

**Project Title**

Elimination of Unnecessary Collection of Medications

**Project Lead and Members**

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**Organisation(s) Involved**

Sengkang General Hospital

**Healthcare Family Group(s) Involved in this Project**

Allied Health

**Applicable Specialty or Discipline**

Pharmacy

**Aims**

- To eliminate unnecessary collection of pre-medications
- To streamline the overall workflow to minimize confusion to staff and patient

**Background**

See poster appended/ below

**Methods**

See poster appended/ below

**Results**

See poster appended/ below

**Conclusion**

See poster appended/ below

**Project Category**

Care & Process Redesign

Quality Improvement, Workflow Redesign

**Keywords**

Endoscopy

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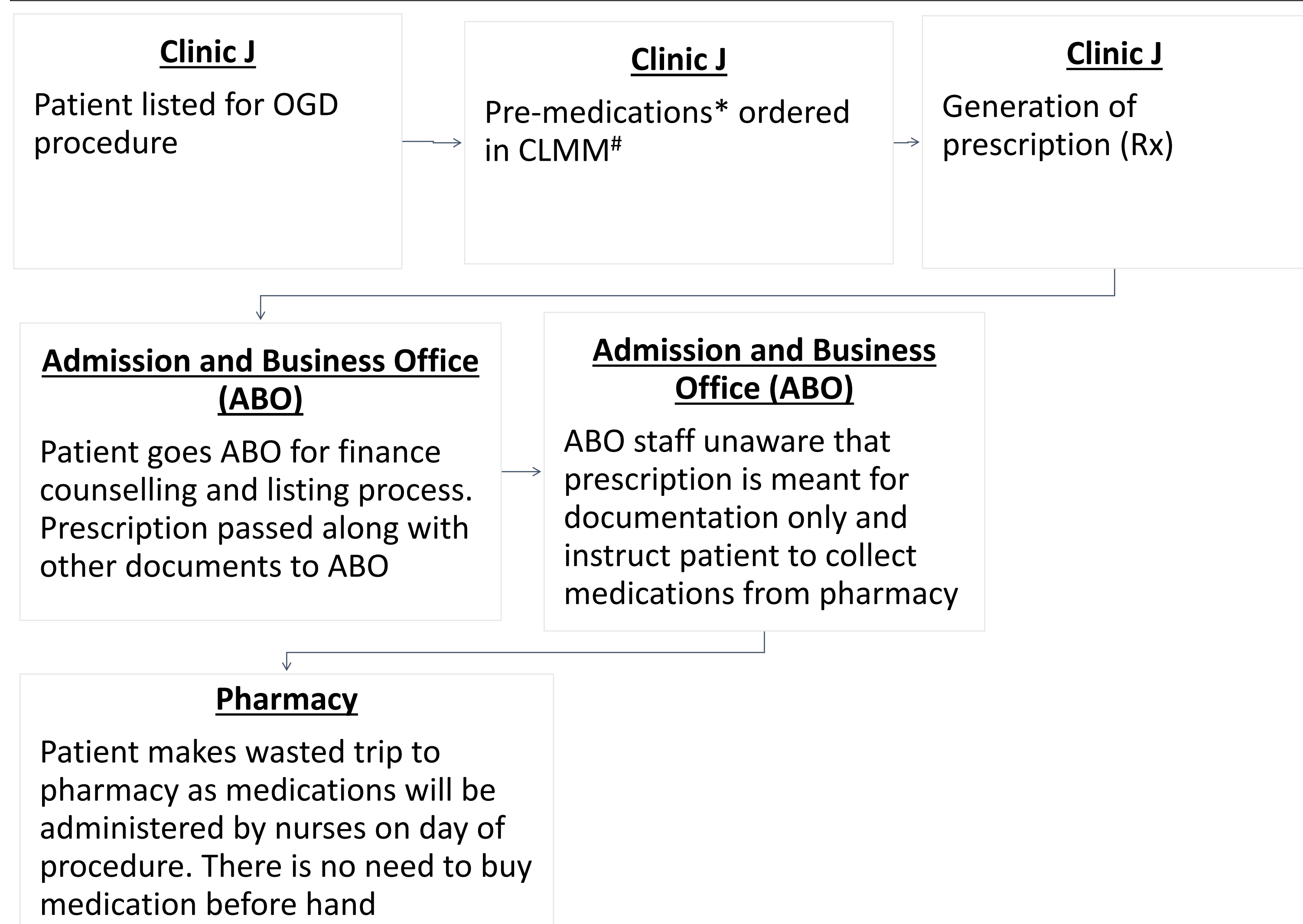
## Introduction

A total of 684 Oesophagus-Gastro-Duodenoscopy (OGD) procedures were performed at Sengkang Hospital (SKH) in year 2017. OGD is a procedure where a flexible tube is used to examine the upper part of the digestive tract. It is performed by an endoscopist, a doctor trained in endoscopy.

