National Quality Improvement Conference

Falls Prevention in Rehabilitation Wards at St. Andrew's Community Hospital

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Problem Statement

The fall rate was identified as the indicator of concern. In 2021, the incident rate was at **0.43 per 1,000 bed days** and approximately **60% of the fall incidents occurred at night** and about 80% of them happened near the patient's bedside. Numerous incidental Root Cause Analyses (RCA) were conducted but failed to reduce the frequency and occurrence of fall incidents. The team decided to conduct a comprehensive review with Failure Mode Effect Analysis (FMEA) to identify possible risks and hazards systematically throughout the inpatient stay at the rehabilitation wards.

Project Aim

1. 50% reduction in fall incidents between 9pm-7:59am from 5 to <=2 cases/quarter for the pilot Rehabilitation Wards 6 and 8 by the end of Apr 2022.
2. Balancing indicator: Maintain the restraint rate < 12%.

Lessons Learnt

1. FMEA is a structured and an effective tool in guiding the project team in identifying possible failure modes and proposing mitigation plans to prevent recurring of fall incidents.
2. A cross-departmental project team with facilitation enabled open sharing of perspectives, challenges faced and new ideas.
3. Early engagement of other stakeholders who are not involved in the pilot is crucial for large-scale changes.
4. Regular meetings with the key stakeholders to review incidents, gather feedback and discuss improvement plans help to sustain the improvement efforts.

Potential Solutions

Possible failure modes in the areas of assessment of fall risk, identification of high fall risk patients and various night shift activities were discussed.

Control measures for failure modes with Risk Priority Number* of 200 and above were proposed and summarized as follow.

GOAL: **Improve communication**

What SACH did:

- 'Bedside Nursing Handovers' were introduced.
- Use visual cues to identify patients with high fall risk
- Brief new staff on fall risk assessment tool during orientation

GOAL: **Improve lighting**

What SACH did:

- Improve and adjust lighting conditions along the walls and corridors, and at nurses' station

GOAL: **Optimise staff roster**

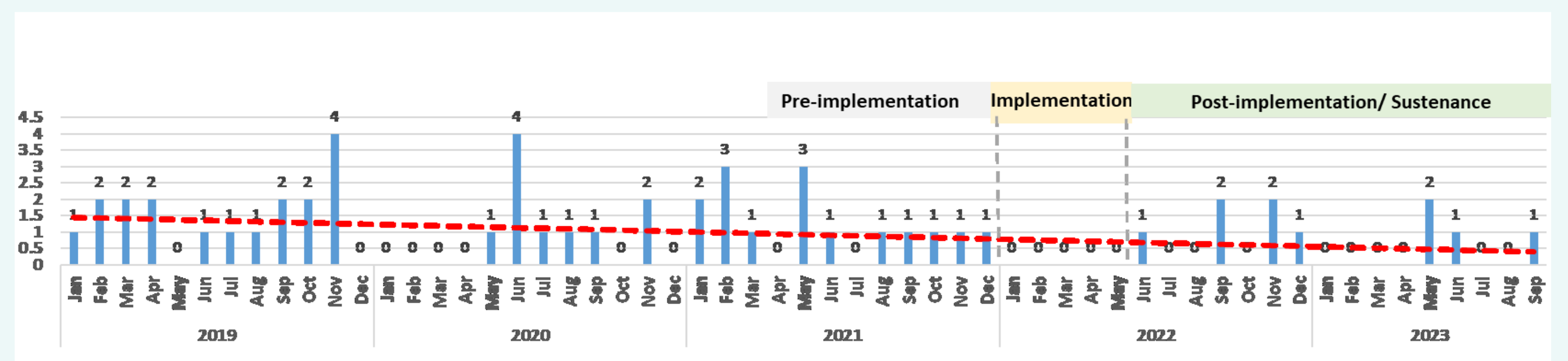
What SACH did:

- Have a shower timetable to spread shower times throughout the day so that night shift staff are able to attend to the essential needs of patients.
- Assign clear roles to nursing staff on night shift to perform Floater and Watcher duties
- Introduce a Sensor Exit Monitoring system to alert staff when patients with high fall risk leave their safe zone

* Risk Priority Number (RPN) Score of each failure mode determined by severity, likelihood of occurrence and detectability of failure

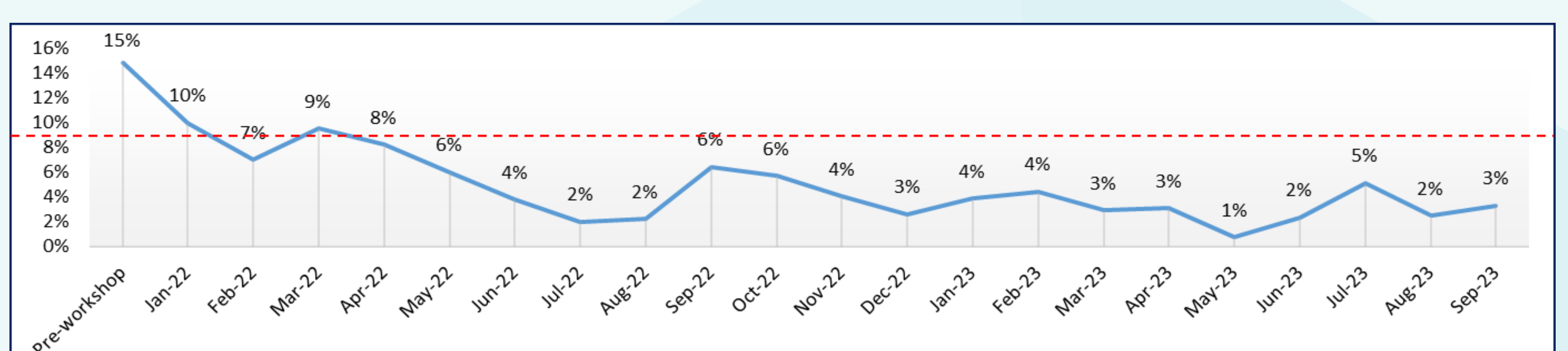
Outcomes & Impacts

1. Overall fall rate reduced from 0.43 (2021) to 0.23 per 1,000 bed days in 2023. Number of fall incidents at nights was reduced to <= 2 cases/ quarter in 2023.



SRE (Fall incidents) reduced from 9 (2018) to 5 (Sep 2023)
Cost Avoidance = $110,000/Year

2. The restraint rate is well maintained at below 12%, at an average of 4% post implementations.



With the good results in the pilot rehabilitation wards during the night, the interventions had since been spread to all other wards and day shifts.