre. The vision was aligned with patient and caregiver perspectives; 2 focus groups and 40 surveys were conducted in 2011.

Process improvements took centre stage. Lean methodologies were applied in the entire design layout and workflow. Stakeholders were engaged in a 2-day VSM (Value Stream Mapping) event and a 2-day 3P (Production, Process & Preparation) event in 2011. 14 simulations with multi-disciplinary staff and patients, 3 site mock-ups, consultation with design-thinking experts were carried out to refine the final layout, environment and furnishings of the Centre.

Additionally, the dementia-design audit tool (from the Dementia Centre, HammondCare, Australia) was supplemented to ensure a dementia patient-friendly setting.

Involvement of stakeholders is pivotal to the success of the Centre for Geriatric Medicine. The project team ensures stakeholders are continuously engaged and work closely together to attain the common vision of delivering best patient care.

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6. Please give any other information, including third party testimonial regarding your project which you think would help convince the judges that this project (or program) should win this category. **MAX 200 WORDS.**

The Centre supports the national agenda of healthcare for the elderly. Minister for Health Mr Gan said, "It plays an active role in helping to shape the delivery of geriatric care services as well as to serve as a bridge between research and clinical practice."

Since its launch in 2014, patients have rated the new Centre highly. The TTSH Patient Satisfaction Survey carried out by an independent third-party auditor in 2014 has shown an upward trend in all areas compared to pre-renovation in 2013. (See related attachment)

#### **Testimonials from Patients and Caregivers**

"As compared to the old clinic, the signages are very large and clear enough for the elderly and caregiver to notice so that we will not be lost."

"What really stand out to me are the assistive devices displayed here, be it at the retail corner or the Assisted Daily Living corner. They really help to explain the different useful tools and aids the elderly may use."

"The new clinic has a bright environment, with educational posters decking the walls. I also love the reminiscence corner - the wall there is exactly like my grandma's wall. It's a form of reminiscence therapy for both me and my grandmother."

Word count: 200 / 200

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## ANNEX A

### Patient-Centred Space Design for the Elderly -A Project by Centre for Geriatric Medicine, Tan Tock Seng Hospital

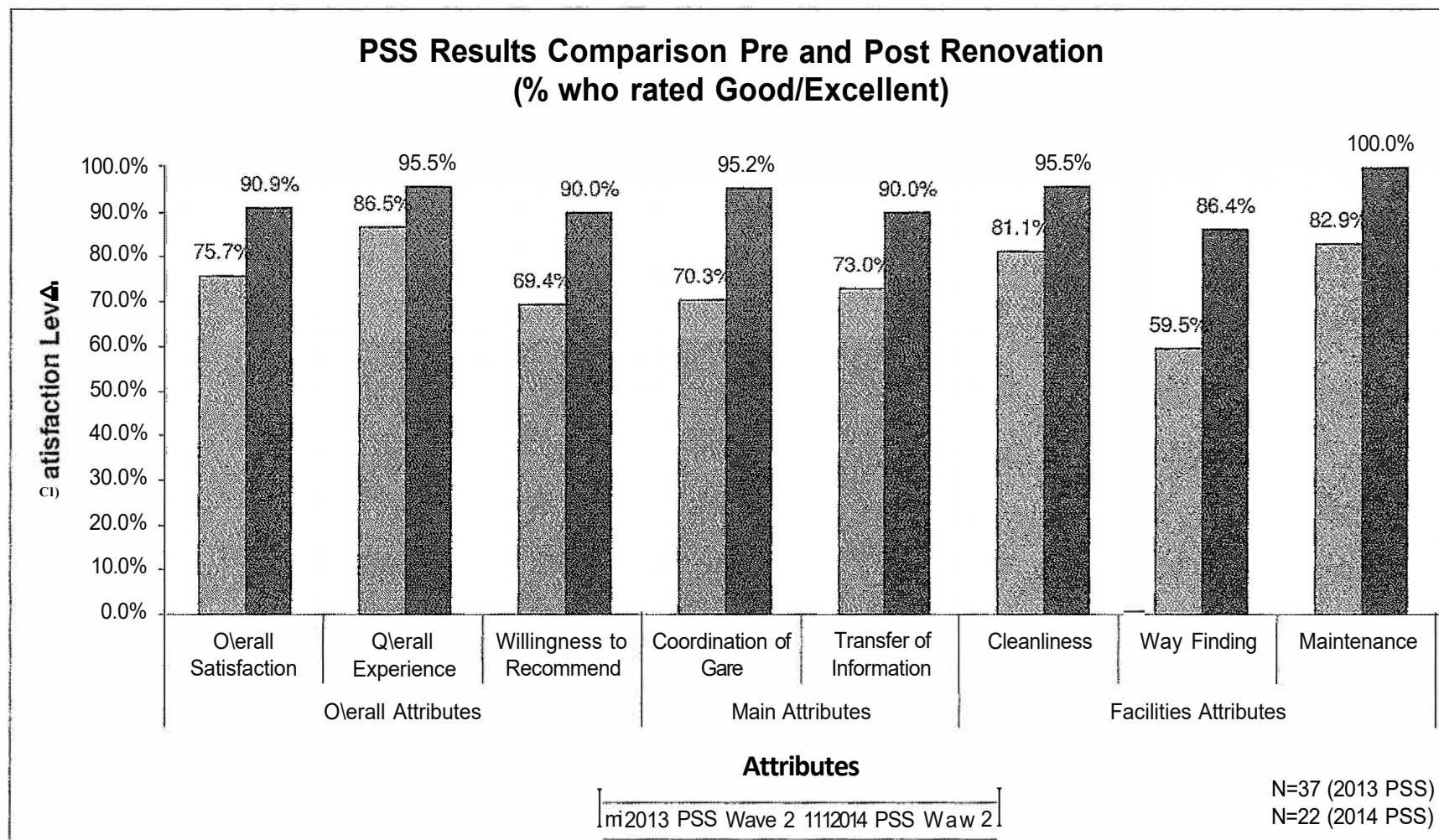


Chart 1: A comparison of Patient Satisfaction Survey (PSS) results on main service-quality attributes pre renovation (2013) and post renovation (2014), by percentage of patients who rated Good/Excellent.