OGD is used for diagnosing medical issues or perform therapeutic functions such as cease bleeding from ulcers or remove polyps. During procedure, mucosal visualization can be impaired by foam and bubbles, thus reducing accuracy of diagnosis, visualization and increasing procedure time. Therefore, early preparation before OGD is important to remove these hindrances.

Currently, besides fasting prior procedure, there is no standard preparation recommended before OGD. There are several anti-foaming agents used such as N-acetylcysteine (NAC) and simethicone to improve clarity during this procedure.

## Problem Statement



\* Pre-Medications: Simethicone & NAC  
# CLMM: Closed Loop Medication Management

Diagram 1 : Workflow of Patient Journey Listed for OGD Procedure

## Objective and Method

The objective is to eliminate unnecessary collection of pre-medications\* through prescription by patients from main pharmacy who are listed for OGD procedure within 2 months and to streamline the overall workflow to minimize confusion to staff and patient.

Prescription is a legal document therefore once it is generated, signed by prescriber and given to patient, all staff would recognize that it is important to return to patient whenever they see this prescription. However for OGD, it was an exception as patients do not need to pre-collect and purchase the medications before procedure.

Fishbone diagram (Diagram 2) was used to analyze the root cause of the problem. The team identified 2 main root cause;

- 1) Prescription that was given to patient
- 2) Staff handling the prescription notably staff from Clinic J, ABO and pharmacy

\* Pre-Medications: Simethicone & NAC

## References

1. Chang WK, Yeh MK, Hsu HC, et al. Efficacy of Simethicone and N-acetylcysteine as pre-medication in improving visibility during upper endoscopy. J Gastroenterology Hepatology 2014;29(4):769-74
2. Chen HW, Hsu HC, Hsieh TY, et al. Pre-medication to improve esophago-gastroduodenoscopic visibility: a meta-analysis and systematic review. Hepatogastroenterology 2014;61(134):1642-8
3. Ahsan M, Babaei L, Gholamrezaei A, et al. Efficacy of simethicone in preparation prior to upper gastrointestinal endoscopy. J of Isfahan Medical School 2011;29(127):95-101

