

To reduce time taken to pick and pack loose tablets items by 50% in Yishun Pharmacy

Eunice Lim, Joey Teo, Cecilia Seah, Lilac Koh
National Healthcare Group Pharmacy

Mission Statement

Due to manual counting and packing of loose tablets, there is an additional 3-9 minutes of preparation time for prescriptions that contain a loose tablet packaging item. This project aims to reduce the time taken to pick and pack loose tablet items by **50%** within 6 months (stretch target **75%**). It also aims to save man-hours from the prepacking process through innovation and have cost-savings through revision of prepacking materials.

Team Members

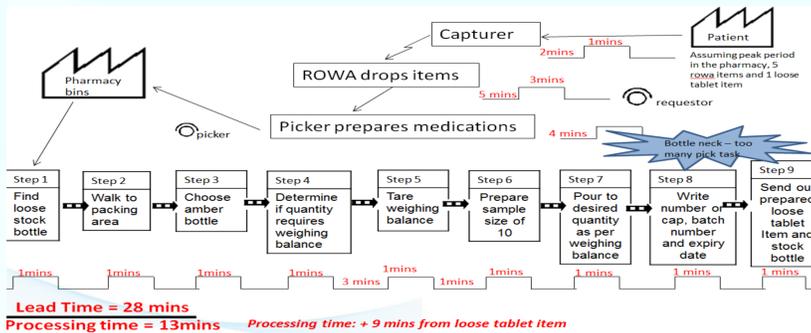
	Name	Designation	Department
Team Leader	Lim Pei Chin, Eunice	Senior Pharmacist	NHG Pharmacy
Team Members	Seah Yi Rui, Cecilia	Pharmacy Executive	NHG Pharmacy
	Joey Teo	Pharmacy Technician	
Facilitator	Lilac Koh	Principal Pharmacist	
Sponsor	Ng Mok Shiang	Deputy Director	

Evidence for a Problem Worth Solving

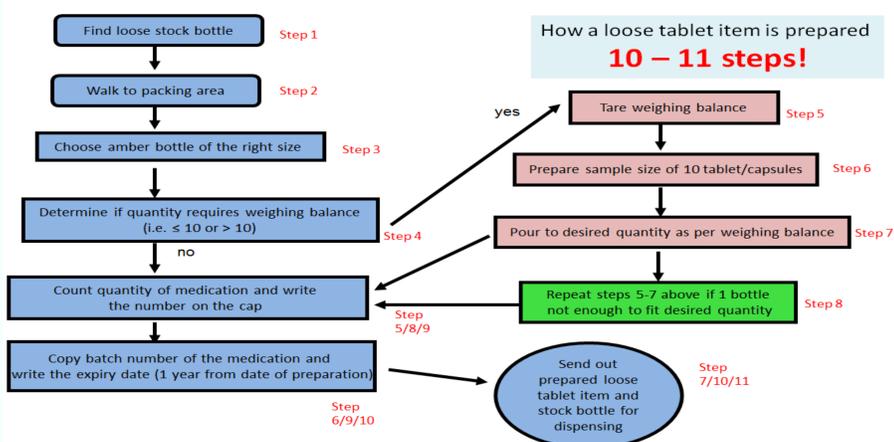
There are 18,740 prescriptions in a year which contains loose tablet item (about 390 per week) in Yishun Pharmacy. Currently, there are 10-11 steps to prepare a loose tablet item manually, which leads to a long preparation time for all the affected prescriptions. Having a longer completion time for packing could result in not meeting the waiting time KPI of 20 minutes, patient dissatisfaction, staff fatigue, and loss of revenue.

Current Performance of a Process

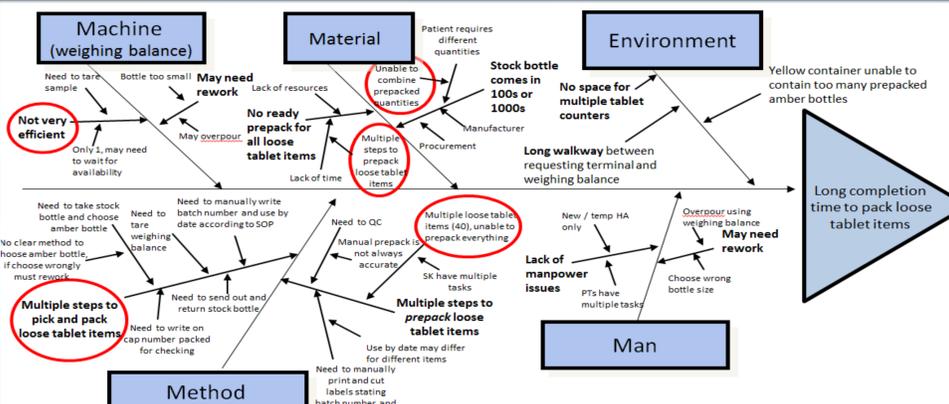
- NHG Pharmacy waiting time KPI: **20** minutes
- Yishun pharmacy average waiting time: **23** minutes (**28** minutes for prescription with loose tablet item) → processing time too long



