



# Optimization Project for Inventory Management



Clara Chua  
Colin Lim  
Lena Teo  
NHG Diagnostics  
Procurement Department

## Aim

To optimize the inventory management at NHGD's central warehouse.

### Objectives:

- To reduce storage costs.
- Maximize utilization of storage spaces.
- Assurance of high stock availability to support users at all times.



## Methodology

The team embarked on this project in April 2013 and carried out an assessment and study of 115 stock items in the warehouse, their supplying vendors as well as the users' requirements in order to address the objectives of this project.

The following processes were followed and implemented after the assessment:

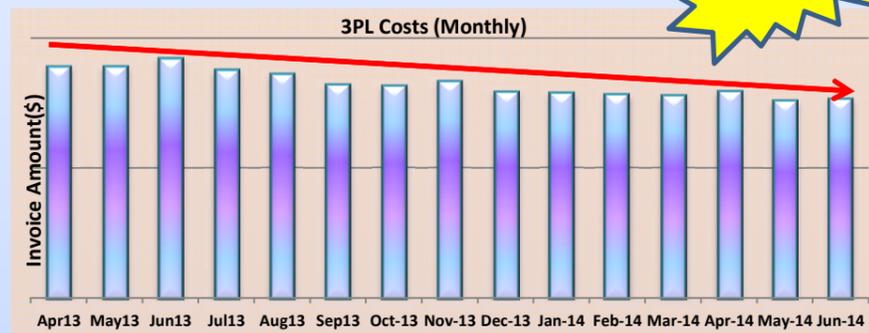
- From the Team's perspective:
  - Adjust the Periodic Automatic Replenishment (PAR) level for each stock item to one month or less to minimize storage spaces.
  - To identify bulky sized stock and order them at a minimal quantities as they incur more "expensive" storage cost per unit basis.
  - To call for a longer term of contracts (at least one year) which will attract suppliers to support with better terms such as keeping buffer quantities, delivery with shorter turnaround time and this also save the Purchase Order processing time.
  - To implement a daily inventory reporting to monitor stock availability.
- From 3 PL vendor perspective:
  - Add-ons of middle shelving to storage bays so as to convert "wasted" empty space to a "usable" space for storage.
  - Remove bays that are not in used
  - Implementation of monthly audit check together with 3PL vendor on the actual usage of storage bays
- From the Suppliers' perspective:
  - Keeping up to 1 to 2 months buffer quantities at suppliers' warehouse instead of at our warehouse.
  - For suppliers to support a shorter delivery turnaround upon our activation of orders such as "JIT delivery" where possible as this process also reduce any potential storage spaces at our warehouse.

## Result

The implementation of the commenced from May 2014 and the key results over the months are shown as follow:

### 1. Reduction in Warehousing Costs

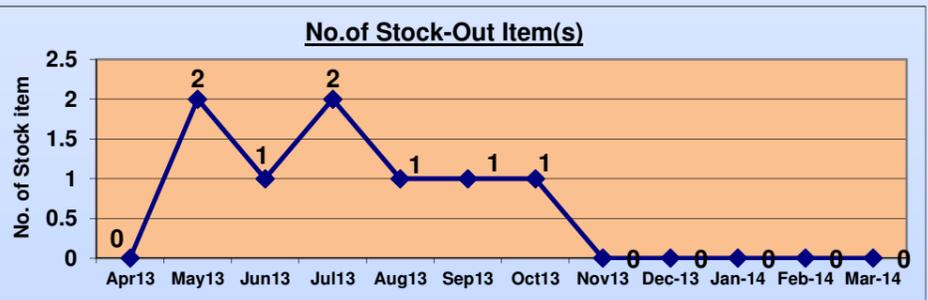
Achieved 13% cost savings for storage fees in the period of study (Apr13 to Mar14) as compare to the past 12 months average.



**13% cost reduction**

### 3. Consistency in Stock Availability

The stock availability for all stock items have improved and contained to one or two stock-out items per month from May14 to Oct14 and achieved zero stock-out situation for 5 months straight (Nov14 to Mar14).



**Zero Stock out For 5 months**

### 2. Maximized Utilization of Storage Space

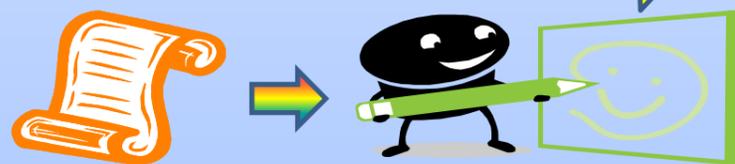
A savings of 8% storage spaces from the removing un-used bays and maximizing "empty air" spaces by adding in middle racks to the bays.



**Reduce 8% storage space**

### 4. Increase in No. of Contracted Items

95% (up from 21% in the past) of the stock items are converted to contracted items. Contracted items supported higher efficiency in work processes and also with longer contract terms, suppliers are more committed to provide more value-added services such as keeping buffer stock and faster delivery turnaround.



**95% converted to contract item**

### 5. Suppliers' Strong Support

80% of the vendors are now willing to keep buffer quantities and to keep their delivery turnaround to 5 working days upon our activation of orders.



**Support from 80% vendors**

## Conclusion:

This project is successfully implemented as it has considered all perspectives of work processes as well as relationships between the external and internal stakeholders. It is with this full understanding of the co-relationship and then to maximize the potential of every chance for improvement and being vigilant on the quality at each step that make these the critical keys to the success for this project

With the optimized efficiency at the warehouse, Radiographers, Medical Technicians and Procurement staff will have the additional time to focus on providing more quality care to patients and other value-added services.