National Quality Improvement Conference

Reduction of Near Misses in High Alert Medications

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Problem Statement

Medication safety is key in the provision of safe and quality patient care. Retrospective data showed that Yishun Community Hospital (YCH) recorded 26 prescription High Alert Medications (HAM) near misses across 5 wards from April to September 2021. Near misses, if ignored, can lead to medication errors and significant patient harm. A cause & effect analysis revealed the possible top 5 root causes of HAM near misses:

(A) Lack of awareness of what HAMs are
(B) Inadequate reinforcement / sharing of HAM near misses
(C) New incoming staff with limited exposure
(D) Lack of regular training / education
(E) Distractions from allied health colleagues
(F) Transcribing errors due to lack of awareness of medication administration timings in electronic medical records system

Project Aim

The aim was to reduce the number of monthly prescription HAM near misses by 50% from 4.10 to 2.05 per 1000 HAM prescriptions, in two YCH wards (D48 & D58) from June 2022 to February 2023.

Lessons Learnt

(1) It is important to survey the ground to identify the correct root causes and initiate the appropriate mitigation strategies. The team conducted surveys twice to better understand the challenges faced by prescribers.

(2) It is human to err. Regular engagement of prescribers, tailored to the types of errors, is key in preventing future errors. There are also system limitations, especially with a change in the hospital's electronic medical record system from end February 2023. Further analysis of HAM near misses & its root causes have to be evaluated.

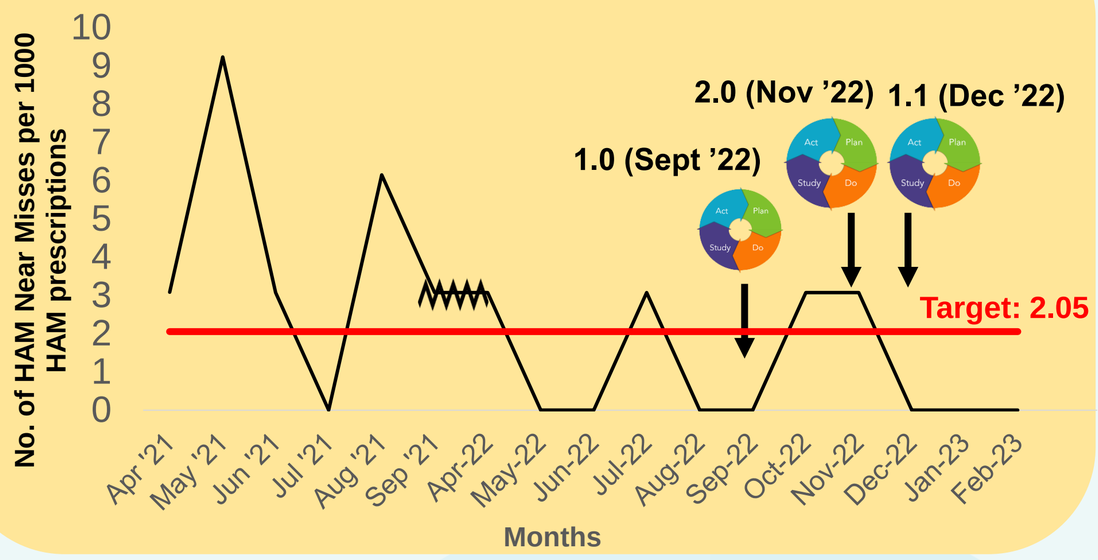
Potential Solutions

CAUSE(S)	INTERVENTION(S)
(A) Lack of awareness of what HAMs are	**Raise Awareness** (09/09/22)**:** Developed a poster on what HAMs are & disseminated poster through all various portals.
(B) Inadequate reinforcement / sharing of HAM near misses	**Positive Reinforcement** (01/10/22)**:** Started monitoring chart on number of "zero HAM near misses" days between wards to encourage positive prescribing behaviour.
(C) New incoming staff with limited exposure	**Education** (27/09/22)**:** Conduct sharing on compiled HAM near misses in the past year(s) & mitigation plans; Do Pre & Post survey to assess learning.

Plan-Do-Study-Act (PDSA) cycles were developed to address the top 3 root causes (A, B, C). PDSA cycle 1.0 and 1.1 focused on improving awareness of HAM near misses & educating prescribers on safe prescribing, while PDSA cycle 2.0 focused on revising a monitoring chart to reinforce good prescribing habits in doctors. Please see the run chart below.

Outcomes & Impacts

Run Chart: HAM Near Misses in Wards D48 & D58



Note: No available data from Oct '21 to Mar '22 (YCH wards converted to COVID Treatment Facility)

(1) From June 2022 to Feb 2023: Zero HAM near misses in 6 out of 9 months (66.6%), with a monthly average of 0.72 HAM near misses per 1000 prescriptions.

(2) Since the start of interventions with PDSAs (Sept 2022): Number of prescription HAM near misses per 1000 HAM prescriptions decreased to zero from Dec 2022 to Feb 2023.