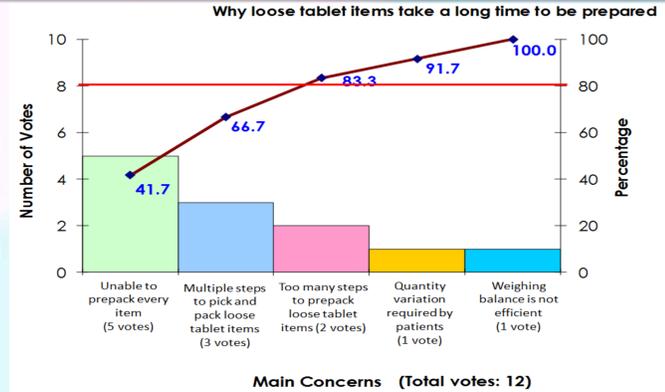
Flow Chart of Process



Cause and Effect Diagram



Pareto Chart

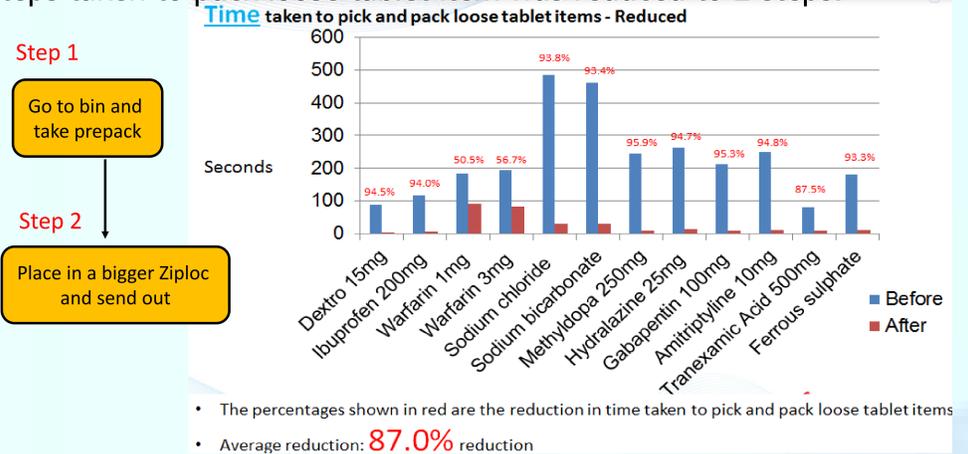


Implementation

Countermeasures tested	Date of experiment	To make countermeasure permanent	Remarks/Why
1. Manual prepacking - using shaker - amber bottles - labels printed and cut manually	1 April 2017	No	Manually printed labels are not time efficient, to use 2D barcode labels
2. Manual prepacking - using shaker - amber bottles - 2D barcode	1 June 2017	No	Takes too long to prepack in amber bottles
3. Manual prepacking - using shaker/scoop method - Plastic bags sealed with hot sealer - 2D barcode	1 July 2017	No	Takes too long to hot seal items
4. Manual prepacking - using shaker/scoop method - 50 mm Ziploc - 2D barcode	1 October 2017	No	Takes too long to prepack manually
5. Machine prepacking - using tablet dispenser - 50mm Ziploc - 2D barcode	1 November 2017	Yes	Tablet dispenser machine is very fast and able to prepack in ANY quantity

Results

With ready prepack sizes that can be combined, the number of steps taken to pack loose tablet item was reduced to 2 steps.



The time taken to prepare loose tablet items were significantly reduced to 5-91 seconds (average of **87%** reduction). The time taken to prepack medications was also reduced by 50% through the use of machine. Through the implementation of this method, Yishun pharmacy waiting time was reduced from an average of 23 minutes to 16 minutes.

Cost Savings

The total estimated time savings adds up to be **415.4 man hours per year**. In addition, medications that are not light sensitive are pre-packed in sealed Ziploc bags instead of amber bottles. This resulted in an estimated cost savings of **\$3288.87** in a year.

Problems Encountered

The tablet dispenser machine had a small margin of error when prepacking medications. Therefore, a quality control check system was put in place to ensure that prepacked medications are of the correct quantity.

Strategies to Sustain

After the completion of this project, storekeepers continued to prepack high consumption items during pharmacy lull periods using the tablet dispenser machine. This allows the pharmacy staff to be able to use ready prepack sizes for a faster preparation time for loose tablet items. This project will be rolled out to the 12 other NHG Pharmacy polyclinic branches.