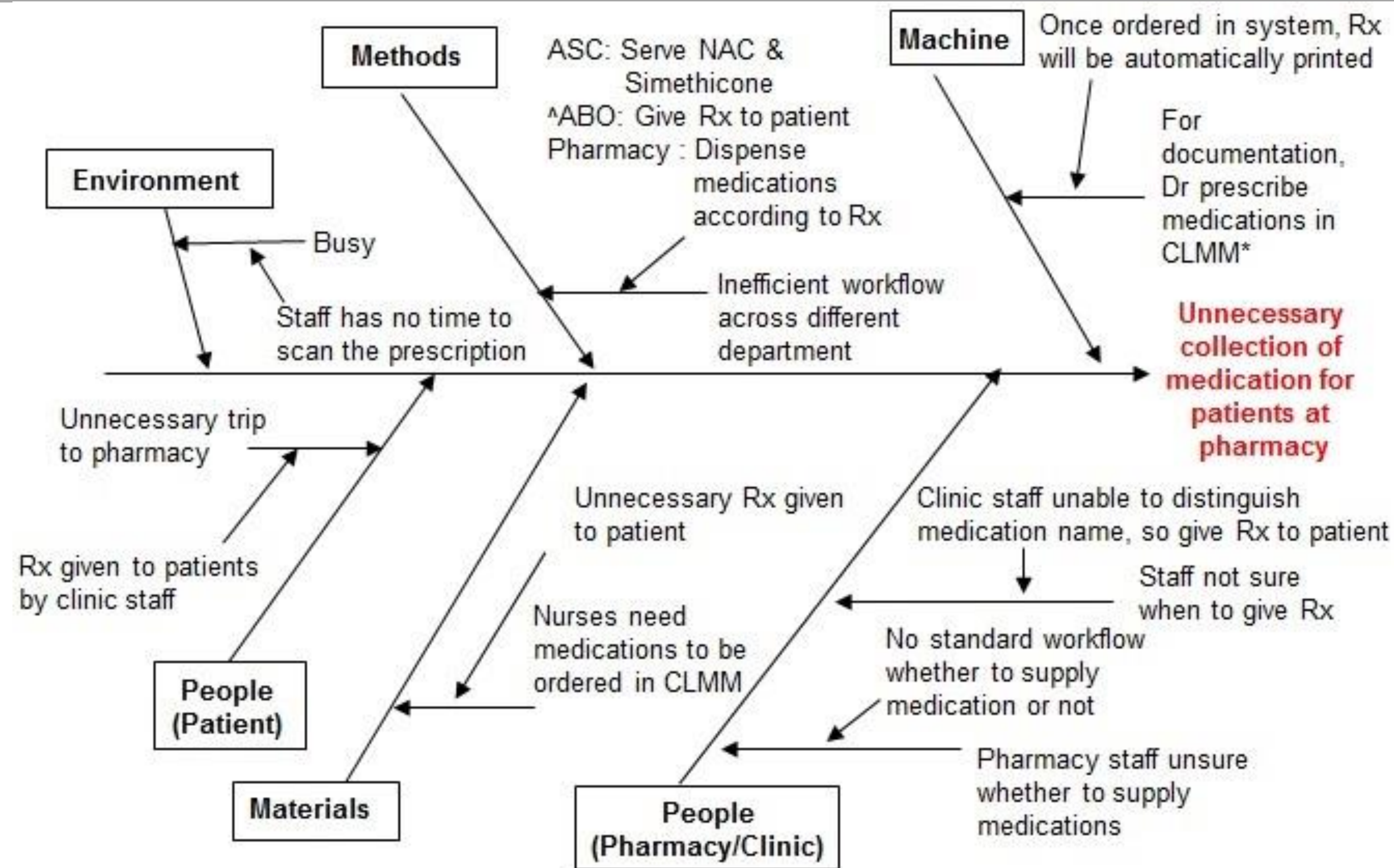


Diagram 2 : Fishbone Diagram

## Solution

Data such as number of patients listed for OGD and number of prescriptions received at the pharmacy for OGD were collected pre-implementation to determine the impact to the workflow. New workflows were implemented to inform Clinic J and ABO staff not to pass prescription to patients and pharmacy not to supply medications. Post-implementation data were collected and a final revision by the general surgery department of using simethicone only was executed.

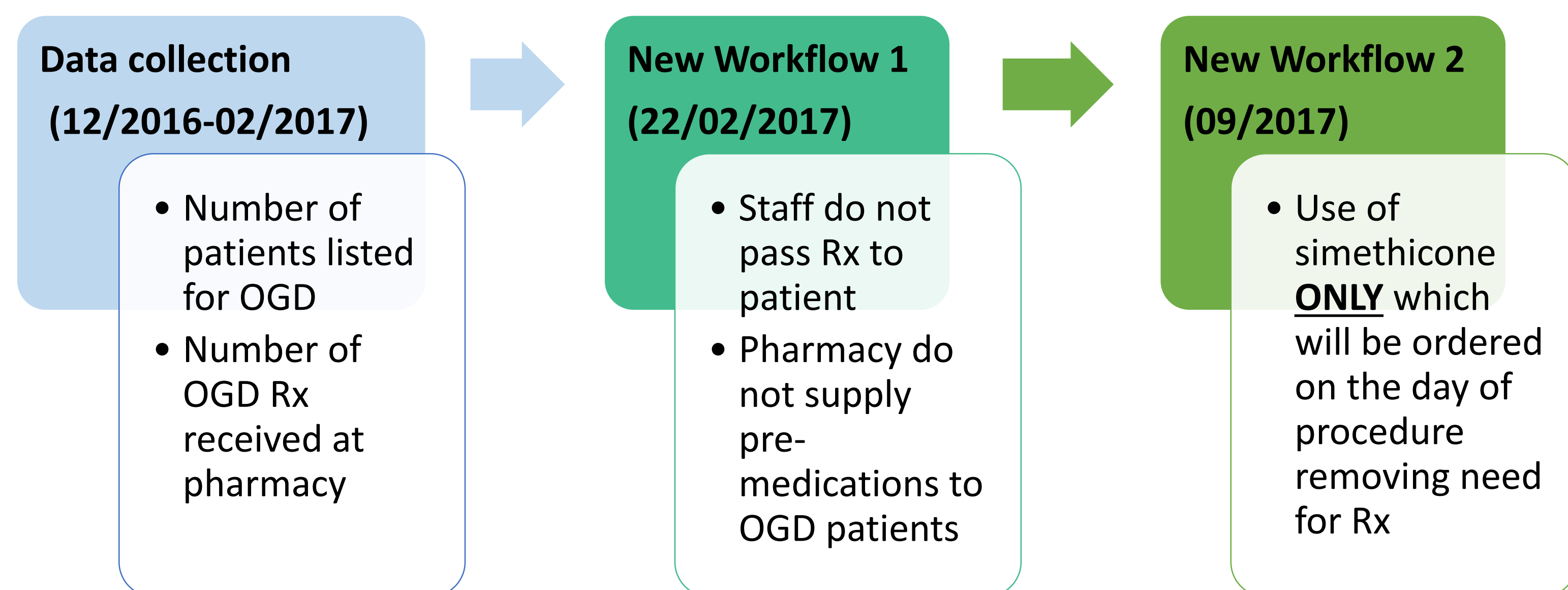


Diagram 3 : Implementation Plan Diagram

## Results

During 2 months of data collection, only 7 Rx were received by pharmacy. After implementation of workflow in February, one OGD Rx was received. After reinforcement, no OGD Rx were received.

## Conclusion

In conclusion, no prescriptions for OGD were received after reinforcement, indicating all stakeholders are familiarize with the new workflow.

In addition, endoscopist are still able to perform OGD without any hindrance by using simethicone alone. Patients are only exposed to one medication instead of two (reducing any unwanted or potential side effects from medication and reduction of medication cost).

Overall, it increased the efficiency and smooth transitioning of workflow for patients undergoing OGD by eliminating the need for unnecessary collection of medication, increasing level of satisfaction of staff and providing seamless patient care service.