

## **Project Title**

Auto-Resupply and Kanban System in Clinic 5A

## **Project Lead and Members**

- Ho Juan San, Operations (Medicine), Director and Leader of the Quality Service Management Taskforce Outpatient Workgroup
- Tan Siew Peng, Clinic 5A, Clinic Manager
- Sim Jin Yen, Clinic 5A, Senior Staff Nurse
- Nurfiqah Ismail, Clinic 5A, Assistant Nurse
- Rosmawati Bte Ismail, Clinic 5A, Senior Assistant Nurse
- Low Bee Hwa, Kaizen Office, Manager
- Gary Tan Chee Leong, Materials Management Department, Senior Executive
- Adeline Lu, Kaizen Office, Senior Executive
- Timothy Yeo, Operations (Medicine), Senior Executive
- Aurora Kuang Juening, Patient Services, Senior Executive
- Ms Suriani Poh, Operations (Community Care), Executive

## **Organisation(s) Involved**

Tan Tock Seng Hospital

## **Project Period**

Start date: Sept 2012

## **Project Category**

Process Improvement, Quality Improvement, Productivity

**Keywords**

Tan Tock Seng Hospital, Operations, Materials Management Department (MMD), Kaizen Office, 6S Methodology, Process Improvement, Process Redesign Productivity, Quality Improvement, Inventory Management, Kanban System, Resupply System, Specialist Outpatient Clinics, Consumables, Staff Satisfaction, Time Saving, Cost Savings, Reduced Waiting Time, Patient Safety, Storage Space Utilization

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

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# ENTRY FORM FOR SERVICE IMPROVEMENT FOR INTERNAL CUSTOMERS CATEGORY

These are awards for any hospital department or unit that implemented any outstanding projects on how better to serve their co-departments or employees better. How well did the project look upon the other department(s) as a "customer"? Special weight is given to how innovative the project is, how well it reinforces the concept of "internal customer", at no additional expense and how it improves service to its clientele.

## INSTRUCTIONS

- Please fill out all the sections below and abide strictly by the word count. Words exceeding the maximum word count will be cut off automatically/truncated.
- IMPORTANT: It is necessary that the CEO certifies that all information you provide is true and correct by signing the form indicated in the last page.
- By submitting an entry, you agree that HMA will share relevant aspects of the Entry submitted on the HMA or related Resource Center website.

## Background Information

Project Title                      Auto-Resupply and Kanban System in Clinic 5A

Date Project Started              September 2012

Enhancements made (for projects that did not start operations between January 2012 to May 2013)

## Key staff involved in the project

1. Name                              Mr Ho Juan San

Department/Function      Operations (Medicine), Director and Leader of the Quality  
Service Management Taskforce Outpatient Workgroup

2. Name                              Ms Tan Siew Peng

Department/Function      Clinic 5A, Clinic Manager

3. Name                              Ms Sim Jin Yen

Department/Function      Clinic 5A, Senior Staff Nurse

4. Name                              Ms Nurfiqah Ismail

Department/Function      Clinic 5A, Assistant Nurse

5. Name                              Ms Rosmawati Bte Ismail

Department/Function	Clinic 5A, Senior Assistant Nurse
6. Name	Ms Low Bee Hwa
Department/Function	Kaizen Office, Manager
7. Name	Mr Gary Tan Chee Leong
Department/Function	Materials Management Department, Senior Executive
8. Name	Ms Adeline Lu
Department/Function	Kaizen Office, Senior Executive
9. Name	Mr Timothy Yeo
Department/Function	Operations (Medicine), Senior Executive
10. Name	Ms Aurora Kuang Juening
Department/Function	Patient Services, Senior Executive
11. Name	Ms Suriani Poh
Department/Function	Operations (Community Care), Executive

**PLEASE ANSWER THE FOLLOWING QUESTIONS USING THE MAXIMUM WORD ALLOCATIONS INDICATED**

1. Please give some background to the project or program including how it originated. Give details of the extent to which the project improves the efficiency or effectiveness of co- departments or employees who are "internal customers". Outline any specific goals or targets you had in mind prior to the project being put together. **MAX 350 WORDS.**

In TTSH outpatient clinics, consumables were stored in multiple locations, without a centralized store area. On an ad-hoc basis (once every fortnight), the Staff Nurse (SN) would perform a stock-take at the multiple locations, and complete the Stock Issue Voucher (SIV) to place orders with the Materials Management Department (MMD). MMD would receive this order, process it, and deliver the consumables ordered to the clinic. The consumables would be received by the SN and she will tally the amount of consumables with the Goods Issue Slip. Finally, the SN would stock up consumables at the respective locations.

