

Introduction

KKH Outpatient Pharmacy is a fast-paced and dynamic environment where patients collect their prescribed medications after consultation at the specialist outpatient clinics. As it is one of the last stops for most patients, pharmacy workload often increases during peak hours when patient load increases. While processing prescriptions, medication typing, packing or checking near misses may inevitably occur as a result of the stress and urgency. A near miss is an incident that is intervened by a healthcare staff, before medication is dispensed, supplied or administered to the patient or caregiver.

Near misses which are detected are actively reported for collation and analysis by the Outpatient Pharmacy Medication Safety Team (OP Med Safety Team). Aside from human factors such as distraction, fatigue or stress, Look-Alike-Sound-Alike (LASA) medication is one of the reasons often stated.

In general, medications are placed in alphabetical order on the shelves with the requirement of LASA drugs being placed at least one bin apart. Systemic factors of having LASA drugs in close proximity may pre-dispose staff to picking the wrong items especially in times of urgency.

Aim

To reduce medication packing near misses of Look-Alike-Sound-Alike (LASA) drugs by actively reviewing drug bin locations.

Methodology

Monthly medication near miss reports were analysed. Data from June 2016 to September 2017 revealed that an average of **14.9%** of packing near misses were due to wrong drugs packed, the remaining percentage due to wrong quantity, strength or instructions

Out of the 14.9%, **90%** of them have the following LASA characteristics:

Appearance

Brand Name



Packaging

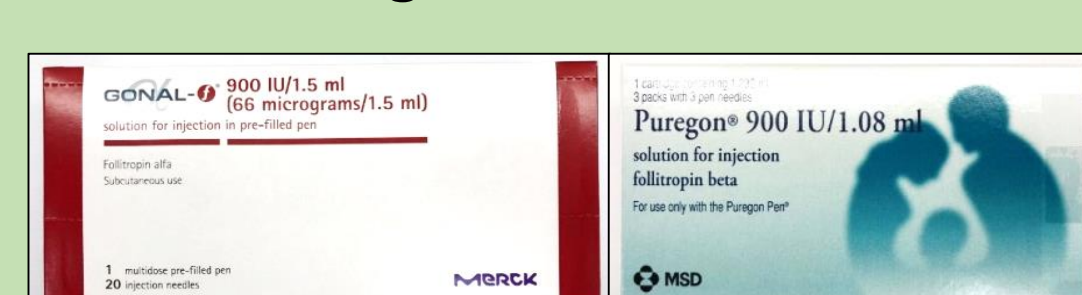


Colours and shape

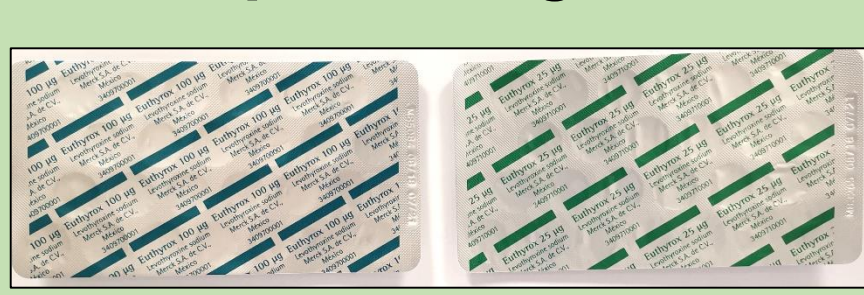


Strength

Different drug with same indication



Multiple strengths



Name

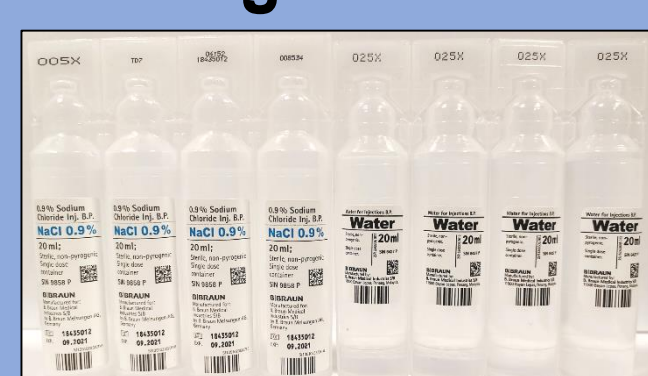
Eg. Carbamazepine and Carbimazole

Eg. Glipizide and Gliclazide



Dosage Form

Different drugs with same dosage form



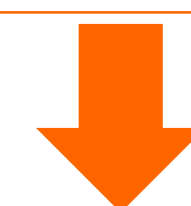
Same drug with different dosage forms



OP Med Safety team realized that placing LASA drugs at least one bin apart was not sufficient to prevent packing near misses due to mix-up.



