



## BACKGROUND

Current practice of receiving goods from vendors and entering data into SGH SAP-MM system is laborious, tedious and time-consuming. This resulted in a low Goods Receipt (GR) rate, GR data entry is untimely and creates backorders in the system. A low GR rate also causes the system inventory to be inaccurate. As the main pharmacy store of the hospital, inventory accuracy and low backorders are key performance indicators.

## AIM

To improve rate of goods receipt (GR) into SAP-MM system

## ANALYSIS

A root cause analysis was done using the Ishikawa diagram (Fig. 1). Verification of the root causes was done via discussion with all stakeholders. We did a multivoting of the root causes and plotted a Pareto Chart (Fig. 2) to derive the vital root causes which were:

1. Too many mandatory fields in GR process
2. No dedicated staff to perform data entry
3. PDT Issues – damaged touch screens, slow processing

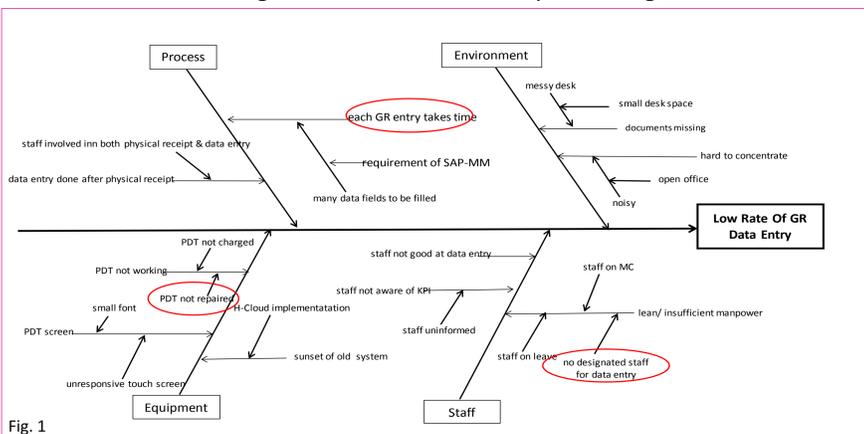


Fig. 1

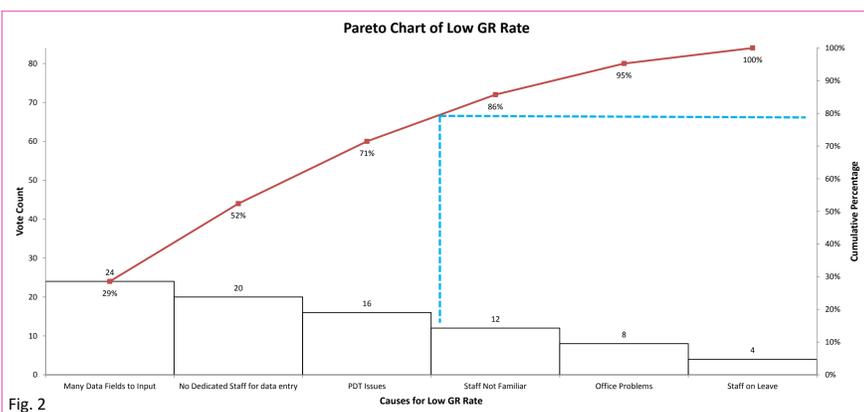


Fig. 2

## SOLUTIONS

1. Surveyed & brainstormed ideas for more efficient process in GR → eInvoice from vendors – PDSA 1. 3 main vendors that account for 47% of goods deliveries support our project to improve the Goods Receipt process. Meetings with programmer from SAP-MM to decide what are the crucial information required to be on the file as well as the file format.
2. Staff were assigned duties to perform data entry – PDSA 2
3. Replacement of all faulty PDT – PDSA 3

We applied for MOH HealthPass funding for PDSA 1 and 3.

## RESULTS

The GR rate was compared for 2 periods; one before implementation and one after implementation of eInvoice – PDSA 1. As GR data were collected manually, it was challenging collating the results; baseline GR rate before implementation was 17% and the GR rate increased to 86% after implementation of eInvoice (Fig. 3).



Fig. 3

To further validate our findings, we compared the backorder rates of the two periods (Fig. 4). There is a reduction of 17% in backorder rate. There is a converse correlation between GR rates and backorder rates, i.e. improved GR rates will reduce backorders which means Pharmacy Store is able to fulfil orders better.



Fig. 4

## CONCLUSION

1. This project greatly increase the same day data entry from baseline 17% to 86% with eInvoice – PDSA 1. With the increase number of invoices received into the system daily, inventory of the store is up to date and accurate as there are fewer mistakes from manual data entry.
2. By replacing data entry with electronic information contain in files sent securely via sFTP, the inventory update is accurate & timely, resulting in reduced back orders and staff are able to manage their inventory effectively.
3. Staff feel more efficient as a higher number of goods are received into SAP-MM system daily.
4. Staff do not need to stay back after work hours at month end to clear all backlogged paperwork.
5. Increase staff morale as inventory is up to date and accurate .

## FUTURE PLANS

1. To include another major vendor in this project – in progress
2. To introduce eGR to Retail Pharmacy – in progress