In Clinic 5A, we observed that the above process would take the nurses 3 hours every month. This was not the most optimal use of time as the time could be better used for nursing care activities. With this in mind, staff from Clinic 5A, MMD, Operations, with facilitation from Kaizen Office, came together to work on a better method in ordering

and replenishing consumables.

A central location was identified to be the mini storage area from which the different treatment rooms would receive the supplies. The team collected data on utilization rates of the various consumable items to estimate the amount of stock the clinic would require for a 2-week period. 40 of the most frequently used and fast-moving consumables were identified.

Subsequently, the team worked on two systems to manage the consumables:

1. Resupply system
  - Stock levels for the consumables to last two weeks in their storage location at Room 22 were established.
  - MMD staff would then conduct a fortnightly stock-take and replenish the consumables automatically. Previously, replenishments were ad-hoc or upon activation.
2. Kanban system
  - Using 6S methodology, the consumables were organized with clear visual cues for ease of identification and retrieval. A Kanban red card was incorporated to indicate item name and par level quantity such that there was a trigger point whenever stocks run low due to surges. This signals the staff to make an ad-hoc order.

Word count: 329 / 350

2. Please explain how the project benefitted a large number of internal customer staff or a select group? Or what other benefits were derived. **MAX 200 WORDS.**

Initially, 180 minutes of Nursing time was spent on stock-taking and replenishing the consumables every month. After the implementation of auto-resupply and the Kanban system for the consumables, it was reduced to 60 minutes per month. In addition, staff satisfaction also improved, with 88% of staff expressing that this improves convenience, and 100% reported overall increased in job satisfaction.

For MMD, initially, 4-6 trips per month were required to handle the ad-hoc ordering of consumables. After the implementation of scheduled auto-resupply, MMD makes 2 regular trips per month and is better able to schedule workload. This resulted in time saving for MMD as well.

Word count: 104 / 200

3. Please describe IF and how the project of internal customer service was also 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 200 WORDS.**

Other than benefits to our internal customers, auto-resupply had also translated to the clinic being more efficient in serving our patients. When rooms run out of consumables, the nurses could turn to the centralized store location which is now more reliably stocked with sufficient consumables for the clinic's operations. This reduced needless waiting for patients in the event where stocks run out.

The analysis of frequently used consumables and 6S methodology also reduced clutter and ensured that only the correct items were stocked in the clinic. Patient safety risks were therefore reduced.

Word count: 92 / 200

4. Please explain how the project is innovative and what the reaction of the internal customers that benefited was. **MAX 150 WORDS.**

Using inexpensive and simple tools such as 6S methodology and Kanban system, an efficient clinic auto-resupply system was implemented without the need to invest in expensive machinery or technology. The nurses from Clinic 5A appreciated the system put in place to reduce their administrative workload, leaving them with more time for patient care activities. With the consumables kept in a centralized location, they were now more accessible to all staff as well. 42 colleagues from other clinics and units also visited Clinic 5A to study the system and had indicated interest to adopt this project in their respective areas.

Word count: 99 / 150

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

The project team comprised of a mix of staff, with Clinic Nurses and Central Store staff from MMD as main stakeholders, and Operations (Medicine) and Kaizen Office as facilitators for this improvement project.

Word count: 33 / 200

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.**

During updates to senior management and other colleagues, Dr Eugene Fidelis Soh, Chief Operating Officer, TTSH, expressed that the project was a right step in good inventory management, prevents under- and over-stocking, which leads to improvement in storage space utilization, translating to cost savings.

Word count: 44 / 200