Bin locations of **LASA drugs which had near misses** and **any drugs with potential LASA** characteristics (Diagram 1) were actively reviewed to place them further apart at different rows or shelves. All staff were encouraged to provide suggestions and feedback if any.



Careful considerations were given that the new bin locations would not give rise to another LASA issue.

Results

- All **32** shelves in Outpatient Pharmacy were reviewed and bin location changes were actively carried out.
- Since October 2017, a total of **56** drugs have been given new locations.
- Out of these 56 drugs, 67% were drugs with multiple strengths, similar packaging and similar sounding names.

LASA Characteristics of the 56 relocated drugs

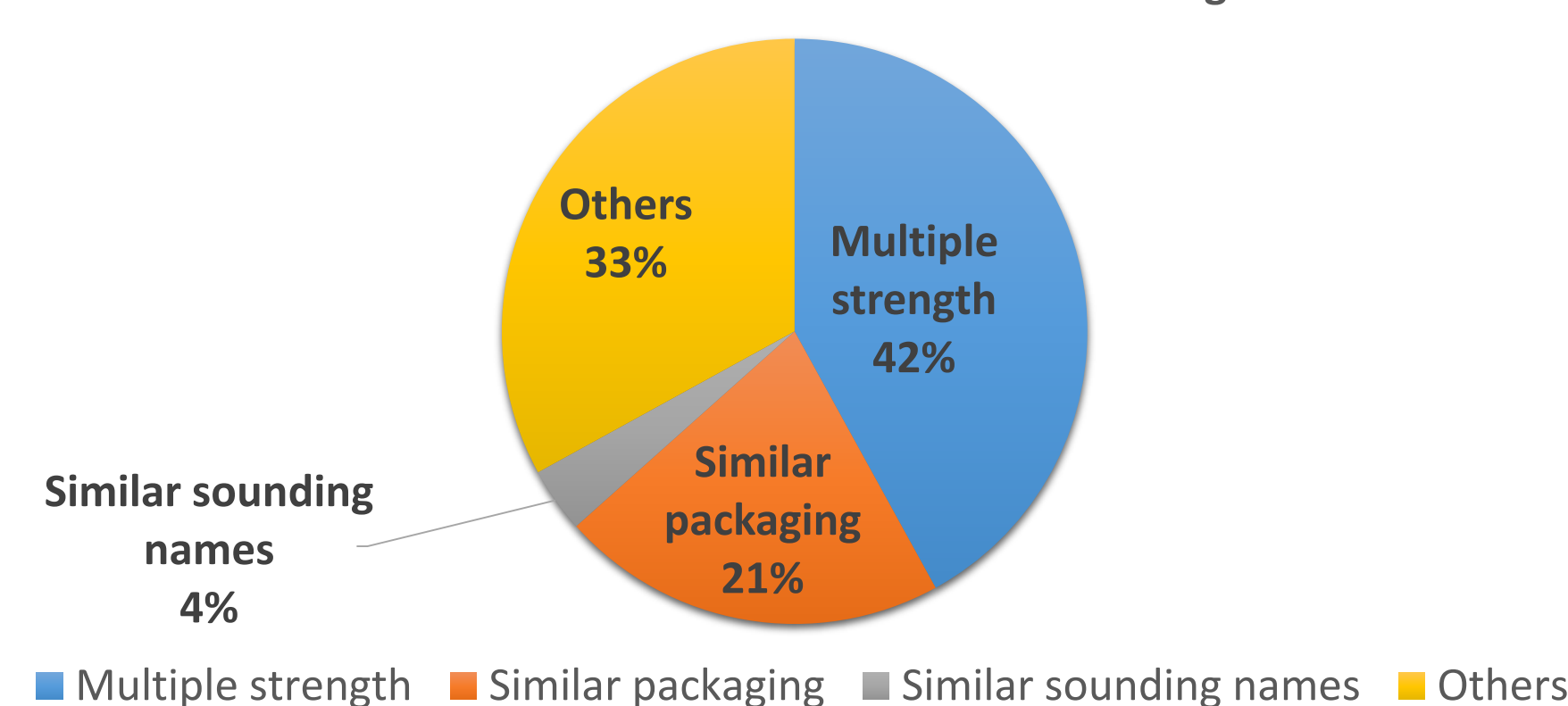


Diagram 1. Characteristics of the 56 relocated drugs

- After these changes were made, there were only 2 cases of near miss re-occurrence for LASA drugs which were previously flagged up as near misses.



