



Enhancing patient safety by eliminating potential prescription error in Seng Kang Polyclinic

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Introduction

Why is eliminating prescription errors crucial?

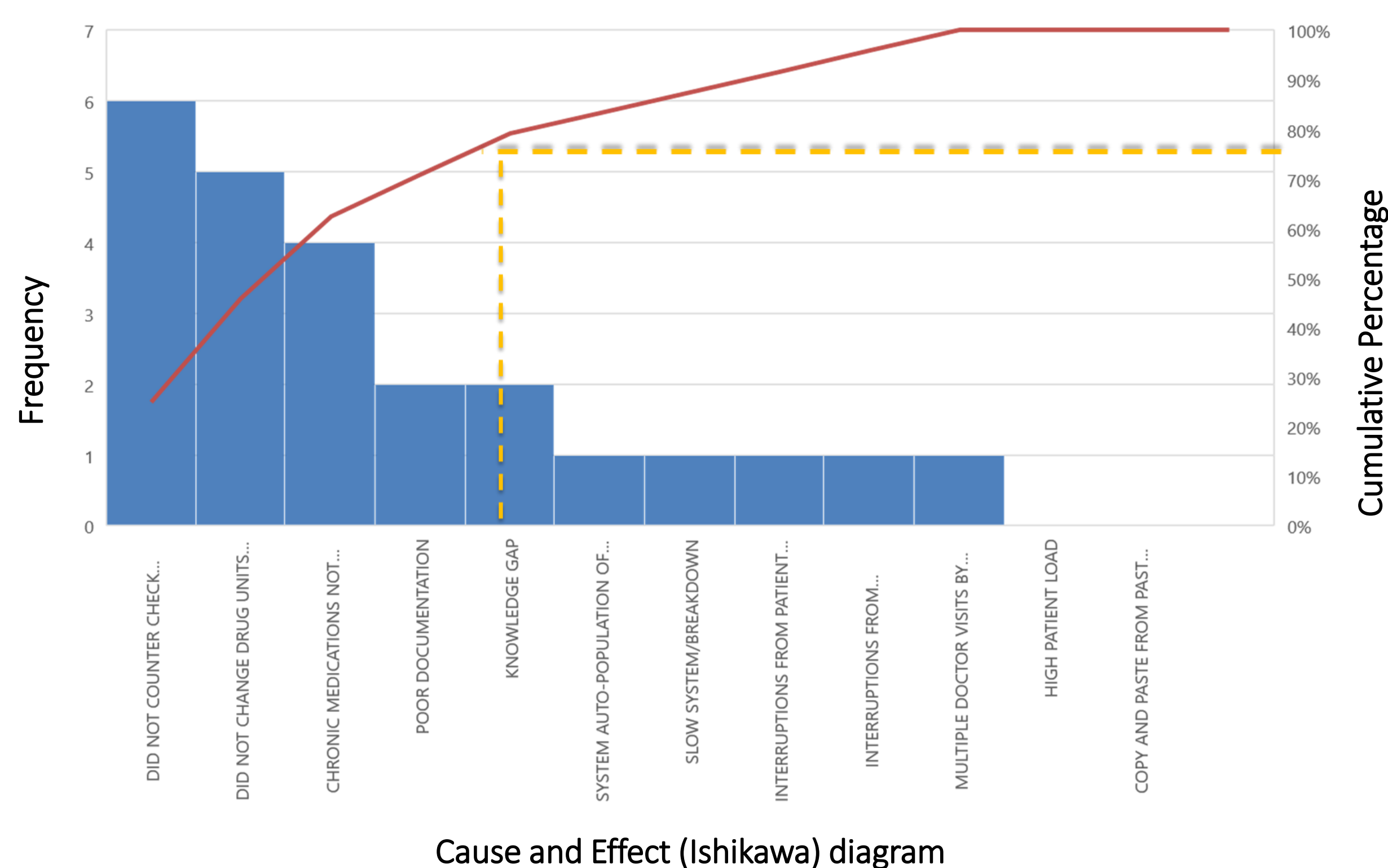
1. It poses a direct harm to patient's health as it may result in potential serious adverse outcomes and compromise on patient's safety.
2. Seng Kang Polyclinic (SKP) has a comparatively high rate of prescriptions errors (PE) amongst other SHPs.
3. From March to June 2020, SKP's PE was mostly in the red zone (<0.07%).
4. By aiming to eliminate PE, we provide healthcare that is safe, timely, patient-centered, and efficient.

PDSA2: Bi-weekly PE data were emailed to doctors. Doctors with the highest error rate were identified and separately interviewed to find out the mitigating factors and how to prevent these errors from recurring.

PDSA3: Pharmacy technicians assisted to put aside prescriptions where changes to medications were not indicated in the remarks and/or chronic medications were not ordered together in one prescription. This would reduce error in drug omission for future visits.

