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Re-design Live Inventory Management Processes at Specialist Outpatient Clinic (SOC) Pharmacy to Reduce Stock-out incidences

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Introduction

Stock-out incidences at SOC Pharmacy following rollout of live inventory management system reported an average of 100 items per month between January and April 2016. Stock-outs have led to longer waiting times, and decreased patient satisfaction and experience.

The aim of this project is to reduce stock-out incidences by 20% in 6 months at SOC Pharmacy.

Methodology

The team reviewed the workflow to reduce stock-outs and improve timeliness of supply. A cause & effect diagram (Figure 1) was constructed to identify the root causes of the problem. The tree diagram and prioritization matrix were utilised to develop the Plan-Do-Check-Act (PDCA) cycles which were tested, implemented and monitored over 18 months to determine sustainability. Run charts were used to monitor the improvements (Figure 2).

Interventions

Workflow changes include:

1. Establish roles and responsibilities of inventory team members and collaborate with pharmacy main store to expand stocks range
2. Review and set new re-order points of stocks based on average 10-days consumption, and re-order points to be reviewed quarterly
3. Enhancement of inventory system to trigger replenishment based on re-order points and top-up to maximum stock levels

Additional strategies have been implemented to further reduce weekly stock-out incidences:

1. Timely resolution of system versus physical quantity discrepancies
2. Identifying items with increasing consumption for re-order points adjustment
3. Continuous communication between team members to handle vendor stock-out situations

Result

We achieved 27.3% reduction in weekly stock-out incidences after implementation. The reduction in weekly stock-out incidences were sustainable (mean 14.9 items) through December 2017.

Conclusion

The multi-step approaches to improve inventory management have successfully reduced the mean weekly stock-out incidences, and were proven to be sustainable to ensure timeliness of supply to patients for best experience and best outcomes.

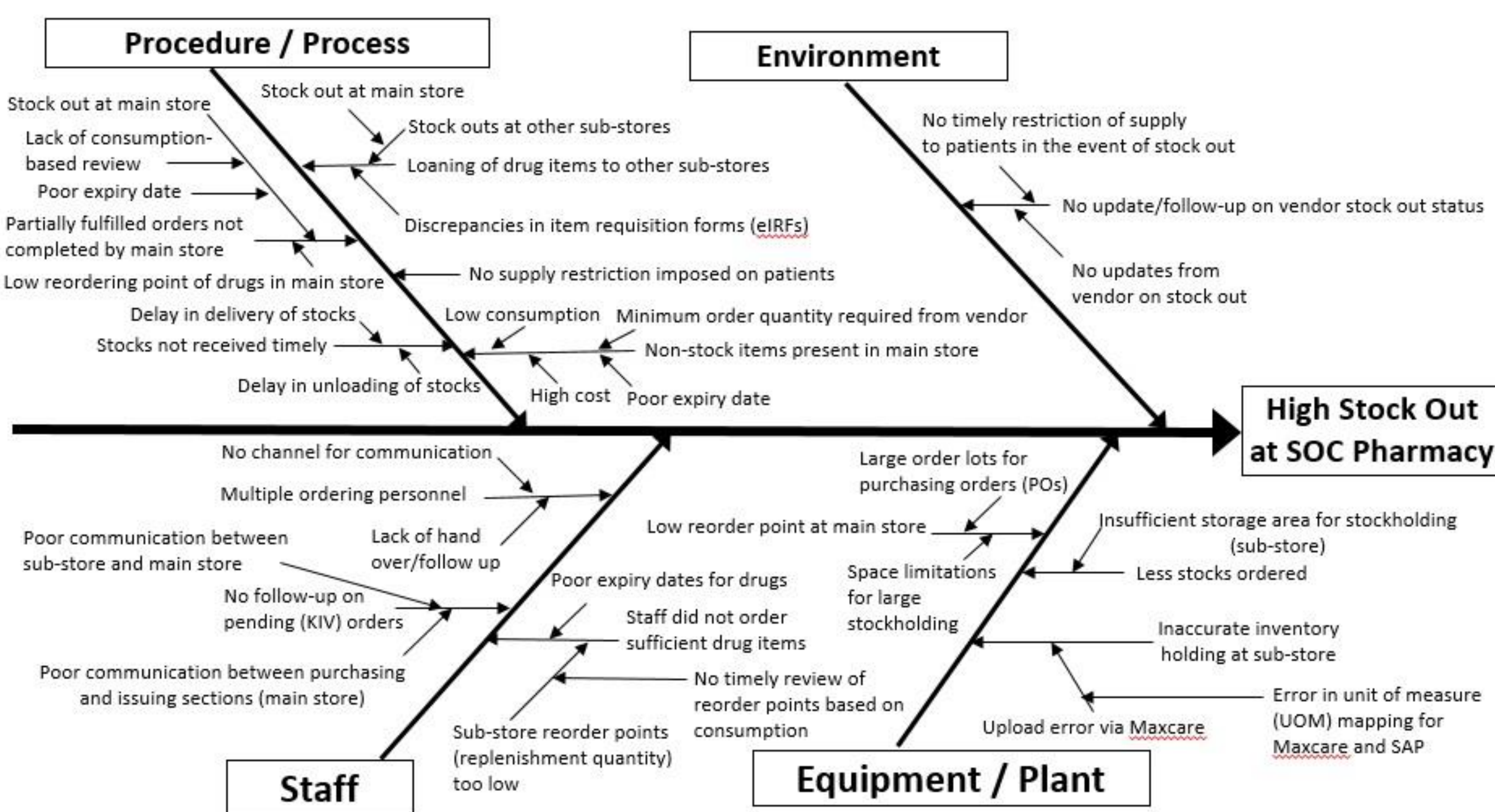


Figure 1. Cause & effect diagram to identify the root causes of high stock-out incidences at SOC Pharmacy

Figure 2. Stock-out incidences at SOC Pharmacy from 2 Jan 2016 to 31 Dec 2017

