Project Title

Falls Prevention in the Rehabilitation Wards at SACH

Project Lead and Members

Project Lead: Feng Yan

Project Members: Dr Angel Lee, Alison Sim, Arthi Packiriswamy, Abamonga Melissa Suzanne Yparruaguirre, Jaime Yeo Shu Xing, Gutierrez Carolina Sotelo, Lizaso Kathleen Dane Tumaque, Sarmiento Gladys De Vera, Zin Zin Nyein, Vaneeda Natasha Anak Baking, Law Yen Hoon, Chan Soo Sin

Organisation(s) Involved

St. Andrew's Community Hospital

Healthcare Family Group(s) Involved in this Project

Nursing

Applicable Specialty or Discipline

Rehabilitation Medicine

Aim(s)

- To aim for 50% reduction in patient falls between 9 pm - 7 59 am from 5 cases/ quarter to 2 cases/ quarter for the pilot rehabilitation wards 6 and 8 by the end of Apr' 2022 rehabilitation wards by Feb' 2022
- To spread interventions to other non-pilot

Background

See poster appended/ below

Methods

See poster appended/ below

Results

See poster appended/ below

Lessons Learnt

See poster appended/ below

Conclusion

See poster appended/ below

Additional Information

- "It is worthwhile to understand and see the situation in a closer and much deeper view to be able to come up with good solutions. The tiniest detail might be the answer to the problem. From our data, the results are very reassuring hence we are hopeful that this will improve our fall incidents and patient care as a whole"
- "Change is not easy but with good team mates, you can achieve it"
- "Be Patient" - trying new things is great but also difficult. With the creation of those control measures going against the old practices, involving other people, it's totally challenging to make ways on how they're going to follow. Clear communication, constant reminders and extra motivations are some things to put up in order to have better results"
- "Willingness to contribute something as a team, be it big or small, is already an improvement and has impact. It gives a sense of fulfilment – to affirm one's capability and also value add as the same time"
- The changes could impact our patients, their next-of-kin and our staff as well. Having safety awareness will create a safety culture within the healthcare system and it will reduce the overall risk as whole.

Project Category

Care & Process Redesign

Clinical Practice Improvement

Keywords

Fall Prevention, Rehabilitation Ward

Name and Email of Project Contact Person(s)

Name: Feng Yan

Email: yan_feng@sach.org.sg

Falls Prevention in the Rehabilitation Wards at SACH

Project Sponsors: Dr Angel Lee, Ms Alison Sim
Team Leader: Ms Feng Yan
Team Members: Arthi Packiriswamy, Dr Abamonga Melissa Suzanne Yparraguirre, Jaime Yeo Shu Xing, Gutierrez Carolina Sotelo, Lizaso Kathleen Dane Tumaque, Sarmiento Gladys De Vera, Zin Zin Nyein, Vaneeda Natasha Anak Baking
Facilitators: Law Yen Hoon, Chan Soo Sin

Project Summary

SACH, a Community hospital, has majority of our patients undergoing rehabilitation. Their desire for independent living compels them to get out of bed and walk, often not calling for assistance, thus resulting in falls. Root Cause Analysis (RCA) was conducted for all the fall incidents reported individually. Various fall preventive measures, such as frequent night rounds conducted by the nurses, lower bed positioning for the patients, hiring support care staff were implemented but there was no significant reduction in the fall incidents in the wards.

Figure A shows 63% of the fall cases happened (between 2019 and 2021 (YTD - Jan to Sep)) during the night shift (9pm – 7:59am), **Figure B**. Hence, decision made to review the whole process via Failure Mode and Effect Analysis (FMEA) methodology, a prevention tool used to identify possible failures for the end to end process. Strategies such as improved lightings, visual cue, bed monitoring system, bedside handover, 'Floater & watcher' & shower scheduling were implemented. We see a significant dropped in night fall rate with 5 months of zero (0) fall incidents post workshop. The awareness generated had potentially led to better vigilance in falls prevention.

