Project Title

Enhancing Patient Safety by Reducing Potential Prescription Error in Bukit Merah Polyclinic

Project Lead and Members

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Organisation(s) Involved

SingHealth Polyclinics

Healthcare Family Group(s) Involved in this Project

Pharmacy

Aims

To reduce PNM rate from 0.08% to $\leqslant$ 0.04% with stretch goal of 0%

Background

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Methods

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Results

See poster appended/ below

Conclusion

See poster appended/ below

Project Category

Care & Process Redesign

Quality Improvement, Clinical Practice Improvement

Keywords

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BACKGROUND

Prescription near misses (PNMs) are prescription errors detected by pharmacy staff before medications are dispensed to the patient. These prescription errors could potentially cause harm to patients. From July to September 2019, Bukit Merah Polyclinic's (BMP) PNMs rate was found to be above benchmark levels.

AIM

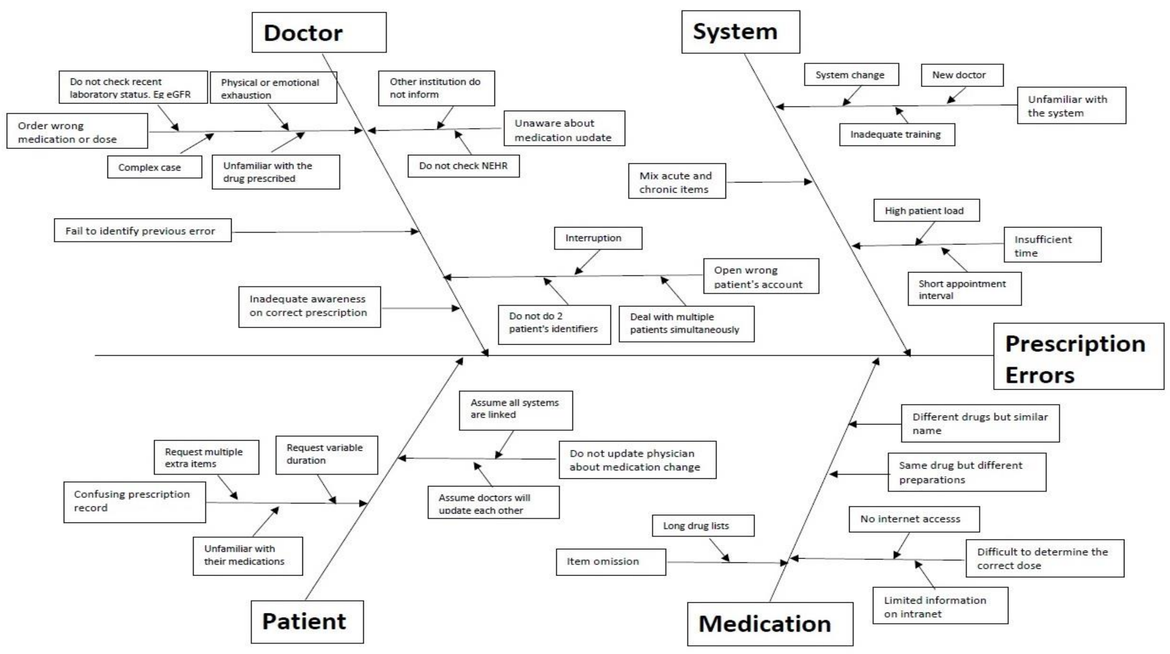
To reduce PNM rate from 0.08% to ≤ 0.04% with stretch goal of 0%.

METHODOLOGY

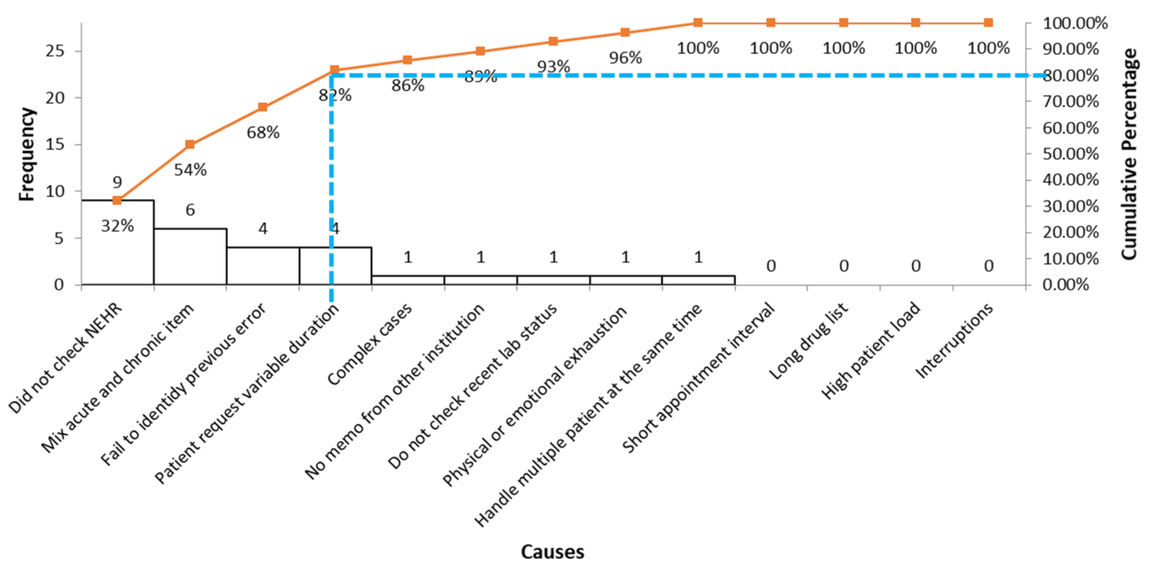
From our data, the top 2 categories of errors for PNM were found to be (1) errors of dosage regimen/formulation, and (2) drug omission.