Methodology

1. Team members voted for what they felt were the most likely causes.
2. A Pareto chart was constructed and 5 leading causes were identified:



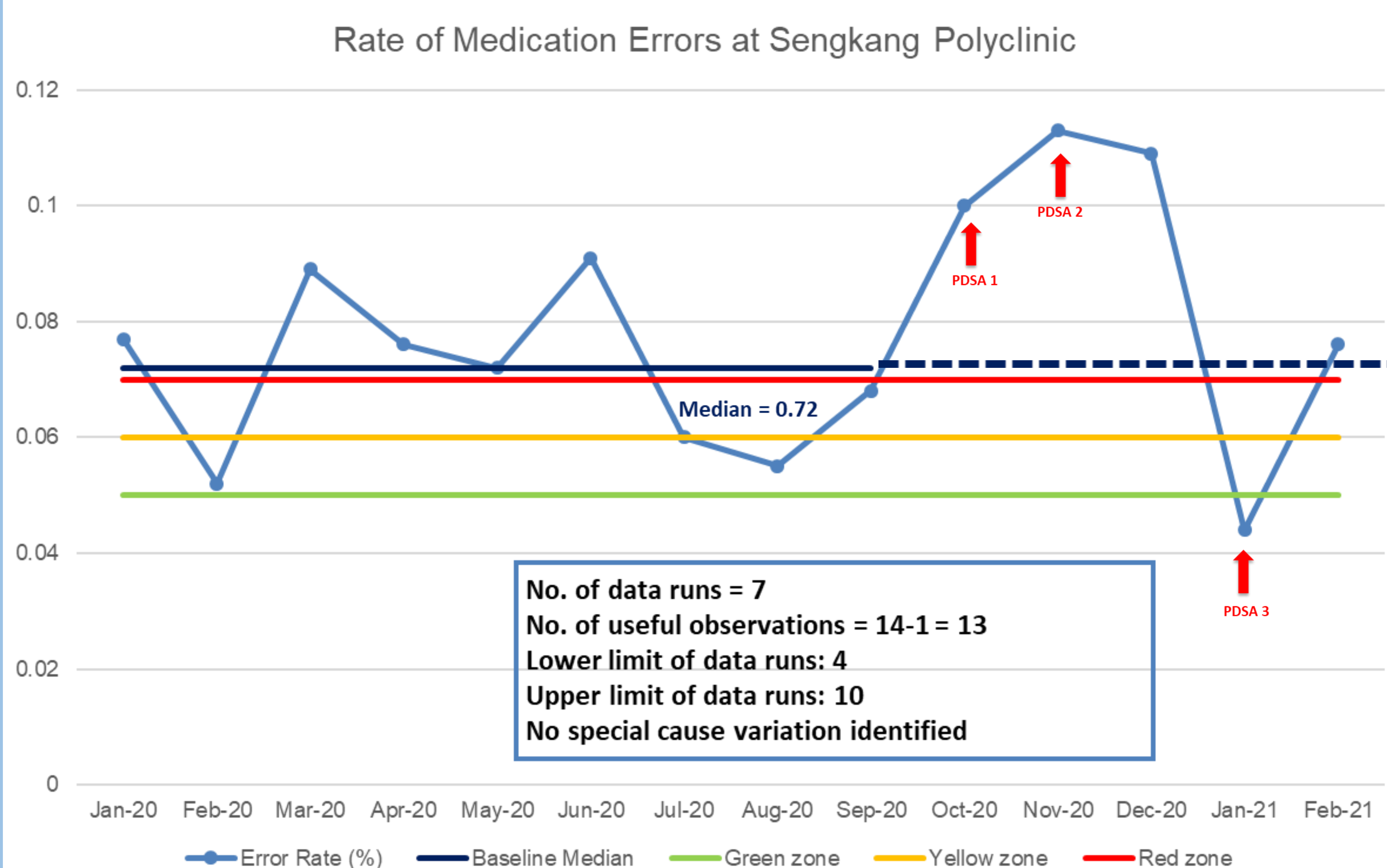
Cause and Effect (Ishikawa) diagram

- (1) Doctors did not counter-check prescription
- (2) Doctors did not change drug unit/frequency
- (3) Chronic medications not ordered in one set
- (4) Poor documentation (such as changes to chronic medications not indicated in prescription remarks)
- (5) Knowledge gap of doctors on drug doses.

A series of 3 PDSA (Plan-Do-Study-Act) cycles were conducted from October 2020 to March 2021 to address these common causes.

PDSA1: Standardizing medication charts on computer monitors in the consultation rooms. These medication charts provided information on acceptable doses of commonly prescribed medications. The charts also served as reminders for doctors to counter check all prescriptions and to order all chronic medications together in one prescription.

Results



No. of data runs = 7
 No. of useful observations = 14-1 = 13
 Lower limit of data runs: 4
 Upper limit of data runs: 10
 No special cause variation identified

PDSA1: There was no improvement in the PE rate, possibly due to new doctors who joined the clinic during that period of time.

PDSA2: The PE rates improved to <0.05% by end of January 2021, from >0.08% in December 2020, though the effect was short-lived. Many stable patients are seen at 6-monthly intervals by our doctors.

PDSA3: About 6 months into its implementation, PDSA3 (an intervention targeted at improving the PE rate in the longer term), saw an improvement in PE rate to 0.05% in August 2021, from ≥0.08% between February to July 2021.

Conclusion

Overall, the implementation of PDSA2 and PDSA3 achieved a significant improvement in the PE rate for Seng Kang Polyclinic. We suggest PDSA2 and PDSA3 be done monthly and to continue both interventions should it be ascertained that either or both interventions are useful in improving the PE rate with sustainability.