Figure A: Breakdown of Fall Incidents (Jan'2019 - Sep'2021)

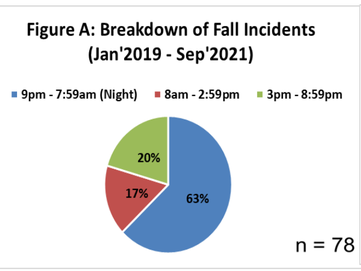
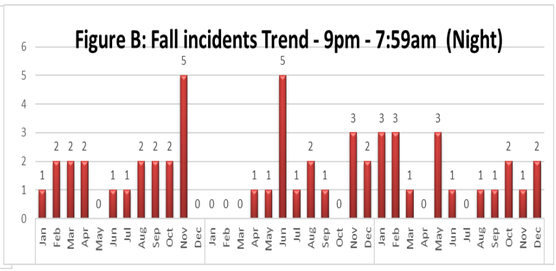


Figure B: Fall incidents Trend - 9pm - 7:59am (Night)



Goal/ Objective

To aim for 50% reduction in patient falls between 9pm-7:59am from 5 cases/ quarter to < 2 cases/ quarter for the pilot rehabilitation wards 6 and 8 by the end of Apr'2022.
rehabilitation wards by Feb'2022.
To spread interventions to other non-pilot

Balancing Indicator:
To maintain the restraint rate at 12%.

Problem Analysis

Previously, Root Cause Analysis (RCA) were conducted individually for all reported fall incidents. Various fall preventive measures developed through this methodology were implemented to limited effectiveness, with no significant reduction in fall incidents in the wards.

Based on statistics, most falls happened at night or in the early morning at patient's bedside. Henceforth, the project team decided to do a comprehensive review by adopting the Failure Mode and Effect Analysis (FMEA) methodology, a prevention tool used to identify possible failures for the end-to-end process.

During the FMEA workshop, all possible causes of the failures were discussed. Risk Priority Number (RPN) score of 200 & above were reviewed for any effective control measures currently in place. Key changes with benefits were then identified. Actions to be taken by various stakeholders were also listed.
All possible failure modes without effective control measures in place, and with a Risk Priority Number (RPN) score of >200, were identified and prioritized for interventions. They were grouped and then followed up under the failed process listed below.

1) Fail to know high fall risk patient well due to lack of communication between the teams.

2) Fail to attend to patients timely due to showering of other patients.

3) Fail to watch over patients at night due to inadequate lighting in the cubicles.

This project involves cross-departmental stakeholders such as Nurses, Therapist, Medical Doctor, Facilities Members, etc to review the end-to-end processes in the wards for falls prevention. It is proven to be more effective and efficient as compared to incidental-level RCAs. The team had also incorporated Lean and Plan-Do-Check-Act (PDCA) methodology on the interventions implemented in the piloting wards during the monthly review meeting after the FMEA workshop.

Implementation Plan

Failure Mode 1: Fail to know high fall risk patient well due to lack of communication between the teams

1.1) Introduce 'Bedside Nursing Handovers' (Quick Rounding) without disclosing patient's confidential information.
1.2) Introduce a visual cue 

, to identify patients with extreme high fall risk.
1.3) Inclusion of a briefing on the Fall Risk Assessment tool in new staff orientation package.

Failure Mode 2: Fail to attend to patients timely due to showering of other patients

2.1) Introduce "Shower timetable" to spread showering activities throughout the day so that night shift staff will not be showering more than 50% of the patients.
2.2) Introduce one 'Floater & Watcher' (FW) to round the ward at staggered timing during night shift; FW who will be identified from existing nursing staff, will be given standard work with clearly defined roles & responsibilities.
2.3) Introduce Sensor Exit Monitoring system to high fall risk patients so that the system can alert staff to attend to them immediately when they attempted to get out of bed.