These 2 categories constituted >80% of PNMs.

Possible causes that could lead to prescription errors in these 2 categories were listed using an Ishikawa diagram.



Ishikawa diagram



Pareto Chart

INTERVENTIONS

A series of 3 PDSA (Plan-Do-Study-Act) cycles were conducted from November 2019 to April 2020 to address these causes.

PDSA1: 2 rounds of presentations were made to doctors to raise awareness on PNMs, along with suggestions to modify prescription habits to reduce errors.

INTERVENTIONS

PDSA2: Monthly PNMs data were emailed to doctors. Number of PNMs committed by individual doctors was collated and illustrated as a bar-graph.

PDSA3: Approaching individual doctors to highlight the specific error committed. Individualized suggestions on modification of prescription habits were offered where applicable.

RESULTS

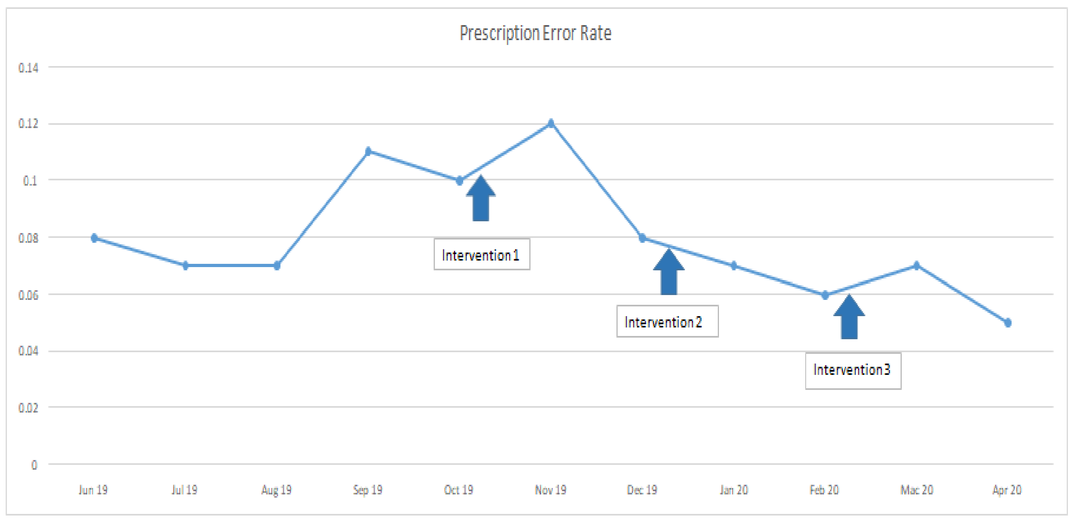


Figure 1: Prescription error rate from June 2019 to April 2020.

PDSA1: After the 2nd round of presentation in early December 2019, all doctors' queries were clarified. PNMs rate improved to 0.08% by end December, from 0.12% in November 2019.

PDSA2: PNMs data were emailed to doctors in early January 2020. PNMs rate further improved to 0.07% by end January. Doctors' feedback were collected, and graphical presentation emailed to doctors in early February 2020.

In addition, doctors were encouraged to prescribe the "Flu Pack" to patients with upper respiratory tract infection. By using a favourite list, dosage regimen/formulation need not be typed when prescribing. This led to a drop in errors of dosage regimen/formulation. PNMs rate further improved to 0.06% in February.

PDSA3: In early March 2020, individual doctors were approached, errors committed were highlighted and suggestions offered to avoid repeating the same mistakes. Slight increase in PNMs rate for March at 0.07% was due to multiple contributions of errors in patient identity. Doctors involved were alerted.

We continued with the intervention till April, and saw a further improvement to 0.05%.

CONCLUSION

Overall, results showed all 3 interventions improved the PNMs rate in BMP.

Although target of ≤0.04% was not met, there was notable improvement in the PNM rate. Each PNM that was detected could prevent a potentially serious adverse event. As such, we felt that the interventions should continue. Interventions serve to remind doctors to remain vigilant when prescribing medications.

For PDSA 2 and 3, we suggest doing them monthly, whereas PDSA 1 could be done once every 6 months or when a new doctor comes on board.