Before



After

Diagram 2. Example of Bin Location of a drug with multiple strengths (5mg and 10mg) before and after review

- The median number of packing near misses due to LASA characteristics dropped significantly by **42%** from **7** to **4** per month.

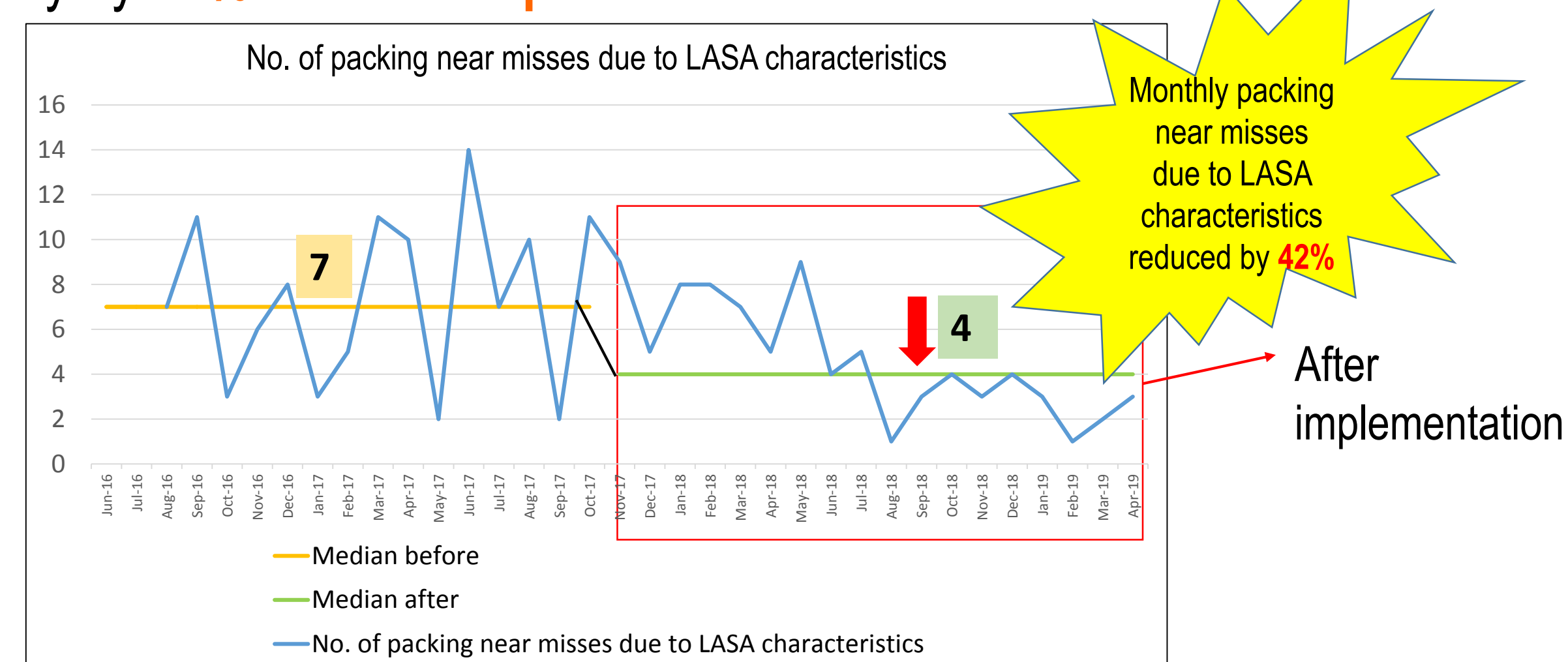


Diagram 3. Number of packing near misses due to LASA characteristics

Conclusion

Drugs with LASA characteristics placed within close proximity can lead to inadvertent mix-ups resulting in packing near misses. Active review of drug bin locations can significantly reduce medication packing near misses of these drugs. Whenever there is a change of drug appearance or addition of a new drug, the respective drug bin location would be carefully considered to ensure medication and patient safety.