Failure Mode 3: Fail to watch over patients at night due to inadequate lighting in the cubicles

3) Ward cubicle becomes pitch dark when the lights are turned off during the night. However, patients' feedback that it is too bright to keep the various lightings switched on at night. Consequently, Facilities adjusted the toilet lighting to be dimmer and improved the overall cubicle lighting infrastructure (e.g. Dimmer wall, corridor & nurses' station lights).

Benefits/ Result

Strategies were implemented in the piloted at Ward 6 & Ward 8 (Jan – Mar'22)
It was then spread to other rehabilitation wards in Apr'22 (Ward 5/ 7/ 9)

Figure C: In comparison to pre-workshop baseline of approximately five (5) fall incidents per quarters (from Jan'2019 – Dec'2021) in all the rehabilitation wards. Post-workshop data shows zero **(0) fall incidents** between 9pm-7:59am from Jan to May'2022. The fall incident that occurred in Jun'2022 was as a result of a staff forgetting to re-apply the restrainer on a patient after removing it
Figure D: Shows that the restraint rate maintained at **below 10%** in May'2022.

Figure C: Fall Incidents Trend - 9pm - 7:59am (Night)

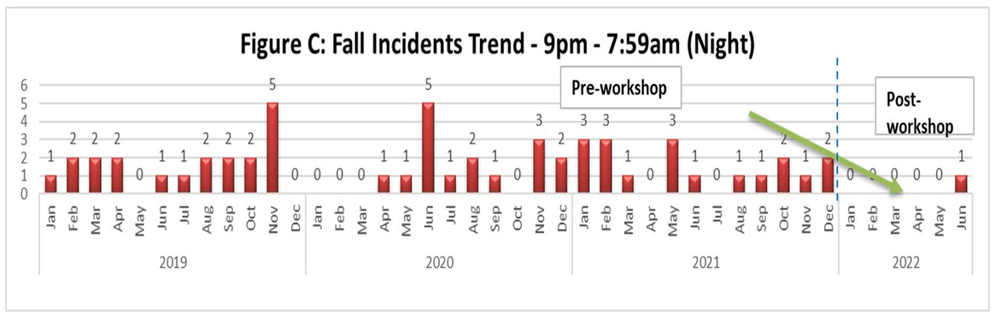
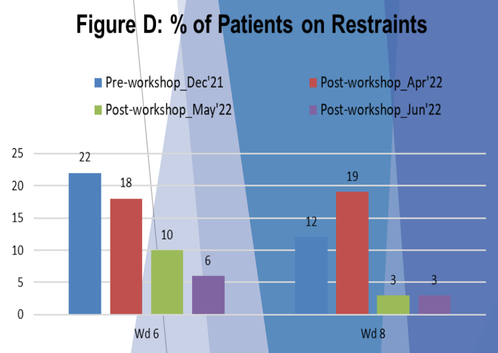


Figure D: % of Patients on Restraints



Sustainability & Continuous Improvement

Improve Staff Awareness & Alignment:
- Conduct roadshow annually by Fall Quality Assurance Committee and Nursing Education Team)
- Keep new staff aligned of the latest measures via standardization and on-going preceptorship

Continuous Monitoring for Improvements:
- Conduct 'Go-and-See' sessions and collect post workshop data
- Huddle regularly to ensure effective implementation and sustainability

Spread Good Initiatives:
- Spread relevant interventions to non-rehab wards and day shifts

Lessons Learnt

Adoption of a different approach toward addressing the falls rate in the Inpatient setting (previously the method used was typically RCA, but now the team utilized a different approach of FMEA). The fresh take enabled the team to anticipate potential 'failure modes' to hopefully introduce preventive and timely interventions. (Anticipatory lens, intervene at the upstream rather than downstream); rather than to correct practices and errors as they happen (examining the issue retrospectively).

Large scale change does not happen by chance or through the efforts of a few people. Extensive communication and buy-in from various stakeholders were important for the initiatives to gain traction and allow change to be introduced on top of current hospital-wide practices. The piloting work done in the pilot wards was also instrumental in demonstrating the benefits and effectiveness of introducing the proposed interventions.

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